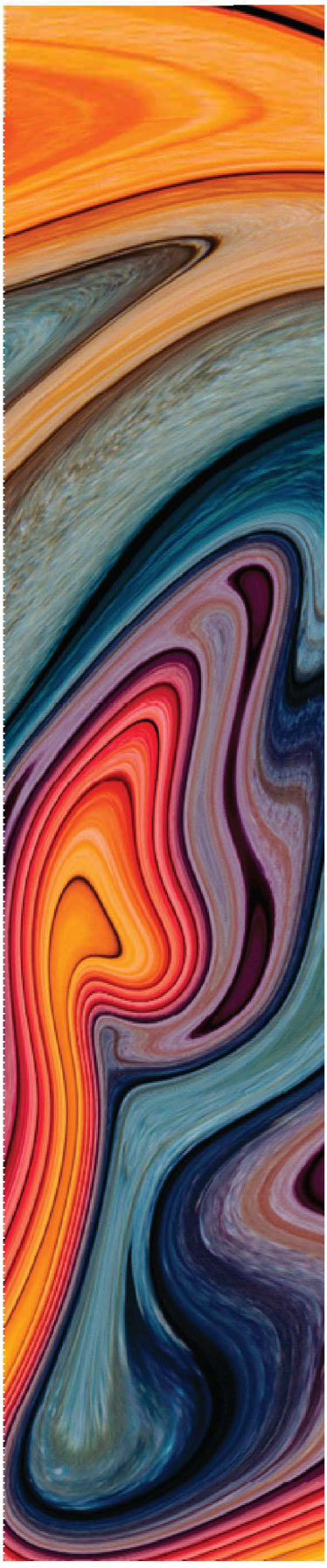

1POINTFIVE

BLUEBONNET
SEQUESTRATION HUB, LLC
CHAMBERS COUNTY, TEXAS

TCEQ NEW CLASS I UIC PERMIT APPLICATION FOR PROPOSED INJECTION WELL WDW495 PROPOSED INJECTION WELL WDW496

PREPARED BY:

Geostock Sandia

ADMIN NODS
MAY 2025

BLUEBONNET SEQUESTATION HUB, LLC

UIC CLASS I PERMIT APPLICATION

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SECTION I

WDW495

Geostock Sandia

WDW495

Texas Commission on Environmental Quality
Permit Application to Dispose of Waste
In A Class I Injection Well

I. General Information

A. Type of Application (check all that apply):

☒ Initial
☐ Renewal
☐ Major Amendment
☐ Minor Amendment
☐ Minor Modification
☐ Transfer
☐ Endorsement

Type of Waste (check all that apply):

☐ Hazardous Waste
☒ Nonhazardous Waste

Type of Facility (check all that apply):

☐ Commercial
☒ Noncommercial

Source of waste for noncommercial (check all that apply):

☒ Onsite
☐ Captured facility
☒ Offsite from facilities owned or effectively controlled by owner/operator

B. Facility Name: **Bluebonnet Sequestration Hub**
Street Address: **I 10 Frontage Road**
Street Address: **Latitude: 29.822455; Longitude: -94.449610**
City, State, Zip: **Winnie, Texas, 77665**
Mailing Address: **5 Greenway Plaza, Suite 110**
Mailing City, State, Zip: **Houston, Texas, 77046-0521**
County: **Chambers**

TCEQ Solid Waste Registration (SWR) Number: **TBD**

EPA ID Number: **TBD**

Give a description of the location of the facility site with respect to known or easily identifiable landmarks. Detail the access routes from the nearest U.S. or State Highway to the facility: **From Winnie, TX *(int. of TX-124 N & Gulfway Dr.)* to well drive North on TX-124 N /Gulfway Dr. toward Broadway Ave. for 89 ft. Turn left onto Farm to Market 1406/Broadway Ave., and drive for 1.1 mi. Turn Right at Curve, and continue for 0.3 mi. Turn Left onto I-10 Frontage Rd., and drive for 3.6 mi. Turn Left onto Lease Road, and drive for 0.2 mi. Turn Left at Ogden Ditch, and drive for 0.7 mi.**

Is the facility located within the Coastal Management Program boundary? Refer to Texas Coastal Management Boundary Map[1] for boundary. For questions regarding the Coastal Management Program, please call (800) 998-4456 (within Texas) or (512) 475-0773. [30 TAC §281.41]

☒ Yes ☐ No

Provide the location of the injection well relative to established surveys: **The well is located 2,308 feet from the south line, and 222 feet of the east line of the T. & N.O. RR. Co. Survey (A-272) Section Line.**

Enter the geographical coordinates of the injection well in decimal degrees to 6 decimal places:

Latitude: **29.822455**
Longitude: **-94.449610**

Provide the depths of the injection zone and injection interval:

Injection Zone: **Lagarto** Formation(s) at depths of **3,319** to **4,599** feet below ground level.
Injection Interval: **Lagarto** Formation(s) at depths of **3,791** to **4,419** feet below ground level
depth referenced to API No. 42071322330000 (Goldston Oil, Doornbos No. 1) located approximately 862 feet from proposed well locations

C. Operator/Applicant (Individual, Corporation, or other Legal Entity Name)

Name: **Bluebonnet Sequestration Hub, LLC**
Address: **5 Greenway Plaza, Suite 110**
City, State and Zip: **Houston, Texas, 77046-0521**
Telephone Number: **(713) 215-7000**

If the application is submitted on behalf of a corporation or other business organization with filing requirements, please identify the Charter Filing Number as recorded with the Office of the Secretary of State for Texas.

Charter Filing Number: **0804819116**

Is the applicant required to designate a registered agent with the Secretary of State of Texas?

☒ Yes ☐ No

If the application is submitted by a business organization that is required to designate and maintain a registered agent, the applicant must provide the name and address of the registered agent.

Agent: **C T Corporation System**
Address: **1999 Bryan St., Suite 900**
City, State, and Zip: **Dallas, TX 75201**
Telephone Number: **(214) 979-1172**

[1] https://www.glo.texas.gov/coast/coastal-management/forms/files/CoastalBoundaryMap.pdf

D. Facility Owner(s) (Individual, Corporation, or other Legal Entity Name)

The facility includes all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing, processing, or disposing of waste. The facility owner must be consistent with the owner on the deed filing bearing the stamp of the county property records or other generally accepted identifying reference of the current ownership record provided in Section I.P.5, Attachment C of the application. If the facility owner is the same as the operator, state "same as operator". If the facility land, structures, appurtenances, and improvements on the land are owned by more than one individual, corporation or other legal entity, provide the following information for all owners. Clearly identify the relationship(s) between the operator and all facility owner(s). [THSC §361.087(1)]

Name: **GIP II, LLC**
Address: **3423 Fork Shoals Rd**
City, State, Zip: **Simpsonville, SC 29680**
Telephone Number: **864-915-2045**
Charter Filing Number: **N/A**

E. Indicate the ownership status of the facility.

Private:

☒ Corporation
☐ Partnership
☐ Proprietorship
☐ Nonprofit organization

Public:

☐ Military
☐ State
☐ Regional
☐ County
☐ Municipal
☐ Federal

Other (specify):

F. List those persons or firms authorized to act for the applicant during the processing of the permit application. Indicate the capacity in which each person may represent the applicant (engineering, geology, legal, etc.). The person listed first will be the primary recipient of correspondence regarding this application. Include complete mailing addresses, phone numbers and e-mail addresses.

NAME:	Angie Contreras	Daisy Gallagher
POSITION:	Project Manager	Consultant
COMPANY:	Bluebonnet Sequestration Hub	Geostock Sandia, LLC
ADDRESS:	5 Greenway Plaza, Suite 110 Houston TX 77046	10930 W. Sam Houston Pkwy, Suite 100 Houston TX 77064
TELEPHONE:	(713) 497-2012	(815) 751-5836
ELECTRONIC MAIL:	Angie_contreras@oxy.com	Daisy.gallagher@geostocksandia.com

G. For new, renewal, and major amendment applications specify the individual who will be responsible for causing notice to be published in the newspaper. Include the complete mailing address, telephone number, fax number and e-mail address.

NAME: Angie Contreras
POSITION: Project Manager
COMPANY: Bluebonnet Sequestration Hub
ADDRESS: 5 Greenway Plaza, Suite 110
Houston TX 77046
TELEPHONE: (713) 497-2012
ELECTRONIC MAIL: Angie_contreras@oxy.com

H. Describe the activities conducted by the applicant which require a permit.

Bluebonnet Sequestration Hub is a disposal unit designed to intake and dispose of formation water associated with the Bluebonnet Sequestration Project's Class VI (Carbon Storage) activities. Water is produced from deeper saline aquifers to alleviate pressure in the underlying formation and injected into overlying saline aquifers. This formation water is non-hazardous and is being sent via pipeline to an injection well to dispose of the Oligocene-aged saline waters into Miocene-aged saline formations.

I. For amendment, modification, transfer or endorsement applications, briefly describe all requested changes to the permit and to the application contents and the reasons for the changes.

Not Applicable. This is an initial permit application for Class I UIC operations.

J. Business Information

1. Give a brief description of the nature of your business.

Bluebonnet Sequestration Hub is a site designed for the storage of Carbon Dioxide (CO_2) in a role to reduce carbon emissions.

2. List the principal products and/or services which are provided by your plant. Please itemize by Standard Industrial Classification (SIC) codes. Also label the products with their common names, if applicable.

Not Applicable. This UIC Facility does not produce products or services. The waste stream is saline formation water from a subsurface geological formation and waste fluids associated with the construction and operation of the sequestration site.

K. Applicant Compliance History

The TCEQ will utilize compliance history when making decisions regarding the issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit. Violations included in a criminal conviction are considered when evaluating and classifying the site's compliance history.

For the five years preceding the filing date of this application, please submit a complete listing of all criminal convictions (i.e., State or Federal) of the operator and facility owner in which a violation of environmental law was an element of the crime. [30 TAC §60.2(d)(1)(E) and §60.2(d)(2)(F)] If there have been no such convictions then the application should state the

following. If the operator is not the facility owner, a separate statement should be provided for each facility owner.

"In the five years preceding the filing of this application (the operator/applicant, owner), Bluebonnet Sequestration Hub, LLC, has not been convicted of a State or Federal crime in which a violation of environmental law was an element of the crime."

"In the five years preceding the filing of this application (the operator/applicant, owner), GIP II, LLC, has not been convicted of a State or Federal crime in which a violation of environmental law was an element of the crime."

L. TCEQ Core Data Form

The TCEQ requires that a Core Data Form[2] (TCEQ-10400) be submitted with all new and renewal applications. Submit the form as "Attachment A". For all other applications, if a Regulated Entity Number (RN) and Customer Reference Number (CN) have been issued by the TCEQ and core data information has not changed, a Core Data Form is not required. For more information regarding the Core Data Form, call (512) 239-5175 or go to the Core Data Form Instructions[3] on the TCEQ website.

RN: 112189964

CN: 606372670

Core Data Form is provided in Attachment A

M. Public Interest Demonstration

See Attachment B

Section 27.051 of the Texas Water Code (TWC) stipulates certain conditions that must exist for the Commission to grant an application and issue a permit. For all new applications, permit renewals, and major and minor amendments, submit as "Attachment B" information addressing the following considerations:

1. That the use or installation of the injection well is in the public interest. [TWC§27.051(a)(1)]

2. That no existing rights, including, but not limited to, mineral rights, will be impaired. [TWC §27.051(a)(2)]

3. That, with proper safeguards, both ground and surface fresh water can be adequately protected from pollution. [TWC §27.051(a)(3)]

4. That the applicant has made a satisfactory showing of financial responsibility if required by Section 27.073 of this code. [TWC §27.051(a)(4)]

[2] https://www.tceq.texas.gov/downloads/permitting/central-registry-docs/10400-core-data-form.docx
[3] https://www.tceq.texas.gov/downloads/permitting/central-registry-docs/10400-core-data-form-instructions.pdf

5. That the compliance history of the applicant and related entities is acceptable. [TWC §27.051(d)(1), 30 TAC § 331.121(b)(1)]

6. That there is no practical, economic, and feasible alternative to an injection well reasonably available. Provide justification for subsurface disposal. Include results of treatability studies of alternate, practical, economic and feasible methods of waste disposal. Explain in detail why each method is considered to be less satisfactory in terms of environmental protection than the proposed subsurface disposal method. Indicate whether this waste is presently being produced and, if so, what method is used for disposal. Describe the manufacturing process(es) and product(s) which produce the waste(s). [TWC §27.051(d)(2), 30 TAC § 331.121(b)(2)]

7. (for hazardous waste injection wells only) That the applicant has provided for the proper operation of the proposed hazardous waste injection well. [TWC §27.051(a)(5)]

8. (for hazardous waste injection wells only) That the applicant for a hazardous waste injection well not located in an area of industrial land use has made a reasonable effort to ensure that the burden, if any, imposed by the proposed hazardous waste injection well on local law enforcement, emergency medical or fire-fighting personnel, or public roadways, will be reasonably minimized or mitigated. [TWC §27.051(a)(6)]

9. (for hazardous waste injection wells only) That the applicant owns or has made a good faith claim to own, or has the consent of the owner to utilize, or has an option to acquire, or has the authority to acquire through eminent domain, the property or portions of the property where the hazardous waste injection well will be constructed. [TWC §27.051(a)(7)]

10. (for hazardous waste injection wells only) That the applicant will maintain sufficient public liability insurance for bodily injury and property damage to third parties that is caused by sudden and non-sudden accidents or will otherwise demonstrate financial responsibility in a manner adopted by the Commission in lieu of public liability insurance. [TWC §27.051(d)(3), 30 TAC § 331.121(b)(3)]

11. (for hazardous waste injection wells only) For on-site generated waste, provide certification by the owner/operator that (1) the generator of the hazardous waste has a program to reduce the volume or quantity and toxicity of the waste to the degree determined by the generator to be economically practicable, and (2) injection of the waste is that practicable method of disposal currently available to the generator which minimizes the present and future threat to human health and the environment. [30 TAC §331.121(b)(4)]

N. For applications for new permits, renewals, and major amendments, a copy of the administratively complete application and subsequent revisions must be made available at a public place in the county where the facility is located or proposed to be located for review and copying by the public. Identify the public place in the county (e.g., public library, county courthouse, city hall), including the address, where the application will be located. [30 TAC §39.405(g)]

Chambers County Library
608 Washington Ave
Anahuac, Texas 77514

O. Facility Background Information [30 TAC §305.45(a)(7)]

Indicate (by listing the permit number(s) and governing agency(ies) in the columns below) all existing, pending, interim status, or permit-by-rule State and/or Federal permits, licenses or construction approvals which pertain to pollution control or industrial solid waste management activities conducted by your plant or at your location, or existing at a proposed plant or location. Complete each blank by entering either the **permit number** or **the date of application**, and the **governing agency** or **none**.

Existing Permits

Relevant Program and/or Law	Permit Number or License	Government Agency *
Hazardous Waste Management Program under the Texas Solid Waste Disposal Act	None	None
UIC Program under the Texas Injection Well Act (Class I, II, III, IV, V and VI Wells)	WDW495 WDW496	TCEQ
Texas Pollutant Discharge Elimination System Program under the Clean Water Act and Waste Discharge Program under the Texas Water Code, Chapter 26	None	None
Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA)	None	None
Nonattainment Program under the FCAA	None	None
National Emission Standards for Hazardous Air Pollutants preconstruction approval under the FCAA	None	None
Ocean dumping permits under the Marine Protection Research and Sanctuaries Act	None	None
Dredge or fill permits under the Federal Clean Water Act	None	None
Licenses under the Texas Radiation Control Act	None	None
Subsurface Area Drip Dispersal System permits under Texas Water Code, Chapter 32	None	None
Texas Solid Waste Disposal Act	None	None
Texas Uranium Surface Mining and Reclamation Act	None	None
Texas Surface Coal Mining and Reclamation Act	None	None
Other relevant environmental permits/licenses	None	None

* Use the following acronyms for each agency:

TCEQ = Texas Commission on Environmental Quality
RRC = Railroad Commission of Texas
DSHS = Department of State Health Services
TDA = Texas Department of Agriculture
EPA = U.S. Environmental Protection Agency
CORPS = U.S. Army Corps of Engineers

P. Location

1. Is the facility located on Indian lands?

☐ Yes ☒ No

If yes, do not complete this application. Contact EPA Region 6 for application and permitting requirements for injection wells located on Indian lands. [40 CFR §147.2205(a)]

2. Is the facility located in an area in which the governing body of the county or municipality has prohibited the processing or disposal of municipal hazardous waste or industrial solid waste?

☐ Yes ☒ No

If yes, do not complete this application. TCEQ may not grant an application for an injection well permit in this area. [THSC §363.112(d)]

3. If the facility is a new commercial hazardous waste management facility, or the subsequent areal expansion of such a facility, is the boundary of the well or pre-injection units to be located within ½ of a mile of an established residence, church, school, day care center, surface water body used for public drinking water supply, or dedicated park?

☐ Yes ☒ No

If yes, do not complete this application. TCEQ may not issue a permit for a facility in this location. [30 TAC §335.205(a)(3)]

4. Is the location or proposed location of the injection well in the territory of a groundwater conservation district? To determine if the injection well is or will be located in the territory of a groundwater conservation district refer to the Texas Groundwater Conservation District map[4] on the TWDB website.

☐ Yes ☒ No

If yes, provide the contact name and mailing address for the groundwater conservation district. To obtain a point of contact and mailing address refer to the Groundwater Conservation Districts Contact List[5] on the TCEQ website. [TWC §27.017(b)]

5. Legal Description of Facility Land

Submit, as "Attachment C", a legal description of the tract or tracts of land upon which the facility is or will be located and the deed filing bearing the stamp of the county property records or other generally accepted identifying reference of the current ownership record. If ownership of the property is transferring and new ownership documents are not final, provide the date upon which the documents will be submitted. The facility includes all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing, processing, or disposing of waste including pre-injection units used for storage and processing waste to be injected into the injection well. The legal description should include the metes and bounds description or for platted urban sites the final plat with appropriate "lot" description(s). [THSC §361.087(2)]
See Attachment C

[4] https://www.twdb.texas.gov/mapping/doc/maps/GCDs_8x11.pdf
[5] https://www.tceq.texas.gov/downloads/groundwater/gcd/gcd-contact-list.pdf

6. Submit, as "Attachment D", a drawn-to-scale topographic map of the facility and the tract or tracts of land upon which the facility is or will be located as described in Attachment C and area extending at least one mile beyond the tract boundaries. The map must be prepared by a licensed professional engineer or a registered surveyor. The scale should be adequate to depict the following features: [30 TAC §305.45(a)(6)(A), (C) & (E)]

    1. the boundary of the tract or tracts of land upon which the facility is or will be located as described in Attachment C; areal size of the tract or tracts of land in acres should be given;

       See Attachment D

    2. if different, the boundary of the facility, and the location of all injection wells; each depicted area should be labeled to identify the well(s) and the well status (active, inactive, or proposed); areal size of the facility in acres should be given;

       Not Applicable

    3. if applicable, the boundaries of captured facilities that generate waste to be disposed in the injection wells, each depicted area should be labeled to identify the names of the captured facilities;

       Not Applicable

    4. the overall facility, each of its surface intake and discharge structures, each of its waste treatment, storage or disposal facilities, including proposed or existing pre-injection units for processing or storage of waste to be disposed in the injection wells; and

       See Attachment D

    5. all wells (water, oil and gas, disposal, etc.), springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within one mile of the facility property boundary, and the purpose for which each water well is used (e.g., domestic, livestock, agricultural, industrial, etc.).

       See Attachment D

Q. Plain-Language Summary

The TCEQ implemented new rule requirements in 30 TAC Chapter 39 that impact all permit applications subject to the Chapter 39 public notice requirements that are declared administratively complete after May 1, 2022. One of the new rules, 30 TAC §39.405(k), requires the applicant to provide a plain-language summary in English, and in an alternative language if required in accordance with 30 TAC §39.426. The plain-language summaries for all applications will be posted on the TCEQ website.

For new, renewal and major amendment permit applications submit, as “Attachment E”, a Plain-Language Summary of the application that is no more than two pages long. The summary should be entitled “Plain-Language Summary” and should be prepared in simple, concise, easy-to-understand terminology. The summary must include the following information. [30 TAC §39.405(k)]

1. the applicant/operator name;

2. the type of application;

3. the type of waste;

4. the type of facility;
5. the facility name and location;
6. the function of the proposed plant or facility;
7. the expected output of the proposed plant or facility;
8. the expected pollutants that may be emitted or discharged by the proposed plant or facility which require an injection well permit; and
9. how the applicant will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

If the applicant is required to provide notice in an alternative language in accordance with 30 TAC §39.426, provide a copy of the plain-language summary in English and in the alternative language.

In addition, provide a copy of the plain-language summaries in pdf clearly labeled on a flash drive.

See Attachment E and Flash Drive

R. Public Involvement Plan

TCEQ's Public Participation Plan provides guidance for using preliminary screening and public involvement plans to ensure meaningful public outreach. Applicants who are applying for a new injection well permit are required to complete a Public Involvement Plan. A Public Involvement Plan is intended to provide an applicant and the agency with information to determine if additional public outreach is necessary or beneficial. Applicants may complete a Public Involvement Plan, even if not required, to learn about the communities in which their facilities are located or where their activities may have an impact.

Submit a Public Involvement Plan, as "Attachment F", using the Public Involvement Plan Form[6] (TCEQ-20960) and Instructions for Completing a Public Involvement Plan Form for Permit and Registration Applications[7] (TCEQ-20960).

For more information regarding Title VI compliance at TCEQ[8] or the Public Participation Plan[9] go on the TCEQ website.

See Attachment F

[6] https://www.tceq.texas.gov/downloads/agency/decisions/hearings/environmental-equity/pip-form-tceq-20960.pdf
[7] https://www.tceq.texas.gov/downloads/agency/decisions/hearings/environmental-equity/instructions-for-pip-form-tceq-20960.pdf
[8] https://www.tceq.texas.gov/agency/decisions/participation/title-vi-compliance
[9] https://www.tceq.texas.gov/downloads/agency/decisions/participation/public-participation-plan-gi-607.pdf

Signature Page

I (Signatory Name) **Douglas Conquest** (Title) **VP Low Carbon Venture Services** (Company) **Bluebonnet Sequestration Hub, LLC** certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 10/30/2025

See 30 TAC §305.44 for signatory authority.

Applications must be signed by the operator of the facility and the facility owner(s). The facility includes all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing, processing, or disposing of waste. Duplicate this page for additional signatories.

To Be Completed by the Applicant if the Applicant Is a Corporation and the Responsible Corporate Officer Is Assigning or Delegating Signature Authority to a Manager in Accordance with 30 TAC §305.44(a)(1)

I (Signatory Name) _____ (Title) _____
(Company) _____ hereby designate (Agent Name and/or Title) _____ as my agent and hereby authorize said agent to sign any application, submit additional information as may be requested by the Commission, and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my agent in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Signature: _____ Date: _____

(Note: Application Must Bear Signature and Seal of Notary Public)

SUBSCRIBED AND SWORN to before me by the said Douglas Conquest, VP LCV

on this 30 day, _____ month of October, year of 2025

My commission expires on the 9th day, month of October, year of 2026

PAULA CHRYSONG
Notary Public, State of Texas
Comm. Expires 10-09-2026
Notary ID 129987594

Paula Chrysong
Notary Public

Signature Page

I (Signatory Name) Robert Hall (Title) Partner / Owner
(Company) GIP II, LLC certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Robert Hall Date: 10/30/25

See 30 TAC §305.44 for signatory authority.

Applications must be signed by the operator of the facility and the facility owner(s). The facility includes all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing, processing, or disposing of waste. Duplicate this page for additional signatories.

To Be Completed by the Applicant if the Applicant Is a Corporation and the Responsible Corporate Officer Is Assigning or Delegating Signature Authority to a Manager in Accordance with 30 TAC §305.44(a)(1)

I (Signatory Name) _____ (Title) _____
(Company) _____ hereby designate (Agent Name and/or Title) _____ as my agent and hereby authorize said agent to sign any application, submit additional information as may be requested by the Commission, and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my agent in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Signature: _____ Date: _____

(Note: Application Must Bear Signature and Seal of Notary Public)

SUBSCRIBED AND SWORN to before me by the said Robert Hall

on this _____ day, 30th month of October, year of 2025

My commission expires on the 21st day, month of July, year of 2026

CHRIS J WILKINS
MY COMMISSION
EXPIRES
7/21/2026
NOTARY PUBLIC
SOUTH CAROLINA

_____
Notary Public

SECTION I

WDW496

Geostock Sandia

WDW496

Texas Commission on Environmental Quality
Permit Application to Dispose of Waste
In A Class I Injection Well

I. General Information

A. Type of Application (check all that apply):

☒ Initial
☐ Renewal
☐ Major Amendment
☐ Minor Amendment
☐ Minor Modification
☐ Transfer
☐ Endorsement

Type of Waste (check all that apply):

☐ Hazardous Waste
☒ Nonhazardous Waste

Type of Facility (check all that apply):

☐ Commercial
☒ Noncommercial

Source of waste for noncommercial (check all that apply):

☒ Onsite
☐ Captured facility
☒ Offsite from facilities owned or effectively controlled by owner/operator

B. Facility Name: **Bluebonnet Sequestration Hub**
Street Address: **I 10 Frontage Road**
Street Address: **Latitude: 29.822455; Longitude: -94.449610**
City, State, Zip: **Winnie, Texas, 77665**
Mailing Address: **5 Greenway Plaza , Suite 110**
Mailing City, State, Zip: **Houston, Texas, 77046**
County: **Chambers**

TCEQ Solid Waste Registration (SWR) Number: **TBD**

EPA ID Number: **TBD**

Give a description of the location of the facility site with respect to known or easily identifiable landmarks. Detail the access routes from the nearest U.S. or State Highway to the facility: **From Winnie, TX *(int. of TX-124 N & Gulfway Dr.)* to well drive North on TX-124 N /Gulfway Dr. toward Broadway Ave. for 89 ft. Turn left onto Farm to Market 1406/Broadway Ave., and drive for 1.1 mi. Turn Right at Curve, and continue for 0.3 mi. Turn Left onto I-10 Frontage Rd., and drive for 3.6 mi. Turn Left onto Lease Road, and drive for 0.2 mi. Turn Left at Ogden Ditch, and drive for 0.7 mi.**

Is the facility located within the Coastal Management Program boundary? Refer to Texas Coastal Management Boundary Map[1] for boundary. For questions regarding the Coastal Management Program, please call (800) 998-4456 (within Texas) or (512) 475-0773. [30 TAC §281.41]

☒ Yes ☐ No

Provide the location of the injection well relative to established surveys: **The well is located 2,228 feet from the south line, and 226 feet of the east line of the T. & N.O. RR. Co. Survey (A-272) Section Line.**

Enter the geographical coordinates of the injection well in decimal degrees to 6 decimal places:

Latitude: **29.822235**
Longitude: **-94.449620**

Provide the depths of the injection zone and injection interval:

Injection Zone: **Lagarto** Formation(s) at depths of **3,319** to **4,599** feet below ground level.
Injection Interval: **Lagarto** Formation(s) at depths of **3,791** to **4,419** feet below ground level
depths referenced to API No. 42071322330000 (Goldston Oil, Doornbos No. 1) located approximately 862 feet from proposed well locations

C. Operator/Applicant (Individual, Corporation, or other Legal Entity Name)

Name: **Bluebonnet Sequestration Hub, LLC**
Address: **5 Greenway Plaza, Suite 110**
City, State and Zip: **Houston, Texas, 77046**
Telephone Number: **(713) 215-7000**

If the application is submitted on behalf of a corporation or other business organization with filing requirements, please identify the Charter Filing Number as recorded with the Office of the Secretary of State for Texas.

Charter Filing Number: **0804819116**

Is the applicant required to designate a registered agent with the Secretary of State of Texas?

☒ Yes ☐ No

If the application is submitted by a business organization that is required to designate and maintain a registered agent, the applicant must provide the name and address of the registered agent.

Agent: **C T Corporation System**
Address: **1999 Bryan St., Suite 900**
City, State, and Zip: **Dallas, TX 75201**
Telephone Number: **(214) 979-1172**

[1] https://www.glo.texas.gov/coast/coastal-management/forms/files/CoastalBoundaryMap.pdf

D. Facility Owner(s) (Individual, Corporation, or other Legal Entity Name)

The facility includes all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing, processing, or disposing of waste. The facility owner must be consistent with the owner on the deed filing bearing the stamp of the county property records or other generally accepted identifying reference of the current ownership record provided in Section I.P.5, Attachment C of the application. If the facility owner is the same as the operator, state "same as operator". If the facility land, structures, appurtenances, and improvements on the land are owned by more than one individual, corporation or other legal entity, provide the following information for all owners. Clearly identify the relationship(s) between the operator and all facility owner(s). [THSC §361.087(1)]

Name: **GIP II, LLC**
Address: **3423 Fork Shoals Rd**
City, State, Zip: **Simpsonville, SC 29680**
Telephone Number: **864-915-2045**
Charter Filing Number: **N/A**

E. Indicate the ownership status of the facility.

Private:

☒ Corporation
☐ Partnership
☐ Proprietorship
☐ Nonprofit organization

Public:

☐ Military
☐ State
☐ Regional
☐ County
☐ Municipal
☐ Federal

Other (specify):

F. List those persons or firms authorized to act for the applicant during the processing of the permit application. Indicate the capacity in which each person may represent the applicant (engineering, geology, legal, etc.). The person listed first will be the primary recipient of correspondence regarding this application. Include complete mailing addresses, phone numbers and e-mail addresses.

NAME:	Angie Contreras	Daisy Gallagher
POSITION:	Project Manager	Consultant
COMPANY:	Bluebonnet Sequestration Hub	Geostock Sandia, LLC
ADDRESS:	5 Greenway Plaza, Suite 110 Houston TX 77046	10930 W. Sam Houston Pkwy, Suite 100 Houston TX 77064
TELEPHONE:	(713) 497-2012	(815) 751-5836
ELECTRONIC MAIL:	Angie_contreras@oxy.com	Daisy.gallagher@geostocksandia.com

G. For new, renewal, and major amendment applications specify the individual who will be responsible for causing notice to be published in the newspaper. Include the complete mailing address, telephone number, fax number and e-mail address.

NAME: Angie Contreras
POSITION: Project Manager
COMPANY: Bluebonnet Sequestration Hub
ADDRESS: 5 Greenway Plaza, Suite 110
Houston TX 77046
TELEPHONE: (713) 497-2012
ELECTRONIC MAIL: Angie_contreras@oxy.com

H. Describe the activities conducted by the applicant which require a permit.

Bluebonnet Sequestration Hub is a disposal unit designed to intake and dispose of waste formation water associated with the Bluebonnet Sequestration Project's Class VI (Carbon Storage) activities. Water is produced from deeper saline aquifers to alleviate pressure in the underlying formation and injected into the overlying saline aquifers. This formation water is non-hazardous and is being sent via pipeline to an injection well to dispose of the Oligocene-aged saline waters into Miocene-aged saline formations.

I. For amendment, modification, transfer or endorsement applications, briefly describe all requested changes to the permit and to the application contents and the reasons for the changes.

Not Applicable. This is an initial permit application for Class I UIC operations.

J. Business Information

1. Give a brief description of the nature of your business.

Bluebonnet Sequestration Hub is a site designed for the storage of Carbon Dioxide (CO_2) in a role to reduce carbon emissions.

2. List the principal products and/or services which are provided by your plant. Please itemize by Standard Industrial Classification (SIC) codes. Also label the products with their common names, if applicable.

Not Applicable. This UIC Facility does not produce products or services. The waste stream is saline formation water from a subsurface geological formation and waste fluids associated with the construction and operation of the sequestration site.

K. Applicant Compliance History

The TCEQ will utilize compliance history when making decisions regarding the issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit. Violations included in a criminal conviction are considered when evaluating and classifying the site's compliance history.

For the five years preceding the filing date of this application, please submit a complete listing of all criminal convictions (i.e., State or Federal) of the operator and facility owner in which a violation of environmental law was an element of the crime. [30 TAC §60.2(d)(1)(E) and §60.2(d)(2)(F)] If there have been no such convictions then the application should state the

following. If the operator is not the facility owner, a separate statement should be provided for each facility owner.

"In the five years preceding the filing of this application (the operator/applicant, owner), Bluebonnet Sequestration Hub, LLC, has not been convicted of a State or Federal crime in which a violation of environmental law was an element of the crime."

"In the five years preceding the filing of this application (the operator/applicant, owner), GIP II, LLC, has not been convicted of a State or Federal crime in which a violation of environmental law was an element of the crime."

L. TCEQ Core Data Form

The TCEQ requires that a Core Data Form[2] (TCEQ-10400) be submitted with all new and renewal applications. Submit the form as "Attachment A". For all other applications, if a Regulated Entity Number (RN) and Customer Reference Number (CN) have been issued by the TCEQ and core data information has not changed, a Core Data Form is not required. For more information regarding the Core Data Form, call (512) 239-5175 or go to the Core Data Form Instructions[3] on the TCEQ website.

RN: 112189964

CN: 606372670

Core Data Form is provided in Attachment A

M. Public Interest Demonstration

See Attachment B

Section 27.051 of the Texas Water Code (TWC) stipulates certain conditions that must exist for the Commission to grant an application and issue a permit. For all new applications, permit renewals, and major and minor amendments, submit as "Attachment B" information addressing the following considerations:

1. That the use or installation of the injection well is in the public interest. [TWC§27.051(a)(1)]

2. That no existing rights, including, but not limited to, mineral rights, will be impaired. [TWC §27.051(a)(2)]

3. That, with proper safeguards, both ground and surface fresh water can be adequately protected from pollution. [TWC §27.051(a)(3)]

4. That the applicant has made a satisfactory showing of financial responsibility if required by Section 27.073 of this code. [TWC §27.051(a)(4)]

[2] https://www.tceq.texas.gov/downloads/permitting/central-registry-docs/10400-core-data-form.docx
[3] https://www.tceq.texas.gov/downloads/permitting/central-registry-docs/10400-core-data-form-instructions.pdf

5. That the compliance history of the applicant and related entities is acceptable. [TWC §27.051(d)(1), 30 TAC § 331.121(b)(1)]

6. That there is no practical, economic, and feasible alternative to an injection well reasonably available. Provide justification for subsurface disposal. Include results of treatability studies of alternate, practical, economic and feasible methods of waste disposal. Explain in detail why each method is considered to be less satisfactory in terms of environmental protection than the proposed subsurface disposal method. Indicate whether this waste is presently being produced and, if so, what method is used for disposal. Describe the manufacturing process(es) and product(s) which produce the waste(s). [TWC §27.051(d)(2), 30 TAC § 331.121(b)(2)]

7. (for hazardous waste injection wells only) That the applicant has provided for the proper operation of the proposed hazardous waste injection well. [TWC §27.051(a)(5)]

8. (for hazardous waste injection wells only) That the applicant for a hazardous waste injection well not located in an area of industrial land use has made a reasonable effort to ensure that the burden, if any, imposed by the proposed hazardous waste injection well on local law enforcement, emergency medical or fire-fighting personnel, or public roadways, will be reasonably minimized or mitigated. [TWC §27.051(a)(6)]

9. (for hazardous waste injection wells only) That the applicant owns or has made a good faith claim to own, or has the consent of the owner to utilize, or has an option to acquire, or has the authority to acquire through eminent domain, the property or portions of the property where the hazardous waste injection well will be constructed. [TWC §27.051(a)(7)]

10. (for hazardous waste injection wells only) That the applicant will maintain sufficient public liability insurance for bodily injury and property damage to third parties that is caused by sudden and non-sudden accidents or will otherwise demonstrate financial responsibility in a manner adopted by the Commission in lieu of public liability insurance. [TWC §27.051(d)(3), 30 TAC § 331.121(b)(3)]

11. (for hazardous waste injection wells only) For on-site generated waste, provide certification by the owner/operator that (1) the generator of the hazardous waste has a program to reduce the volume or quantity and toxicity of the waste to the degree determined by the generator to be economically practicable, and (2) injection of the waste is that practicable method of disposal currently available to the generator which minimizes the present and future threat to human health and the environment. [30 TAC §331.121(b)(4)]

N. For applications for new permits, renewals, and major amendments, a copy of the administratively complete application and subsequent revisions must be made available at a public place in the county where the facility is located or proposed to be located for review and copying by the public. Identify the public place in the county (e.g., public library, county courthouse, city hall), including the address, where the application will be located. [30 TAC §39.405(g)]

Chambers County Library
608 Washington Ave
Anahuac, Texas 77514

O. Facility Background Information [30 TAC §305.45(a)(7)]

Indicate (by listing the permit number(s) and governing agency(ies) in the columns below) all existing, pending, interim status, or permit-by-rule State and/or Federal permits, licenses or construction approvals which pertain to pollution control or industrial solid waste management activities conducted by your plant or at your location, or existing at a proposed plant or location. Complete each blank by entering either the **permit number** or **the date of application**, and the **governing agency** or **none**.

Existing Permits

Relevant Program and/or Law	Permit Number or License	Government Agency *
Hazardous Waste Management Program under the Texas Solid Waste Disposal Act	None	None
UIC Program under the Texas Injection Well Act (Class I, II, III, IV, V and VI Wells)	WDW495 WDW496	TCEQ
Texas Pollutant Discharge Elimination System Program under the Clean Water Act and Waste Discharge Program under the Texas Water Code, Chapter 26	None	None
Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA)	None	None
Nonattainment Program under the FCAA	None	None
National Emission Standards for Hazardous Air Pollutants preconstruction approval under the FCAA	None	None
Ocean dumping permits under the Marine Protection Research and Sanctuaries Act	None	None
Dredge or fill permits under the Federal Clean Water Act	None	None
Licenses under the Texas Radiation Control Act	None	None
Subsurface Area Drip Dispersal System permits under Texas Water Code, Chapter 32	None	None
Texas Solid Waste Disposal Act	None	None
Texas Uranium Surface Mining and Reclamation Act	None	None
Texas Surface Coal Mining and Reclamation Act	None	None
Other relevant environmental permits/licenses	None	None

* Use the following acronyms for each agency:

TCEQ = Texas Commission on Environmental Quality
RRC = Railroad Commission of Texas
DSHS = Department of State Health Services
TDA = Texas Department of Agriculture
EPA = U.S. Environmental Protection Agency
CORPS = U.S. Army Corps of Engineers

P. Location

1. Is the facility located on Indian lands?

   ☐ Yes ☒ No

   If yes, do not complete this application. Contact EPA Region 6 for application and permitting requirements for injection wells located on Indian lands. [40 CFR §147.2205(a)]

2. Is the facility located in an area in which the governing body of the county or municipality has prohibited the processing or disposal of municipal hazardous waste or industrial solid waste?

   ☐ Yes ☒ No

   If yes, do not complete this application. TCEQ may not grant an application for an injection well permit in this area. [THSC §363.112(d)]

3. If the facility is a new commercial hazardous waste management facility, or the subsequent areal expansion of such a facility, is the boundary of the well or pre-injection units to be located within ½ of a mile of an established residence, church, school, day care center, surface water body used for public drinking water supply, or dedicated park?

   ☐ Yes ☒ No

   If yes, do not complete this application. TCEQ may not issue a permit for a facility in this location. [30 TAC §335.205(a)(3)]

4. Is the location or proposed location of the injection well in the territory of a groundwater conservation district? To determine if the injection well is or will be located in the territory of a groundwater conservation district refer to the Texas Groundwater Conservation District map[4] on the TWDB website.

   ☐ Yes ☒ No

   If yes, provide the contact name and mailing address for the groundwater conservation district. To obtain a point of contact and mailing address refer to the Groundwater Conservation Districts Contact List[5] on the TCEQ website. [TWC §27.017(b)]

5. Legal Description of Facility Land

   Submit, as "Attachment C", a legal description of the tract or tracts of land upon which the facility is or will be located and the deed filing bearing the stamp of the county property records or other generally accepted identifying reference of the current ownership record. If ownership of the property is transferring and new ownership documents are not final, provide the date upon which the documents will be submitted. The facility includes all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing, processing, or disposing of waste including pre-injection units used for storage and processing waste to be injected into the injection well. The legal description should include the metes and bounds description or for platted urban sites the final plat with appropriate "lot" description(s). [THSC §361.087(2)]
   See Attachment C

[4] https://www.twdb.texas.gov/mapping/doc/maps/GCDs_8x11.pdf
[5] https://www.tceq.texas.gov/downloads/groundwater/gcd/gcd-contact-list.pdf

6. Submit, as "Attachment D", a drawn-to-scale topographic map of the facility and the tract or tracts of land upon which the facility is or will be located as described in Attachment C and area extending at least one mile beyond the tract boundaries. The map must be prepared by a licensed professional engineer or a registered surveyor. The scale should be adequate to depict the following features: [30 TAC §305.45(a)(6)(A), (C) & (E)]

    1. the boundary of the tract or tracts of land upon which the facility is or will be located as described in Attachment C; areal size of the tract or tracts of land in acres should be given;

       See Attachment D

    2. if different, the boundary of the facility, and the location of all injection wells; each depicted area should be labeled to identify the well(s) and the well status (active, inactive, or proposed); areal size of the facility in acres should be given;

       Not Applicable

    3. if applicable, the boundaries of captured facilities that generate waste to be disposed in the injection wells, each depicted area should be labeled to identify the names of the captured facilities;

       Not Applicable

    4. the overall facility, each of its surface intake and discharge structures, each of its waste treatment, storage or disposal facilities, including proposed or existing pre-injection units for processing or storage of waste to be disposed in the injection wells; and

       See Attachment D

    5. all wells (water, oil and gas, disposal, etc.), springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within one mile of the facility property boundary, and the purpose for which each water well is used (e.g., domestic, livestock, agricultural, industrial, etc.).

       See Attachment D

Q. Plain-Language Summary

The TCEQ implemented new rule requirements in 30 TAC Chapter 39 that impact all permit applications subject to the Chapter 39 public notice requirements that are declared administratively complete after May 1, 2022. One of the new rules, 30 TAC §39.405(k), requires the applicant to provide a plain-language summary in English, and in an alternative language if required in accordance with 30 TAC §39.426. The plain-language summaries for all applications will be posted on the TCEQ website.

For new, renewal and major amendment permit applications submit, as “Attachment E”, a Plain-Language Summary of the application that is no more than two pages long. The summary should be entitled “Plain-Language Summary” and should be prepared in simple, concise, easy-to-understand terminology. The summary must include the following information. [30 TAC §39.405(k)]

1. the applicant/operator name;

2. the type of application;

3. the type of waste;

4. the type of facility;
5. the facility name and location;
6. the function of the proposed plant or facility;
7. the expected output of the proposed plant or facility;
8. the expected pollutants that may be emitted or discharged by the proposed plant or facility which require an injection well permit; and
9. how the applicant will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

If the applicant is required to provide notice in an alternative language in accordance with 30 TAC §39.426, provide a copy of the plain-language summary in English and in the alternative language.

In addition, provide a copy of the plain-language summaries in pdf clearly labeled on a flash drive.

See Attachment E and Flash Drive

R. Public Involvement Plan

TCEQ's Public Participation Plan provides guidance for using preliminary screening and public involvement plans to ensure meaningful public outreach. Applicants who are applying for a new injection well permit are required to complete a Public Involvement Plan. A Public Involvement Plan is intended to provide an applicant and the agency with information to determine if additional public outreach is necessary or beneficial. Applicants may complete a Public Involvement Plan, even if not required, to learn about the communities in which their facilities are located or where their activities may have an impact.

Submit a Public Involvement Plan, as "Attachment F", using the Public Involvement Plan Form[6] (TCEQ-20960) and Instructions for Completing a Public Involvement Plan Form for Permit and Registration Applications[7] (TCEQ-20960).

For more information regarding Title VI compliance at TCEQ[8] or the Public Participation Plan[9] go on the TCEQ website.

See Attachment F

[6] https://www.tceq.texas.gov/downloads/agency/decisions/hearings/environmental-equity/pip-form-tceq-20960.pdf
[7] https://www.tceq.texas.gov/downloads/agency/decisions/hearings/environmental-equity/instructions-for-pip-form-tceq-20960.pdf
[8] https://www.tceq.texas.gov/agency/decisions/participation/title-vi-compliance
[9] https://www.tceq.texas.gov/downloads/agency/decisions/participation/public-participation-plan-gi-607.pdf

Signature Page

I (Signatory Name) **Douglas Conquest** (Title) **VP Low Carbon Venture Services**
(Company) **Bluebonnet Sequestration Hub, LLC** certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 10/30/2025

See 30 TAC §305.44 for signatory authority.

Applications must be signed by the operator of the facility and the facility owner(s). The facility includes all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing, processing, or disposing of waste. Duplicate this page for additional signatories.

To Be Completed by the Applicant if the Applicant Is a Corporation and the Responsible Corporate Officer Is Assigning or Delegating Signature Authority to a Manager in Accordance with 30 TAC §305.44(a)(1)

I (Signatory Name) _____ (Title) _____
(Company) _____ hereby designate (Agent Name and/or Title) _____ as my agent and hereby authorize said agent to sign any application, submit additional information as may be requested by the Commission, and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my agent in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Signature: _____ Date: _____

(Note: Application Must Bear Signature and Seal of Notary Public)

SUBSCRIBED AND SWORN to before me by the said Douglas Conquest, VP LCV

on this 30 day, _____ month of October, year of 2025

My commission expires on the 9th day, month of October, year of 2026

PAULA CHRYSONG
Notary Public, State of Texas
Comm. Expires 10-09-2026
Notary ID 129987594

Paula Chrysong
Notary Public

Signature Page

I (Signatory Name) Robert Hall (Title) Partner / Owner
(Company) GIP II, LLC certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 10/30/25

See 30 TAC §305.44 for signatory authority.

Applications must be signed by the operator of the facility and the facility owner(s). The facility includes all contiguous land, and structures, other appurtenances, and improvements on the land, used for storing, processing, or disposing of waste. Duplicate this page for additional signatories.

To Be Completed by the Applicant if the Applicant Is a Corporation and the Responsible Corporate Officer Is Assigning or Delegating Signature Authority to a Manager in Accordance with 30 TAC §305.44(a)(1)

I (Signatory Name) _____ (Title) _____
(Company) _____ hereby designate (Agent Name and/or Title) _____ as my agent and hereby authorize said agent to sign any application, submit additional information as may be requested by the Commission, and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my agent in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

Signature: _____ Date: _____

(Note: Application Must Bear Signature and Seal of Notary Public)

SUBSCRIBED AND SWORN to before me by the said Robert Hall

on this 30TH day, October month of _____, year of 2025

My commission expires on the 7-21-26 day, month of July, year of 2026

CHRIS I WILKINS NOTARY PUBLIC SOUTH CAROLINA MY COMMISSION EXPIRES 7/21/2026

_____
Notary Public

SECTION II

INFORMATION TO PROVIDE PUBLIC NOTICE

Geostock Sandia

II. INFORMATION REQUIRED TO PROVIDE NOTICE

Submit, as "Attachment G", a mailing list of landowners identified under Section II.A. and a mailing list of mineral rights owners identified under Section II.B. In accordance with 30 TAC §39.405(b), please also submit this mailing list electronically, in Microsoft Word. The electronic list must contain only the name, mailing address, city, state, and zip code with no reference to the lot number or lot location. The list should contain up to 30 names and addresses (10 per column) per page. Each name and address must be typed in the format that meets the United States Postal Service (USPS) requirements for machine readability. The letters in the name and address must be capitalized, contain no punctuation, and the two-character abbreviation must be used for the state. Contact the USPS for further instructions on formatting addresses for machine readability. The applicant may elect to submit pre-printed mailing labels of this mailing list with the application instead of submitting the mailing list electronically. If you wish to provide the list on printed labels, please use sheets of labels that have 30 labels to a page (10 labels per column). Please provide four complete sets of labels of the landowners and mineral rights owners list.

A. Provide a complete mailing address for persons who own the property on which the existing or proposed injection well facility is or will be located and all persons who own tracts of land adjacent to the property on which the existing or proposed injection well facility is or will be located and within a reasonable distance from the proposed point or points of discharge, deposit, injection, or other place of disposal or activity. Identify the tracts of land and landowners on a map and provide the general character of the areas adjacent to the facility, including public roads, towns and the nature of development of adjacent lands (e.g., residential, commercial, agricultural, recreational, industrial or undeveloped) on the map. The property boundary of the tract or tracts of land on which the existing or proposed injection facility is or will be located must be consistent with the legal description of the tract or tracts of land provided in Section I.P.5, Attachment C, of the application. (Refer to Example Application Map) [30 TAC §281.5(6), §305.45(a)(6)(B) & (D) and §39.651(c)(4)(A) & (B)]

See Attachment G for a list of adjacent property landowners and their addresses. The list is keyed to the Adjacent Landowners Map. Also included in Attachment G. An electronic copy of mailing labels is included on a computer disk and is in Word format, 10 labels per column, and 30 labels per page (Avery label 5260 or equivalent).

B. Provide a complete mailing address for all persons who own the mineral rights underlying the existing or proposed injection well facility and underlying the tracts of land adjacent to the property on which the existing or proposed injection well facility is or will be located as required by 30 TAC §39.651(c)(4)(C) & (D). Identify the mineral rights owners on the map provided above in Section II.A.

See Attachment G for a list of mineral owners and addresses underlaying and surrounding the proposed Bluebonnet site. The list is keyed to the Adjacent Landowners Map. Also included in Attachment G. An electronic copy of mailing labels is included on a computer disk and is in Word format, 10 labels per column, and 30 labels per page (Avery label 5260 or equivalent).

C. If the facility is located adjacent to navigable territorial waters of the state, or the State of Texas is an adjacent landowner and/or owner of mineral rights underlying

the facility or underlying adjacent tracts, your application may affect lands dedicated to the permanent school fund. A determination whether lands dedicated to the permanent school fund will be affected by TCEQ formal action on the application will be made by the Texas General Land Office (TXGLO).

The facility is not located adjacent or near navigable territorial waters of the State of Texas. Additionally, none of the adjacent land or underlying mineral rights is owner by the State of Texas, they are all privately owned. Therefore, a determination letter is not required.

In order for the TXGLO to make a determination, the TCEQ will provide notice to the TXGLO regarding the application. Provide the following information for inclusion in the notice to the TXGLO:

1. state the location of the permanent school fund land, mineral rights, or waters of the state that may be affected; and

2. describe any foreseeable impact or effect of the proposed permitted action may have on permanent school fund land.

A formal action or ruling by the Commission on an application affecting permanent school fund land that is made without the notice required by 30 TAC §39.651(c)(3) is voidable by the School Land Board as to any permanent school fund lands affected by the action or ruling. [TWC §5.115(c) and (g)]

D. Provide the name and mailing address of the mayor and health authority of the municipality in whose territorial limits or extraterritorial jurisdiction the well is or will be located, and the name and mailing address of the county judge and the health authority of the county in which the facility is located. [30 TAC §39.651(c)(5)]

The municipality is in Winnie Texas, which is in Chambers County, Texas. There is no Mayor of Winnie Texas. Therefore, county information is provided.

COUNTY – CHAMBERS

CHAMBERS COUNTY HEALTH DEPARTMENT
Kevin D. Crumps, AAS – Deputy Health Department Director
102 Airport Road
Anahuac, TX 77514
Telephone: (409) 267-2731

CHAMBERS COUNTY JUDGE
Honorable Jimmy Sylvia
PO Box 939
Anahuac, TX 77514
Telephone: (409) 267-2440

E. Bilingual Notice Instructions. For new, renewal and major amendment permit applications, public notice in an alternate language may be required. If an elementary school or middle school nearest to the facility offers a bilingual program, notice may be required to be published in an alternative language. The Texas Education Code,

upon which the TCEQ alternative language notice requirements are based, requires a bilingual education program for an entire school district should the requisite alternative language speaking student population exist. However, there may not be any bilingual-speaking students at a particular school within a district which is required to offer the bilingual education program. For this reason, the requirement to publish notice in an alternative language is triggered if the nearest elementary or middle school, as part of a larger school district, is required to make a bilingual education program available to qualifying students and either the school has students enrolled at such a program on-site or has students who attend such a program at another location to satisfy the school's obligation to provide such a program. [30 TAC §39.426]

1. Is the school district of the elementary or middle school nearest to the facility required by the Texas Education Code to have a bilingual program?

   ☒ Yes ☐ No

   If **no**, alternative language notice publication not required.

2. If **yes** to question 1, are students enrolled in a bilingual education program at either the elementary school or the middle school nearest to the facility?

   ☒ Yes ☐ No

   If yes to questions 1 and 2, alternative language publication is required.

   If no to question 2, then consider the next question.

3. If **yes** to question 1, are there students enrolled at either the elementary school or the middle school nearest to the facility who attend a bilingual education program at another location?

   ☐ Yes ☐ No

   If **yes** to questions 1 and 3, alternative language publication is required.

   If **no** to question 3, then consider the next question.

4. If **yes** to question 1, has the elementary school or the middle school nearest to the facility been granted an exception from the requirement to provide a bilingual education program, as available under 19 TAC §89.1207(a)?

   ☐ Yes ☐ No

   If **yes** to questions 1 and 4, alternative language publication is required.

   If **no** to question 4, alternative language notice publication not required.

5. Provide the alternative language for which the bilingual education program(s) is provided or for which an exception has been approved. **Spanish**

SECTION III

RAILROAD COMMISSION LETTER

Geostock Sandia

III. RAILROAD COMMISSION LETTER

Submit, as "Attachment H," a letter from the Railroad Commission stating that "drilling the disposal well and injecting industrial or municipal waste into the subsurface stratum will not endanger or injure any known oil or gas resources." This letter is required with initial and renewal applications, and with permit amendment applications for injection into subsurface formations not addressed by the current Railroad Commission letter for the injection well. [30 TAC §305.49(a)(7)]

This UIC Application is for an Initial Permit Application for Proposed Injection Well Nos. 1 and 2 located in Chambers County, Texas. A Letter and relevant portions of the TCEQ Class I UIC Application have been submitted to the Texas Railroad Commission (RRC) for their review.

Once this letter has been received, it will be provided to the TCEQ UIC Radioactive Materials Division to be inserted into this Application as "Attachment H". In the meantime, Attachment H include the communication letter with submittal date to the RRC.

SECTION VI

FINANCIAL ASSURANCE

Geostock Sandia

IV. FINANCIAL ASSURANCE

Submit as, "Attachment I," a description of the manner in which compliance with the financial assurance and liability requirements in 30 TAC Chapter 37, Subchapter Q will be attained, and demonstration of financial capability as outlined below. For converted wells and constructed wells provide documentation that financial assurance in the amount provided in Section VI of the application will be in effect upon permit issuance. [30 TAC §305.49(a)(3)]

A. Financial Assurance Requirements [30 TAC §§331.142-144 and §331.68(a)(3)]

The financial assurance requirements of 30 TAC Chapter 37, Subchapter Q, require an owner or operator to submit an originally signed financial assurance mechanism to the TCEQ Financial Assurance Unit at least 60 days prior to commencement of drilling operations for new wells. All financial assurance mechanisms shall be in effect before commencement of drilling operations. For converted wells and other previously constructed wells, financial assurance shall be provided at least 30 days prior to permit issuance and be in effect upon permit issuance. [§37.7021 (c) & §37.7031(c)]

1. Financial Assurance for Closure

Bluebonnet intends to use a corporate guarantee as the mechanism to demonstrate financial assurance for well closure as provided in 30 TAC § 37.7021(b)(7). (Bluebonnet also has the ability and may choose to comply with 30 TAC Chapter 37, Subchapter Q utilizing a Letter of Credit or Surety Bond as provided in 30 TAC § 37.7021(b).) The selected mechanism will be provided to the TCEQ Financial Assurance Unit at least 60 days prior to commencement of drilling operations.

Secure and maintain financial assurance for plugging and abandonment of each existing and new well in the amount of the closure cost estimate in current dollars developed in accordance with 30 TAC §331.143 and included in Section VI.D. of the application using the mechanisms listed in 30 TAC §37.7021(b).

See Attachment I

2. Financial Assurance for Post Closure Care (hazardous waste wells only)

If applicable, demonstrate and maintain financial assurance for post-closure of each existing and new hazardous waste well in the amount of the post-closure care cost estimate in current dollars developed in accordance with 30 TAC §331.68(a)(4)(F) and included in Section VI.D. of the application using the mechanisms provided in 30 TAC §37.7031(b).

Not Applicable – Non-Hazardous

B. Liability Requirements (hazardous waste wells only) [30 TAC §331.142(b)]

Not Applicable – Non-Hazardous

For hazardous waste injection wells establish and maintain liability coverage for

sudden and non-sudden bodily injury and property damage to third parties caused by accidental occurrences arising from operations of the facility in accordance with the requirements of 30 TAC §37.7041. Evidence must be provided to show that the insurance policy covers the injection well(s).

C. Financial Capability Requirements (hazardous waste wells only) [30 TAC §305.49(c)]

Not Applicable – Non-Hazardous

For hazardous waste injection wells demonstrate to the satisfaction of the executive director that the applicant has sufficient financial resources to operate the facility in a safe manner and in compliance with the permit and all applicable rules, including, but not limited to, how an applicant intends to obtain financing for construction of the facility, and to close the facility properly as required by 30 TAC §305.50(a)(4)(B).

Information requirements for making this demonstration vary depending on the type of financial information available to applicants, primarily whether audited financial statements are available as well as the type of application submitted. For each type of application described below, financial information must be provided for the specific type of applicant entities.

1. New Permits, Permit Amendment for Facility Expansions, and Permit Transfers

   a. Publicly Traded Entities

      i. Securities and Exchange Commission (SEC) Form 10-Ks

         This portion of the requirement calls for the two most recent 10-K reports filed.

      ii. SEC Form 10-Q

         This portion of the requirement calls for a copy of the most recent quarterly report.

      iii. Explanation statement

         This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure care, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met. (i.e., which financial assurance mechanism is or will be used).

      iv. Construction capital cost estimates

         This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

   b. Privately Held Entities with Audited Financial Statements

      i. Audited financial statements

         This portion of the requirement calls for complete copies of the audited financial statements for each of the most recent two fiscal years. If an audit has not been completed for one of the previous two years, a complete copy

of the fiscal year-end financial statement and federal tax return may be substituted in lieu of the audit not performed. The tax return must be certified by original signature of an authorized signatory as being a "true and correct copy of the return filed with the Internal Revenue Service." Financial statements must be prepared consistent with generally accepted accounting principles and include a balance sheet, income statement, cash flow statement, notes to the financial statement, and an accountant's opinion letter.

ii. Quarterly financial statement

This portion of the requirement calls for a complete copy of the most current quarterly financial statement prepared consistent with generally accepted accounting principles. Internally prepared statements are satisfactory.

iii. Supplementary information statement

This portion of the requirement calls for a written statement detailing the information that would normally be found in SEC's Form 10-K including descriptions of the business and its operations; identification of any affiliated relationships; credit agreements and terms; any legal proceedings involving the applicant; contingent liabilities; and significant accounting policies.

iv. Construction capital cost estimates

This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

v. Explanation statement

This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure care, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met (i.e., which financial assurance mechanism is or will be used).

c. Entities without Audited Financial Statements or Entities Choosing Not to Provide the Information Listed Above

i. Financial Plan

This portion of the requirement calls for a financial plan (including balance sheets listing assets, liabilities and capital accounts) sufficiently detailed to clearly demonstrate that the applicant will be in a position to readily secure financing for construction, operation, and closure, post-closure, and corrective action if the permit is issued. At least 3 balance sheets should be included as of: a) approximately the date of the permit application, b) 12 months after any construction is completed (or assumption of operational control for a permit transfer), and c) 24 months after any construction is completed (or assumption of operational control for a permit transfer).

ii. Letters of opinion

The submitted financial plan must be accompanied by original letters of opinion from two financial experts, not otherwise employed by the applicant, who have the demonstrated ability to either finance the facility or place the required financing. If the permit action sought involves construction of a new facility or expansion of an existing facility, the opinion letters must certify that financing is obtainable within 180 days of permit approval and include the time schedule contingent upon permit finality for securing the financing as well as certify the financial plan is reasonable. Even if the application does not involve a facility or capacity expansion, the opinion letters must certify that the financial plan is reasonable. Only one opinion letter from a financial expert, not otherwise employed by the applicant, is required if the letter renders a firm commitment to provide all the necessary financing.

Letters of opinion are usually issued by investment or commercial bankers but there could be additional sources. Applicants are encouraged to verify the adequacy of the credentials of their chosen financial expert with TCEQ's financial assurance unit prior to a formal engagement. Financial experts should describe their qualifications and disclose their independence from the applicant and/or any entity or person affiliated with the applicant.

iii. Operating and cash flow statement

This portion of the requirement calls for a written detail of the annual operating costs of the facility and a projected cash flow statement including the period of construction and first two years of operation. The cash flow statement must demonstrate the financial resources to meet operating costs, debt service, and provide financial assurance for closure, post-closure care, and liability coverage requirements. A list of the assumptions made to forecast cash flow must also be provided.

iv. Explanation statement

This portion of the requirement calls for a statement addressing how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met (i.e., which financial assurance mechanism is or will be used).

v. Construction capital cost estimates

This portion of the requirement calls for estimates of capital costs for expansion and/or initial construction if the application encompasses facility expansion, capacity expansion, or new construction.

d. Entities with A Resolution from A Governing Body Approving or Agreeing to Approve the Issuance of Bonds to Satisfy Financial Assurance Requirements (e.g., a City or County)

i. Explanation statement

This portion of the requirement calls for a statement signed by an authorized signatory [as described in 30 TAC30 305.44(a)] explaining in detail how the applicant demonstrates sufficient financial resources to construct, safely operate, properly close, perform post-closure, perform corrective action and provide adequate liability coverage for the facility. This statement must also address how the closure, post-closure, corrective action, and liability coverage financial assurance requirements of Chapter 37, Subchapter P will be met (i.e., which financial assurance mechanism is

or will be used).

ii. Certified copy of the resolution from the governing body

iii. Certification by the governing body of passage of the resolution

2. Permit Renewals

For all types of applicant entities, include a financial disclosure letter addressed to UIC Permits Section signed by an applicant representative meeting the application signatory requirements of 30 TAC §305.44 stating the following information:

"This letter is furnished to you in response to financial disclosure requirements as applicable under Texas Health and Safety Code Section 361.085 and Title 30, Texas Administrative Code (30 TAC), Section 305.50 to provide assurance that [name of applicant] has sufficient financial resources.

In keeping with the above law and rule requirements I hereby certify that [name of applicant] is adequately capitalized and has sufficient financial resources to operate, close, provide post-closure care for and perform corrective action for the above-referenced facility in a safe manner, and in compliance with the permit and all applicable rules.

[name of applicant] currently provides a [describe type of mechanism, i.e., letter of credit, surety bond, etc.] financial assurance mechanism as set out in 30 TAC, Chapter 37, Subchapter C to meet [name of applicant]'s financial assurance obligations.

I am authorized to make these statements on behalf of [name of applicant]. I understand that the TCEQ may request additional information as part of their review."

GEOLOGICAL CERTIFICATION

Geostock Sandia

V. GEOLOGY REPORT CERTIFICATION

I, Daniel J. Collins , Vice President - Geosciences

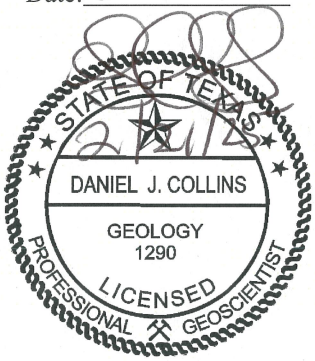
(technical report supervisor) (Title)

I certify under penalty of law that Section V, and all applicable attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information, recommendations and specifications submitted are, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 2/21/25

Document pages covered by seal include the following:

Pages V-1 through V-69
Tables V-1 though V-8
Appendices V-1 through V-4
Applicable Figures are individually sealed



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SECTION V

GEOLOGY & HYDROGEOLOGY

Geostock Sandia

BLUEBONNET SEQUESTRATION HUB
UIC CLASS I PERMIT RENEWAL APPLICATION
SECTION V – GEOLOGY REPORT
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V. GEOLOGY AND HYDROGEOLOGY

The geologic suitability of a specific stratigraphic interval for the injection and confinement of waste is determined primarily by the following criteria:

- Lateral extent, thickness, porosity, and permeability of the injection reservoir;
- Lateral extent, thickness, porosity, and permeability of the overlying containment
- Hydrogeologic compatibility of the injected waste stream with formation materials and formation brines;
- Faulting or fracturing of injection reservoir, overlying aquicludes, or confining zone; and
- Seismic risk.

These criteria can be evaluated based on the regional and local depositional and structural histories of the geologic section.

In the following sections, the depositional and structural framework of the sedimentary and hydro-stratigraphic column (Figure V-1) for the injection and confinement of effluent at the Bluebonnet Sequestration Hub (Bluebonnet Hub) is outlined. Information is obtained from regional and local data interpretations, and conclusions of the Area of Review (AOR) study. A type-log of the formations and regulatory intervals beneath the plant, using Artificial Penetration No. 11 – Goldston Oil Company, Doornbos No. 1 offset well log is presented in Figure V-2. Approximate regulatory depths proposed for the Bluebonnet Hub site are represented on the Type Log and in Table V-1. This log is located approximately 862 feet west-southwest of the proposed DSW M1 and M2 Injection Wells. All depth intervals in the geological technical report are reported below ground level (BGL) elevations. Structure and Isopach maps generated for this permit application are generated in TVDSS and are discussed in Section V.B – Local Geology.

V.A REGIONAL GEOLOGY

The earliest record of sedimentation in the Gulf of Mexico Basin occurred during the Late Triassic to Early Jurassic period. At this time, the early phases of continental rifting resulted in the deposition of non-marine red bed and deltaic sediments (shale, siltstone, sandstone, and conglomerate) of the Eagle Mills Formation in a series of restricted, graben fault-block basins (Figure V-3). These sediments were overlain by a thick sequence of anhydrite and salt beds (Werner Anhydrite and Louann Salt) deposited during Middle Jurassic time. The deposition of the Louann Salt beds was localized within major basins that were defined by the major structural elements in the Gulf Coast Basin. The clastic Norphlet Formation (sandstones and conglomerates) overlies the Louann Salt and is more than 1,000 feet thick in Mississippi, but it thins westward to sandstone and siltstone in Texas. Norphlet conglomerates were deposited in coalescing alluvial fans near Appalachian sources and grade downdip into dune and interdune sandstone deposited on a broad desert plain (Mancini et al., 1985). Although the Norphlet Formation is unfossiliferous, on the basis of dating of the overlying and underlying sequences, the Norphlet Formation is probably late Middle Jurassic or Callovian in age (Todd and Mitchum, 1977).

The shallow-water carbonate and clastic rocks of the Smackover, Buckner, and Haynesville Formations and Cotton Valley Group were deposited over the Norphlet Formation from the Late Jurassic into the Late Cretaceous era. Jurassic, non-skeletal, carbonate sands and muds accumulated on a ramp-type shelf with reefal buildups developed on subtle topographic highs (Baria et al., 1982). A terrigenous clastic influx in eastern Louisiana and Mississippi occurred during deposition of the Haynesville and diminished westward where the Haynesville Formation grades into the Gilmer Limestone in East Texas. The top of the Jurassic occurs within the Cotton Valley Group, with the Knowles Limestone dated as Early Cretaceous (Berrasian) (Todd and Mitchum, 1977). The middle Cretaceous was a period of particular stability, permitting the development of extensive, shelf-edge reef complexes (Baria et al., 1982). Tectonism in the western United States and northern Mexico (Laramide Orogeny) in the Late Cretaceous resulted in a large influx of terrigenous sands and muds (Washita-Fredericksburg and Tuscaloosa Formations) into the Gulf Coast Basin. This effectively shuts off the production of carbonates, except in the Florida and Yucatan regions. The rate of terrigenous sediment influx has been greater than the rate of basin

subsidence, resulting in significant progradation of the continental shelf margin since the Cretaceous (Figure V-4).

The geometry of Cenozoic deposition in the Gulf Coast Basin was primarily controlled by the interaction of the following factors:

1) changes in the location and rates of sediment input, significantly shifting the areas of maximum sedimentation;
2) changes in the relative position of sea level, developing a series of large-scale depositional cycles throughout Cenozoic time;
3) diapiric intrusion of salt and shale in response to sediment loading; and
4) flexures and growth faults due to sediment loading and gravitational instability.

Early Tertiary sediments are thickest in the Rio Grande Embayment of Texas, reflecting the role of the ancestral Rio Grande and Nueces Rivers as sediment sources to the Gulf of Mexico basin. By Oligocene time, deposition had increased to the northeast, suggesting that the ancestral Colorado, Brazos, Sabine, and Mississippi Rivers were increasing in importance. Miocene time is marked by an abrupt decrease in the amount of sediment entering the Rio Grande Embayment, with a coincident increase in the rate of sediment supply in southeast Texas, Louisiana, and Mississippi. Throughout the Pliocene and Pleistocene Epochs, the maximum depocenters of sedimentation were controlled by the Mississippi River and are located offshore of Louisiana and Texas.

Tertiary sediments accumulated to great thickness where the continental platform began to build toward the Gulf of Mexico, beyond the underlying Mesozoic shelf margin and onto transitional oceanic crust. Rapid loading of sand on water-saturated prodelta and continental slope muds resulted in contemporaneous growth faulting (Loucks et al., 1986). The effect of this syndepositional faulting was a significant expansion of the sedimentary section on the downthrown side of the faults. Sediment loading also led to salt diapirism, with its associated faulting and formation of large salt withdrawal basins (Galloway et al., 1982a).

Sediments of the Tertiary progradational wedges were deposited in continental, marginal marine, nearshore marine, shelf, and basinal environments and present a complex depositional system along the Texas Gulf Coast. Overlying the Tertiary progradational wedges along the Texas Gulf Coast are the Pleistocene and Holocene sediments of the Quaternary Period. Pleistocene sedimentation occurred during a period of complex glacial activity and corresponding sea level changes. As the glaciers made their final retreat, Holocene sediments were being deposited under the influence of an irregular, but rising, sea level. Quaternary sedimentation along the Texas Gulf Coast occurred in fluvial, marginal marine, and marine environments.

V.A.1 Regional Stratigraphy

Miocene-age sediments were deposited along the margin of the Gulf Coast Tertiary basin, characterized by rapid subsidence in areas of high sediment loading. Major progradational wedges are typically characterized by an updip section of interbedded continental and marginal marine sediments underlain by a thick marine section composed of under compacted slope and basin claystone. The instability caused by the direct and rapid loading of water saturated, unconsolidated sediments resulted in the development of large scale, syndepositional down-to-the-basin faults and intraformational deformation (Galloway et al., 1982a). The regional geology of Texas is depicted in Figures V-1 and V-5.

V.A.1.a Miocene Group

The Oakville Formation and the Lagarto Formation form the units of the thick Miocene Fleming Group and were deposited throughout the Gulf Coast. Deposition of the Fleming Group occurred in relatively shallow water across the broad, submerged, shelf platform constructed during Frio and Anahuac deposition (Figure V-6). Three major depositional regimes characterize the Fleming Group. Figure V-7 shows the distribution of the lower Miocene depositional systems across the Texas Coastal Plain.

Along the south-central Texas Coast (regional impact area for the Bluebonnet Hub), flanking the two Miocene delta systems, is a broad, strike-parallel barrier island/strand plain system. The Matagorda barrier/strand plain system is cored by a prominent strike-parallel belt of sandstone, bounded both updip and downdip by mud rich bays and lagoons, and marine shales, respectively

(Galloway, 1985). The shore-zone complex has been interpreted by Galloway (1985) and Galloway et al. (1986) to consist of a mix of microtidal barrier-island and sand-rich strand plain deposits. Where streams of the Moulton/Point Blank stream plain infilled the back-barrier bays and lagoons, fluvial channel deposits merge directly with shore-zone sands (Galloway, 1985).

The *Bigenerina A* shale and the *Amphistegina B* shale provide the key stratigraphic boundaries to the middle-upper Miocene depositional episode (Morton et al., 1988). Lithofacies analyses delineate three major fluvial systems that constructed the middle-late Miocene coastal plain (Figure V-8a and Figure V-8b). The Realitos and Eagle Lake fluvial systems are composed of bedload and mixed-load streams, respectively, while the Tomball system is mainly the product of a bed-load stream (Morton et al., 1988). Belts of greatest sandstone abundance are consistently associated with the Eagle Lake and Tomball axes (Figure V-9), suggesting a regional thinning and decrease in sandstone concentration towards the southwest (Morton et al., 1988).

Interbedded sandstones and mudstones of the Eagle Lake fluvial system grade basinward into sand-rich sediments of the South Brazos delta system. This delta system prograded across Mustang Island, Matagorda Island, and the Brazos area, extending the continental platform 25 miles basinward of the early Miocene shelf margin. Landward of its shelf edge, the composite delta system is 1,000 feet thick and is composed of sands ranging in thickness from 30 to 75 feet. Sandstones in the delta depocenter are generally massive, aggradational, and progradational units and are capped by the *Bigenerina humblei* transgressive shale. Thin, upward coarsening sands contained within a mud-rich section characterize the overlying interval.

The narrow North Padre strandplain system, located downdip of the Realitos fluvial system, is composed of sand-rich sediments oriented parallel to depositional strike. These wave-dominated sands probably originated as beach ridges and intervening swales traversed by small coastal plain streams (Morton et al., 1988). Flanking the northern margin of the South Brazos delta system are sand-rich, strike oriented sediments of the Galveston strandplain system. This system extends eastward across High Island to the West Cameron area of Louisiana. Numerous coastal plain streams delivered a large volume of wave reworked sand directly to the strandplain, while wave- and wind-driven longshore currents provided additional sand from the major deltas (Morton et al., 1988). This strandplain formed above sandy continental platform deposits of the lower Miocene

and updip of the early Miocene shelf edge and expansion fault zone. In this relatively stable setting, the strandplain advanced 25 miles basinward. As sediment supply exceeded subsidence, the system attained a great thickness through aggradational processes (Morton et al., 1988).

V.A.1.a.1 Oakville Formation

The Oakville Formation forms the lowermost unit of the thick lower Miocene Fleming Group terrigenous clastic wedge that was deposited throughout the Texas Gulf Coast. Deposition of the Oakville occurred in relatively shallow water across the broad, submerged shelf platform constructed during Frio deposition. The Oakville is covered by the transgressive Lagarto shale Oakville sedimentation along the Texas Gulf Coast occurred in two distinct fluvial-deltaic systems which were separated by a barrier-strandplain depositional system along the central Texas Gulf Coast (Galloway et al., 1986).

Regionally, the Oakville depositional environments include the Newton fluvial system inland of the Calcasieu, Louisiana delta system. The up-dip part of the Newton fluvial system contains thick vertically and laterally amalgamated sand bodies with discontinuous interspersed shale lenses. Down-dip, the sand belts merge into a sand-rich area in Orange, Jefferson, and Chambers Counties (Galloway et al., 1986). Fluvial deposits of the Oakville Formation include channel, meander-belt, and crevasse splay facies. Sands found are typically very fine to fine grained, occasionally medium grained.

V.A.1.a.2 Lagarto Formation

Conformably overlying the Oakville Formation is the Miocene-aged Lagarto Formation which is the upper portion of the Fleming Group (see Figure V-1). When progradation of the lower Miocene Oakville reached the Frio paleo-continental margin, the rate slowed as large-scale growth faulting created a narrow expansion zone. Long-term shoreline stability and retreat characterized Lagarto deposition with occasional temporary progradation. In east Texas, the Lagarto depositional environment includes the Newton fluvial system and the Calcasieu delta system (Galloway et al., 1986).

The Calcasieu delta system is a developed reservoir in the Lagarto in Orange and Jefferson Counties. Progradation of the upper Fleming depositional unit constructed a prominent seaward

bulge in the continental margin. The delta system contains two primary facies assemblages:

(1) interbedded pro-delta mudstones and expanded sandy progradational successions along the distal margin, and

(2) stacked, delta-front, coastal-barrier and delta destructional shoreline sandstone of the main delta body complex.

The wave-reworked delta margin facies extend up-dip (away from the coastline) where sandstone averages nearly 40 percent of the total Lagarto interval. The Miocene depositional units thicken uniformly in a basinward direction reaching a thickness of over 10,000 feet offshore southeast Texas (Galloway et al., 1986).

V.A.1.b Pliocene

Undivided Pliocene strata beneath the Texas Coastal Plain are composed of non-marine deposits of the Goliad Formation. Basal sandstones of the Goliad unconformably overlie sediments of the Lagarto. The Goliad is overlain by basal sandstones of the Willis Formation (Pleistocene-aged). Solis (1981) studied the Pliocene–Pleistocene sections of the central part of the Texas Gulf Coast, concluding that geographic locations of the various fluvial systems remained relatively persistent. However, the locations of the depocenters shifted at different times. For example, depocenters shifted from the present-day locations of Jackson, Matagorda, Wharton, and Victoria Counties to more southerly locations in Refugio, Calhoun, and Aransas Counties during the deposition of the lower Fleming and the Goliad and the Willis sediments (Solis, 1981). Overall, the Pliocene section is similar in character to the underlying Fleming unit, having been deposited in fluvial, deltaic and marginal marine environments. The Pliocene-aged deposition thickens in a dip direction and has a variable thickness along geologic strike.

In the regional area, the unit can reach a thickness of approximately 700 feet and is composed of interbedded fluvial and deltaic sandstone with local minor conglomerates. It is noted that these sandstones of the Goliad Formation are the lowermost units containing fresh to slightly saline water and form the upper portion of the Evangeline aquifer in Jefferson and Chambers County (Wesselman and Aronow, 1971).

V.A.1.c Pleistocene

Lying conformably above the Pliocene-aged strata are the Pleistocene-aged sediments of the Willis, Lissie, and Beaumont Formations. These sediments were deposited under the influence of the complex glacial and interglacial climatic and sea level changes of the Pleistocene. The Willis Formation was deposited in fluvial and deltaic environments and thickened down dip (towards the coast) as well as along strike toward the southwest.

Overlying the Willis Formation is the Lissie Formation (Figure V-1). Both the Lissie and overlying Beaumont Formations were also deposited in fluvial environments and are composed of interbedded channel sandstone, crevasse splays, gravels, and flanking meander belt deposits. The Beaumont Formation is generally less than 100 feet thick regionally and is the oldest unit found in outcrop in Jefferson County (Wesselman and Aronow, 1971). The unit is commonly fine-grained facies (clays) in surface exposures.

Pleistocene-aged sediments tend to thicken along the Texas-Louisiana border and in a dip direction where there was significant deposition along growth faults during Pleistocene sea level lowstands (Aronow and Wesselman, 1971). The Pleistocene sediments grade conformably into the overlying Holocene depositional units; together the Pleistocene and Holocene strata comprise the Chicot aquifer (Wesselman and Aronow, 1971).

V.A.1.d Holocene

With the retreat of the Pleistocene glaciers, sea level began a final, irregular rise to its present-day level. As sea level rose, the lower reaches of the San Jacinto River Valley slowly filled with brackish to marine water and subsequently began filling with fluvial sediments. In the area, Holocene sediments were deposited in river valley meander belts and are primarily composed of point bar sandstones with interbedded, finer-grained overbank deposits

The slow rise of the Holocene sea level marked the beginning of the recent geologic processes that have created the present Texas coastal zone. During recent times, sediment compaction, slow basin subsidence, and minor glacial fluctuations have resulted in insignificant, relative sea level changes. The coastal zone in southeast Texas has evolved to its present condition through the continuing processes of erosion, deposition, compaction, and subsidence periods. Recent alluvial

deposition in the area is restricted to the geomorphic flood plain of the present-day San Jacinto River system and to the entrenched valleys of the ancestral San Jacinto River system, which had down cut into the underlying Pleistocene deposits during sea level lowstands (Aronow and Wesselman, 1971).

V.A.2 Regional Hydrogeology

The Gulf Coast aquifer system comprises major aquifers along the coast of Texas (Figure V-10). Aquifers crop out in bands parallel to the coast and consist of units that dip and thicken towards the southeast. Baker (1979) describes five major hydrogeologic units along the Texas Gulf Coast. Major hydrogeologic units, from oldest to youngest, include: Catahoula confining system, Miocene-aged Jasper aquifer and Burkeville confining system, Miocene-Pliocene-aged Evangeline aquifer, and the Pleistocene-Holocene-aged Chicot aquifer (Figures V-11 and V-12). The Burkeville confining system hydrologically separates the Evangeline aquifer from the underlying Jasper aquifer. However, the Chicot and Evangeline aquifers are hydrologically connected and are sometimes referred to as undifferentiated (*i.e.*, locally there is no defined contact between aquifers) within some Gulf Coast communities (*i.e* Harris County). Freshwater recharge to the aquifer system is primarily from rainfall on the outcrop areas and from rainfall on the surficial aquifer system, which in turn recharges the underlying aquifers. The Gulf Coast aquifer system is extensively utilized by cities, industry and agriculture in the region.

The Catahoula confining system corresponds, in large part, to the Catahoula Group, which is made up of the Frio and Anahuac Formations. Both the confining system, as a hydrologic unit, and the formation, as a stratigraphic unit, have the same base; however, the upper boundaries are not always the same, as seen on the stratigraphic and hydrologic section (Figure V-11 and V-12). In general, the Catahoula confining system has relatively minor proportions of sandstone and primarily acts as a barrier to fluid exchange between the overlying Jasper aquifer and underlying deeper reservoirs**.**

The Jasper aquifer comprises the lower portion of the Fleming Group (Baker, 1979; Carr et al., 1985). The Jasper aquifer is defined by porous and permeable sands with sufficient thickness to constitute an aquifer rather than by a strict stratigraphic criterion. Oakville or Frio sandstones form the base of the Jasper aquifer, while the top of the aquifer is locally variable and may be defined

as within the Oakville, at the top of the Oakville, or above the Oakville in the Lagarto. Due to this stratigraphic variation and general updip thinning, regional aquifer thickness of the Jasper ranges from 200 feet to in excess of 3,000 feet. Water quality in the aquifer varies from fresh in updip portions closer to recharge, to highly saline brine that occurs downdip away from recharge areas**.** Although the Jasper aquifer supplies freshwater up-dip in northern Harris and Montgomery Counties (west and northwest of the project site), it does not serve as a freshwater aquifer in the regional area of the Bluebonnet Hub in Chambers County, nor is it considered an Underground Source of Drinking Water (USDW) in the county, due to the high level of total dissolved solids (>10,000 ppm) occurring within its connate waters.

Overlying the Jasper aquifer, the Burkeville confining system (hydrostratigraphic unit) is roughly analogous to a stratigraphic interval within the upper Fleming Group and serves as a regional hydrologic barrier separating the overlying Evangeline aquifer from the underlying Jasper aquifer (Baker, 1979). The Jasper aquifer consists of siltstones and claystones that separate porous and permeable sandstones in the Oakville from those in the Goliad or upper Lagarto Formations. Depending on sandstone quality in the Oakville and lower Lagarto, the base of the Burkeville ranges from the lower Oakville to within the lower Lagarto. The top of the Burkeville varies from within the upper Lagarto to the base of the Goliad Sandstone. Burkeville thickness is usually between 300 feet and 500 feet regionally. Although the Burkeville confining system has a stratigraphic position approximately within the upper portion of the Fleming Group, the Burkeville confining system is not a time unit (Baker, 1979).

The Evangeline aquifer rests on the Burkeville confining system and does not serve as source of groundwater within the regional study area and consists of the Goliad Formation (Pliocene-aged), extending down to the upper portion of the Fleming Group (Lagarto Formation) to include any thick, porous and permeable sandstones of the formation. Aquifer thickness ranges from as little as 400 feet on the outcrop and in the shallow subsurface, to approximately 2,000 feet in the deep subsurface near the modern coastline. Water quality varies from fresh to slightly saline, with salinity increasing generally with depth and distance from recharge. The Evangeline aquifer typically exists under confined conditions and serves as a primary source of groundwater along much of the Texas Gulf Coast.

Between the surface and the Evangeline aquifer is the Chicot aquifer. The Chicot aquifer represents the uppermost hydrostratigraphic unit in the regional study area, and consists of alluvial deposits (Holocene), Beaumont Formation (Pleistocene), Lissie Formation (Pleistocene), and Willis Formation (Pleistocene) sediments. Here, the Chicot aquifer can be distinguished from the underlying Evangeline aquifer based on differences in transmissivity related to higher sand content, as well as water levels. Chicot aquifer thickness varies from zero at the Evangeline outcrop to over 1,000 feet thick at the coastline. The Chicot aquifer typically exists under both unconfined and confined conditions and serves as a primary source of groundwater along portions of the Texas Gulf Coast and for Chambers County.

V.A.3 Confining and Injection Zone and Injection Interval

In this Permit Application, definitions for the Confining Zone, Injection Zone, and Injection Intervals have been designated. The following sections designate the intervals in below ground depth (BGL). Regulatory depths are presented in Table V-1 and Figure V-2.

V.A.3.a Confining Zone

The Confining Zone is defined as corresponding within the upper Fleming Group (Lagarto Formation) of Miocene. The Confining Zone is composed of low-permeability shale interspersed with permeable sand units. This interval includes part of the Miocene Lagarto Formation pro-delta shales and sands and/or Oakville shales and sands. The Lagarto is laterally continuous over an area sufficient to provide secondary containment and prevent the movement of fluid into a USDW. The top of the Confining Zone is approximately 1,000 feet below the base of the lowermost USDW.

The Confining Zone is laterally extensive throughout the region as shown on North-South Cross Section (Figure V-13) and the West-East Cross Section (Figure V-14). The Confining Zone is separated from the base of the lowermost USDW by multiple saline aquifers in the approximate subsurface interval from 1,000 to 2,200 feet. These permeable aquifers offer buffer potential to prevent further possible vertical fluid migration to the USDW.

Detailed information about the Confining Zone at the Bluebonnet Hub site is contained in Section V.B.3.b.

V.A.3.b Injection Zone

The Injection Zone for the Bluebonnet Hub Class I UIC wells includes the sands of the upper Miocene-aged Lagarto Formation. The Injection Zone is composed of numerous permeable sands separated by lower permeability shale intervals. The top of the Injection Zone in the Bluebonnet Hub injection wells is at a depth of approximately 3,319 feet BGL (Figure V-2). The base of the Injection Zone is placed into an underlying shale layer at a depth of approximately 4,599 feet BGL. The upper portion of the Injection Zone is shale-prone, forming an excellent upper Containment Interval for the Injection Interval. Shale layers of this Containment Interval (upper Injection Zone) are laterally continuous. Sand beds in this Containment Interval are generally discontinuous, which is indicative of fluvial/coastal depositional environments, however, these discontinuous sands are expected to allow for pressure bleed-off within the Injection Zone, if vertical migration occurs. The base of the Injection Zone is located within a Miocene-aged shale layer above the Oakville Formation.

Detailed information about the Injection Zone at the Bluebonnet Hub site is contained in Section V.B.3.c.

V.A.3.c Injection Interval

Injection Intervals within the Injection Zone are contained within the upper Miocene-aged Lagarto Formation. This portion of the formation predominantly consists of weakly consolidated sandstones and deposited in fluvial, deltaic, strandplain and marine environments. The sandstones are alternately separated by ductile shale layers.

Sands tend to dominate within the two proposed Injection Intervals. In Figure V-2, two locally thick sand packages, identified as the Yellow Sand and Orange Sand, are the proposed Injection Intervals for the project site. Locally, these sands are correlated through the Area of Review and surrounding area. Regionally, subset sand units of the Miocene are difficult to correlate, due to their depositional environment (*i.e.*, fluvial/deltaic).

V.A.4 Regional Cross Sections

Figures V-13 to V-14 are regionally published cross sections from Dodge and Posey (1981), that represent the mid-Permian to Quaternary strata. These cross sections are located within 20 miles of the project site and show the regional stratigraphic and structural character and trends of the Confining and Injection Zones which have been highlighted. The formation thickens towards the Gulf of Mexico and deepens down dip (Figure V-13). Along strike (Figure V-14), the formations are relatively "flat" with no large dip in either west or east. Major fault systems do not tend to propagate upwards of the formations shallower than 5,000 feet, with many regional faults extending deeper than the formations of interest for this project.

V.A.5 Regional Structural Geology

Cenozoic sediments were deposited along the margin of the Gulf Coast Basin, an extracratonic basin characterized by rapid subsidence in areas of sediment loading. Tectonic features of Texas are shown in Figure V-15. Three major areas characterized by unique structural styles have been defined along the Texas Gulf Coast, based on the syndepositional province and the type of diapiric sediment involved in deformational processes. These three areas include: (1) Houston Embayment of Southeast Texas, (2) San Marcos Platform of south-central Texas, and (3) Rio Grande Embayment of South Texas.

Miocene- and Oligocene aged sediments were deposited along the northern margin of the Gulf Coast Tertiary basin (Figure V-5), characterized by rapid subsidence in areas of high sediment loading. Major progradational wedges are typically characterized by an updip section of interbedded continental and marginal marine sediments that are underlain by a thick marine section composed of undercompacted slope and basin claystone. The instability caused by the direct rapid loading of water saturated, unconsolidated sediments resulted in the development of large scale, syndepositional down-to-basin faulting and intraformational deformation (Galloway et al., 1982a).

The Bluebonnet Hub is located on the Houston Embayment in the Gulf Coast Basin of southeast Texas (Figure V-16). This structural province is characterized by salt diapirism with its associated section faulting and characteristically large salt withdrawal sub-basins (Bebout et al., 1978). The effect of structural deformation decreases up section within the major Tertiary progradational

wedges, with the updip component of the wedges being less affected by the down-to-the-basin faulting that occurs primarily in the underlying Eocene section. As the Oligocene section thickened basinward, major fault and diapiric displacement extended upward through the unit, and deformation became increasingly active and complex (Galloway et al., 1982a).

V.A.5.1 Regional Faulting

Faulting in the Gulf Coast Basin is predominantly two types: listric normal growth faulting and faulting associated with shale or salt piercement structures (diapirism). Growth faults form contemporaneously with sedimentation so that their throw increases with depth and strata on the downthrown side are thicker than the correlative strata on the up thrown side of the fault (Figure V-17). The faults form in clastic sequences that build out into unconfined depositional sites that have prograded to the edge of the continental margin, resulting in contemporaneous failure of the prograding sediments (Jackson and Galloway, 1984). The buoyant rise of shale or salt through brittle geologic sections to produce diapirs and ridges can result in radial fault patterns (example presented in Figure V-18).

Subsurface strata are often disrupted by diapiric structures (salt domes) and a regional system of listric growth faults which roughly parallel the coast. Growth faults begin as normal faults but continue to displace along the downthrown, hanging side of the fault due to the increasing weight of additional sediments on the downthrown side of the fault. The major fault systems are thought to have formed by either differential compaction of sediments during regressive phases of deposition or from gravity sliding where the rate of basin subsidence exceeded the rate of deposition (Bruce, 1973).

A major system of normal faults is well developed parallel to the coastline in southeast Texas. These normal faults are arranged in a sequential, stair-step fashion, with displacements normally down towards the coast (often referred to as “down to the coast” faulting). These are deep-seated faults that extend upward to within an average of 7,000 feet of the land surface, with some local extension into shallower strata. Displacement along these faults typically ranges from an often undetectable 50 feet or less, to over 1,000 feet, increasing with depth. These faults have developed in response to tension and separation, due to subsidence of the Gulf Coast depositional basin under the increasing weight of new sediment deposition.

V.A.5.2 Diapirism

Salt domes along the Upper Texas Gulf Coast are diapiric, with the salt originating at depths often greater than 30,000 feet below land surface, from the Jurassic-aged Louann Salt. The density difference between the less dense salt beds and the denser, overlying sediments, coupled with the overburden pressures on the salt beds, has "squeezed" salt upward in a plastic state, forming numerous diapirs. Deformation and piercement of the overlying sediments have created doming of overlying strata (*i.e.*, salt domes). Salt domes typically pierce upward a considerable distance above the Louann Salt with some dome tops near current land surface. In the immediate vicinity of the salt domes, subsurface strata dip radially away from domes. In some cases, a circumferential depression, referred to as a rim syncline, forms around all or a portion of the dome. It is also typical, due to stress resulting from piercement of sediments, for strain to be manifested as a series of radially oriented faults, displacing sediment layers over and adjacent to the dome. Figure V-19 presents locations of salt domes in the vicinity of the Bluebonnet Hub site. The salt dome nearest the Bluebonnet Hub site is the Hankamer Salt Dome (approximately three (3) miles to the west). Radiating from this salt dome is a series of faults that generally do not extend more than three (3) miles radially. The dip of beds varies around these salt domes with dips being steeper near the dome and becoming lesser further away from the dome.

V.A.6 Regional Seismic Activity

In any particular region, the level of earthquake hazard depends on many different factors. These include the size, location, and frequency of earthquakes that may occur, as well as the population density, the topography, and the nature of manmade improvements. For any particular earthquake, the expected intensity also depends on the type of construction and the thickness and type of surficial and near-surface soil. For any region, the most important factor affecting seismic risk is the historical record of earthquake activity. Regions that have had large earthquakes in the past will likely experience them again. Although hazard estimates also include information about mapped faults, in practice this information isn't very influential as many known faults are not seismically active, and since many damaging earthquakes have occurred along unmapped, unknown faults.

Regions with the highest hazard in United States Geological Survey's (USGS) hazard analysis correspond to locations of known, large, historical earthquakes (see Figure V-20). In the central U.S., the USGS assesses the greatest hazard in the Missouri-Tennessee area, where three earthquakes with magnitude of 8 or greater occurred in 1811 and 1812. Unfortunately, rarity of large earthquakes makes practical hazard analysis an inexact science. In the twentieth century, the largest earthquake in the Missouri-Tennessee area only had a magnitude of about 5.5.

Regions in Texas associated with the highest induced seismicity risk are West Texas, where earthquakes magnitudes of approximately 6 occurred in 1931 and 1995, and the Panhandle, where at least six earthquakes with magnitude above 4 have occurred since 1900. Earthquakes of similar magnitude may occur again. Geologically, some features of the Panhandle are similar to the Missouri-Tennessee area, however, large continental quakes are extraordinarily rare (occurring less often than once per 500 years in any particular place). The frequency of small and large earthquakes is related in a predictable way, the "Gutenberg-Richter relation" states that for every 1000 magnitude 4 earthquakes there will be approximately 100 magnitude 5 events, 10 magnitude 6 events, and one magnitude 7 event. Thus, the occurrence of two earthquakes with magnitude near 6 in the twentieth century suggests that a magnitude 7 may occur every few hundred years or so. However, the Gutenberg-Richter relationship relies on assumptions for natural systems, and caution should used when relying on this relationship to predict behavior in systems that may be influenced by anthropogenic activities.

Finally, there is some risk to Texas from earthquakes that may occur outside of the state. Large earthquakes similar to the 1811-1812 Missouri-Tennessee earthquakes would probably damage some structures in North Texas that aren't designed to withstand earthquakes. There is also potential hazard in the Panhandle area from earthquakes that may occur in Oklahoma.

V.A.6.1 Earthquake History of Texas

An earthquake is a motion or trembling that occurs when there is a sudden breaking or shifting of rock material beneath the earth's surface. This breaking or shifting produces elastic waves which travel at the speed of sound in rock. These waves may be felt or produce damage far away from the epicenter-the point on the earth's surface above where the breaking or shifting actually occurred.

Within the twentieth century there have been more than 100 earthquakes large enough to be felt in Texas; their epicenters occur in 40 of Texas's 257 counties. Four of these earthquakes have had magnitudes between 5 and 6, making them large enough to be felt over a wide area and produce significant damage near their epicenters.

In four regions within Texas there have been historical earthquakes that indicate potential earthquake hazard. Two of the regions, near El Paso and in the Panhandle, have had earthquakes with magnitudes of about 5.5-6.0 occurring every fifty to a hundred years, with even larger earthquakes possible. In northeastern Texas, the greatest hazard is from very large earthquakes (magnitude 7 or above), which might occur outside of Texas, particularly in Oklahoma or Missouri-Tennessee. In south-central Texas and along the Gulf Coast the hazard is generally low, however, small earthquakes can occur there, including some that are triggered by oil or gas production. Elsewhere in Texas, earthquakes are exceedingly rare. However, the hazard level is not zero anywhere in Texas; small earthquakes are possible almost anywhere.

Significant earthquakes in Texas are summarized in the following paragraphs:

> The October 22, 1882, earthquake felt, in Texas, was probably centered in Oklahoma or Arkansas; the total felt area covered about 375,000 square kilometers. At Sherman, Texas, heavy machinery vibrated, bricks were thrown from chimneys, and movable objects overturned. A May 3, 1887, earthquake in Sonora, Mexico, caused damage at Bavispe and was felt strongly in parts or Arizona, New Mexico and Texas. The epicenter was in the Sierra Madre Occidental Range.
>
> On January 8, 1891, violent shaking of buildings and a few toppled chimneys were reported from Rusk, Texas. These effects were evaluated as intensity VII on the Modified Mercalli Intensity (MMI) scale (Appendix V-1), although other towns in eastern Texas along a northeast-southwest line through Rusk experienced tornadoes and sudden, violent windstorms producing effects similar to, and in some cases more damaging than, those in Rusk.

In March of 1923, the only known death caused by a Texas earthquake occurred. A magnitude 4.7 earthquake in El Paso, caused an adobe house in Juarez, Mexico to collapse killing the owner of the house.

A disturbance occurred in the Panhandle on July 30, 1925. There were three distinct shocks over a period of 15 seconds. Major problems were the shaking of dishes from shelves and rattling and creaking of furniture (MMI-V). The shocks were felt over an area of approximately 518,000 square kilometers including distant points such as Roswell, New Mexico (350 kilometers away), Tulsa, Oklahoma (480 kilometers away), and Leavenworth, Kansas (640 kilometers away).

The 1931 a 6.5 magnitude earthquake in western Texas heavily damaged many buildings at Valentine (MMI-VIII). The shock occurred at 5:40 a.m. on August 16; although people were panicked, there were no fatalities and only a few minor injuries from falling adobe. Adobe buildings suffered most, and cement and brick walls in many places were badly cracked. Even though Valentine bore the brunt of the shock, damage was reported from widely scattered points in Brewster, Culberson, Jeff Davis, and Presidio Counties. Cracked walls and damaged chimneys were reported from several towns. The total felt area covered about 647,000 square kilometers in Texas and New Mexico and an estimated 518,000 square kilometers in Mexico. The earthquake was accompanied by rumbling subterranean sounds heard over practically the entire affected area. The shock, measured at magnitude 6.4, was strongly recorded on all seismographs in North America and at stations all over the world. Numerous aftershocks were felt in the epicentral region; the strongest, on August 18, was an MMI-V at Alpine, Lobo, Pecos, and Valentine and MMI-IV at Carlsbad, New Mexico. A minor aftershock was felt at Valentine on November 3.

Slight damage resulted from an earthquake in the Mexia - Wortham area on April 9, 1932. Loose bricks were thrown down, and some plaster cracked (intensity V-VI). The shock was also felt at Coolidge, Currie, Groesbeck, Hillsboro, Teague, and Richland. A moderate earthquake affected an area of about 7700 square kilometers in northeastern Texas and an adjoining portion of Oklahoma on April 11, 1934. The tremor was most distinctly felt at Arthur City, Caviness, Chicota, Powderly, and Trout Switch (intensity V). Many people

who felt the shock reported having heard a roaring or rumbling noise. Many observers recognized two shocks.

A widely felt earthquake with an epicenter in the Panhandle region occurred on June 19, 1936. Modified Mercalli Intensity V effects were noted at Gruver, White Deer, and Whittenberg, Texas, Kenton, Oklahoma, and Elkhart, Kansas. The area of perceptibility covered about 103,000 square kilometers. On March 11, 1948, another shock in the Panhandle area caused minor damage, consisting mainly of cracked plaster, in northern Texas, a few places in northeastern New Mexico and northwestern Oklahoma, and one place in southeastern Colorado. The strongest effects (MMI-VI) were reported from Amarillo, Channing, Dalhart, Electric City, Panhandle, Perico, and Perryton. The felt area, which was slightly larger than that of the preceding earthquake, covered about 129,000 square kilometers. The Texas Panhandle area was the center for another moderate shock on June 20, 1951. Damage to plaster (MMI-VI) occurred at Amarillo and Hereford. The felt region extended from Lubbock to Borger.

An earthquake of magnitude 5.2 occurred on March 11, 1948, in the northern Panhandle area near Dalhart. Damage consisted of mainly cracked plaster.

Four shocks over six hours affected an area of about 26,000 square kilometers in northeastern Texas and bordering portions of Arkansas and Louisiana on March 19, 1957. Press reports noted that a few objects were upset and at least one or two windows were broken. Newspaper office and police station switchboards were swamped with calls from alarmed residents. Modified Mercalli Intensity V effects were felt at Diana, Elkhart, Gladewater, Marshall, Nacogdoches, and Troup, Texas, and Magnolia, Arkansas.

A series of moderate earthquakes in the Texas - Louisiana border region near Hemphill started on April 23, 1964. Epicenters were determined on April 23, 24, 27, and 28. There were numerous additional shocks reported felt at Pineland, Hemphill, and Milam. The only damage reported was from the magnitude 4.4 earthquake on April 28 - wallpaper and plaster cracked at Hemphill (MMI-V). The magnitude of the other epicenters changed from 3.4 to 3.7. Shocks were also felt at Pineland on April 30 and May 7. On June 2, three more shocks were reported in the same area. The strongest was measured at magnitude 4.2;

intensities did not exceed MMI-IV. Another moderate earthquake on August 16 awakened several people at Hemphill and there were some reports of cracked plaster (MMI-V). The shock was also felt at Bronson, Geneva, Milam, and Pineland.

The Texas Panhandle region experienced another tremor on July 20, 1966. The magnitude 4.8 earthquake knocked books from a shelf in one home and was felt by nearly all in Borger (MMI-V). At Amarillo, an observer in the courthouse reported a chair moved 4 or 5 inches. A similar effect was noted at the Federal Aviation Administration control tower at the Municipal Airport; observers thought a truck had hit the tower. Several street signs were knocked down and windows were broken (MMI-VI) at Kermit from a magnitude 3.4 earthquake on August 14, 1966. The shock was also felt at Wink, Texas, and Loco Hill, New Mexico.

Four small earthquakes occurred near El Paso on May 12, 1969. The first two shocks, 23 minutes apart, were measured at magnitude 3.3 and 3.4. One house in El Paso had hairline cracks in the ceiling and cracks in the cement driveway (MMI-VI). These earthquakes were also felt at Newman.

On February 15, 1974, an earthquake in the Texas Panhandle caused plaster cracks at Booker, Darrovzett, and Perryton (MMI-V). Similar effects were noted at Liberal, Kansas, and Texhoma and Woodward, Oklahoma. The magnitude 4.5 shock was felt over an area of about 37,000 square kilometers.

In Brewster County near Marathon a magnitude 5.7 earthquake occurred. The damage included broken water mains, cracked walls and window and broken dishes. Several small fires were the result of broken gas mains. Landslides were reported from the peak of Cathedral Mountain.

A magnitude 5.0 earthquake occurred near Orla on the boundary of Reeves and Culberson counties on March 26, 2020. A smaller, 3.8 magnitude, earthquake occurred several hours earlier in the same area, and a third earthquake, magnitude 3.0 occurred an hour after the larger magnitude 5.0 earthquake. The quake was felt by thousands of people in Odessa, El

Paso and southern New Mexico. The next day, four more earthquakes were felt in the same area with the largest being 3.8 in magnitude.

In 2021, 209 earthquakes of magnitude 3.0 or greater occurred, largely concentrated in the West Texas' Permian Basin. The largest earthquake was a magnitude 4.6 that occurred just outside Midland Texas (27 miles away Northeast) on December 28, 2021, felt as far away as Plainview Texas.

Recently, two large earthquakes greater than 5.0 have occurred around the area of Mentone, in west Texas. One November 16, 2022, approximately 24 miles northeast of the town of Mentone a seismic event of 5.4 was recorded. This was the third largest earthquake in Texas. A little over a year later, on November 8, 2023, a magnitude 5.2 earthquake also occurred approximately 23 miles northeast of Mentone. This earthquake is tied with the magnitude 5.2 earthquake from 2022 for the fourth largest earthquake in Texas. This earthquake was felt as far away as El Paso Texas and Roswell New Mexico.

In 2024, Texas experienced two more earthquakes of magnitude of 5.1. The first one occurred on July 26 approximately 15 miles southwest of Hermleigh, Texas. The second one occurred approximately 21 miles northeast of Ackerly, Texas on September 17. These are tied for the fifth largest earthquakes in Texas.

Appendix V-1 presents a summary of regionally occurring seismic events. A database search within a 200-kilometer (125-mile) radius from the site using the National Earthquake Information Center (part of the USGS) to locate nearby earthquakes was conducted in October 2024 which is included in Appendix V-1. The search shows six low magnitude earthquakes were recorded within 200 km of the Bluebonnet Hub site since 1900. More details are provided in Section V.B.10.a.

At the Bluebonnet Hub site, the likelihood of an earthquake caused by natural forces or fluid injection is considered remote. Proposed injection at the Bluebonnet Hub will be at comparatively low pressure and will take place into deep, high porosity formations that are extensive over a broad area that is not subject to natural earthquakes. Therefore, the probability of an earthquake of sufficient intensity to damage the injection system, injection well, or the confining layer is considered low.

V.A.6.2 Induced Seismicity

Since 2010, the occurrence of earthquakes with a magnitude greater than 3.0 have increased from 20 events per year (1967-2000) to over 100 events per a year (2010-2013) in the central and eastern US region (Ellsworth, 2013). The increased rate of occurrence in previously inactive seismic areas has been correlated with the increased use of injection wells located near faults. Fluid injection induced earthquakes are most likely caused by the increased pore pressure from injection operations which have reduced effective stress of faults leading to failure. This mechanism has been used to explain the best-known cases of injection-induced seismicity which was first studied in the Rocky Mountain Arsenal near Denver. New case studies have increased with the use of wastewater injection wells associated with hydraulic fracturing. In many sites, small seismic occurrences have been shown to be precursors to larger events. More data has become available since the Rocky Mountain study in the 1960's, leading to a better understanding of factors and processes associated with induced seismicity.

One of the most notable regional cases of induced seismicity associated with injection wells occurred in Youngstown, Ohio. In 2011, 12 low-magnitude seismic events occurred along a previously unknown fault line (Ohio Department of Natural Resources, 2012). These events occurred less than a mile from Class II injection well Northstar I. Previously, the area was seismically inactive, with earthquakes beginning a few months after the injection of wastewater. The injectable pressure at Northstar I was increased twice over 6 months (Ohio Department of Natural Resources, 2012) and may have reduced the effective stress on a fault. After the well was shut down by the Ohio Department of Natural Resources, seismic activity declined. As a result of this case, seismic monitoring prior to injection and after injection has become common at Class II sites.

A case study in the Dallas-Fort Worth (DFW) area tied small seismic events to a Class II injection well. Eleven hypocenters have been observed at a focal depth of 4.4 km and 0.5 km from a deep saltwater disposal (SWD) well (Frohlich et al., 2010). Injection at this well began 8 weeks prior to the first recorded seismic event. A northeast trending fault is located approximately at the same location of the DFW focus (Frohlich et al., 2010). As a result of fluid injection into the disposal well, the stress upon the fault had been reduced and thus reactivated the fault (Frohlich et al.,

2010). All of the seismic events associated with the DFW focus are small magnitude events (less than 3.3) and occurred shortly after initial injection.

In Oklahoma, the largest earthquake in the state's history may have been a result of wastewater injection at a Class II disposal site. In 2016, a 5.8 magnitude event occurred near Pawnee, Oklahoma, in North Central Oklahoma (west of Tulsa). The main seismic event was followed by multiple aftershocks ranging from 2.6 to 3.6 magnitude. In response, nearby injection wells (Class II) were ordered to cease injection by the state. Preceding this event, in Prague, Oklahoma, a large seismic event occurred in 2011, which was the largest to date at that time. This event was determined to be a 5.7 magnitude earthquake, which was then followed by thousands of smaller aftershocks. This event was associated with another Class II disposal well, that operated almost continuously for 17 years. As pore spaces filled, the wellhead injection pressure was increased to continually inject the wastewater. This reduced the effective stress upon the Wilzetta fault located 650 meters from the well (Keranen et al., 2013). The fluid was injected into the same sedimentary strata at which 83% of the aftershocks originated (Keranen et al., 2013). In this case, the seismic event occurred years after the initial injection phase. Since the area was considered low risk seismically, there is no data on smaller earthquakes that may have proceeded the event in 2011.

In north-central Arkansas, multiple earthquakes have been triggered as a result of a Class II injection well. Since the operation of the disposal well in 2009, the site has experienced an increase from two events in 2008 to 157 events in 2011 (Horton, 2012). It was also tied to the discovery of a new vertical fault. 98% of earthquakes within this area occurred within six kilometers of one of three waste disposal sites (Horton, 2012). The depth of the earthquake foci occurred between 6.7 and 7.6 km. Injection of fluid occurred at a depth of 2.6 km. At this disposal site, E-W trending (Enders Fault) cut into the aquifer in which the fluid was injected and then acted as a conduit to the new fault at the depth of 6.7 to 7.6 km (Horton, 2012). The disposal wells were shut down in 2011 by the Arkansas Oil and Gas Commission. The rate and size of the earthquakes steadily decreased following the shutdown of the wells (Horton, 2012).

Historically, induced earthquakes in Texas have not exceeded 4.6 magnitudes (Frohlich et al., 2010). However, there has been a large substantial increase in West Texas.

Mentone is located in the Delaware Basin, between Reeves and Culberson Counties. This event was most likely induced by wastewater disposal operations related to Class II injection wells (Skoumal et al., 2021). In Texas there are at least two other known examples of previously seismically inactive areas becoming seismically active after major injection programs began. One site is in the Central Basin Platform, near Kermit, and the other is in the Midland Basin near Snyder. In both cases, large scale, high pressure, oil field related, water flooding projects were under way, and earthquakes with a magnitude of over 4.0 on the Richter scale were recorded. Factors for an induced earthquake are limited to the distance a well is located from a fault, the stress state of the fault, and a sufficient quantity of fluids from the injection well at a high enough pressure and enough time to cause movement along the fault (Ohio Department of Natural resources, 2012).

Additionally, a hydraulic conduit from the injection zone to a fault may also induce earthquakes (Ellsworth, 2013). The largest injection-induced events are associated with faulting that is deeper than the injection interval, suggesting that the increased pressure into the basement increases the potential for inducing earthquakes (Ellsworth, 2013). In all cases, faults have been reactivated at or in close proximity of Class II injection sites. In some cases, previously unknown faults have been discovered. No induced earthquakes have been known or are postulated to have been caused by Class I injection operations (Davis et al., 1987).

V.A.6.3 Seismic Risk

At the Bluebonnet Hub site, the likelihood of an earthquake caused by natural forces or fluid injection is considered remote. Low injection pressures at the plant site into unconsolidated, high-porosity/high-permeability sands over a broad area, within an area not subject to natural earthquakes, are unlikely to induce an earthquake. Seismic activity for the region is historically and currently very low. Therefore, the probability of an earthquake of sufficient intensity to damage the injection system, injection well, or the confining layer is also considered very low. Detailed information about the calculated induced seismicity for the site is included in the Seismic Risk Assessment in Section V.B.10

V.A.7 Regional Groundwater Flow in the Injection Zone

Groundwater occurrence and flowing shallow aquifers are well documented compared to deeper saline aquifers. Limited studies in the Mt. Simon Formation by Nealson (1982) and Clifford (1973), and the Frio Formation on et al. Gulf Coast by Kreitler et al. (1988), demonstrate the complexities of the problem and limitations of conventional hydrological methods.

Kreitler et al. (1988) showed the ability to determine natural flow gradients along the Texas Gulf Coast is often compromised by production of oil and gas from intervals similar to those used for disposal. Basically, the natural hydraulic gradient has been overshadowed by locally induced gradients from oil and gas production.

Although it would be difficult to determine current natural hydraulic gradient for the Miocene, a conservative estimate can be made from previous studies. Data published by Clifford (1973 and 1975), Slaughter (1981), and Bently (1980) provide estimated natural hydraulic gradients from three aquifers at depths of approximately 3,000 feet. Natural hydraulic gradients ranged from 0.021 to 1.58 ft/yr and averaged 0.7 ft/yr. Frio aquifers at depths of 6,000 feet, the natural hydraulic gradient is interpreted to be smaller and, as indicated by Kreitler et al. (1988), to be on a geologic time scale. Therefore, based on this information, a worst-case estimate for the natural background reservoir velocity in the Miocene age aquifers is conservatively placed at 1.0 ft/yr. and in a downdip direction.

The actual value for the natural hydraulic gradient in the Miocene is expected to be significantly less than 1.0 ft/yr since there is no obvious natural sink for the fluid except in regions where salt domes are being dissolved. According to Miller (1989), flow due to dissolution of salt domes is expected to be on the order of a few centimeters per year, or substantially less than 1.0 ft/yr, at distances greater than one mile from the source of dissolution. Therefore, the estimate of 1.0 ft/yr in the southeasterly (downdip) direction for the natural hydraulic gradient near the Bluebonnet Hub site is considered to be a conservative estimate.

V.B LOCAL GEOLOGY AND HYDROGEOLOGY

This discussion addresses the local stratigraphic and structural geology, lithology, hydrostratigraphy, and hydrology pertinent to the proposed injection operations at the Bluebonnet Hub site. For the purposes of this application, the local geologic area of study has been defined as the area within the 2.5-mile radius Area of Review. All regulatory depths are referenced to the Goldston Oil Company, Doornbos No. 1 (AP No. 11) log and is presented in Figure V-2, This well is located approximately 862 feet west-southwest of the proposed DSW M1 and M2 Injection Wells. Table V-1 contains the regulatory depths presented in Figure V-2. Structure Maps, Isopach Maps and Cross-Sections have been prepared using local available offset well data. Additionally, AP No. 1 (Encanto 1), was drilled by Oxy Low Carbon Ventures LLC in December 2022. This well is located approximately 8,400 feet north of the proposed injection well site. It was drilled to a total depth of 8,581 feet with the purpose of collecting geological data. AP No. 2 (USDW 01) was drilled by Oxy Low Carbon Ventures in May 2024 to establish the USDW and water quality in the local area. Data collected from these wells and pertinent for this application is provided in Appendix V-2.

Bluebonnet plans to collect additional site-specific data as it relates to the proposed Confining and Injection Zones for this Class I UIC application. A data acquisition program is presented in Section VI.A.9 and includes a full suite of open hole logging and planned whole core, which will be collected during the drilling of Injection Wells DSW M1 and M2. The whole core will be analyzed for lithological characteristics and rock properties in support of this application and to validate model assumptions and support planned injection operations.

V.B.1 Local Stratigraphy

Local stratigraphy is illustrated on a type-log (Figure V-2) using Goldston Oil Company, Doornbos No. 1 (AP11). The log extends to a depth of 10,800 (10,856 feet KB), which is more than sufficient to present the proposed Confining and Injection Zones, as the targeted stratigraphy for the Class UIC project is contained within the upper Miocene-aged strata. The top of the Confining Zone is picked at a depth of 2,339 feet BGL (2,370 feet KB). The top of the Injection Zone is picked at a depth of 3,319 feet BGL (3,350 feet KB). Two Injection Intervals have been identified for the waste disposal options and have been delegated as the “Orange Sand” and “Yellow Sand”. The

top of the Orange Sand Injection Interval is picked at 3,791 feet BGL (3,882 feet KB). The Top of the Yellow Sand Injection Interval is picked at 4,109 feet BGL (4,140 feet KB).

The targeted subsurface strata for this project is comprised of sands, silts and shales of Pleistocene, Pliocene, and Miocene ages down to a depth of approximately 4,600 ft BGL. The designated Injection Intervals for the Bluebonnet Hub are contained within the upper Miocene-aged Lagarto Formations, which are encountered at approximately 3,791 feet BGL (3,822 feet KB) (Figure V-2).

The lithology of the sedimentary units that are present at the surface and subsurface of the site are typical of units present elsewhere in southeast Texas. In the immediate vicinity of the Bluebonnet Hub, no sediments older than Eocene age have been penetrated by exploration drilling for oil and gas. Older Tertiary units are generally characterized by sands, silts and clays and shales deposited in deep water marine environments. The following is a discussion of detailed stratigraphy of individual geologic units between the surface and approximately 4,600 feet BGL beneath the Bluebonnet Hub (from deepest to shallowest strata).

V.B.1.b Fleming Group (Miocene)

The Fleming Group is comprised of the Oakville Formation (lower Miocene) and the Lagarto Formation (upper Miocene). In this area, both the Oakville and Lagarto Formations were deposited in fluvial environments. For this project, only the Lagarto Formation is discussed as part of the Class I UIC disposal operations. The deeper Oakville Formation is not proposed to be used for disposal. Locally, the formation is composed of massively bedded sands and shales. The fluvial depositional environments present the sands as lobes and channels, with localized thinning and thickening, as seen in offset well log reviews.

V.B.1.c Goliad Formation (Pliocene)

The Goliad Formation is approximately 1,000 feet thick in the local area and consists of a sequence of interbedded sands and clays, representing a switch to a more terrestrial/fluvial origin than the underlying marine Miocene sediments. Sandstone of the Goliad Formation are the lowermost units

containing fresh to slightly saline water and form the Evangeline aquifer in Jefferson and Chambers County (Wesselman and Aronow, 1971).

V.B.1.d Pleistocene and Holocene

Lying conformably above the Goliad are the Pleistocene-aged sediments of the Willis, Lissie, and Beaumont Formations which were deposited under the influence of the complex glacial and interglacial climatic sea level changes of the Pleistocene. The Pleistocene formations were deposited in both fluvial and deltaic environments, and they thicken in the dip direction as well as along strike toward the southwest. Pleistocene sediments thicken along the Texas-Louisiana border and in a dip direction where there was significant deposition along growth faults during Pleistocene Sea level low stands (Aronow, et al., 1971). Beaumont Formation sediments grade conformably into the overlying Holocene depositional units. Pleistocene and Holocene units contain fresh water and comprise the Chicot Aquifer.

V.B.2 Local Hydrostratigraphy

The Gulf Coast aquifer consists of Miocene and younger formations which are divided into four major hydrostratigraphic units. These are, in descending order, the Chicot aquifer, the Evangeline aquifer, the Burkeville confining layer, and the Jasper aquifer. Figure V-11 presents the geologic/hydrogeologic units of the Gulf Coast aquifer and Figure V-12 presents a hydrogeologic cross-section across Trinity, San Jacinto, Liberty and Chamber Counties which depicts these hydrostratigraphic units. The location of the Bluebonnet Hub site has been projected onto the cross-section.

The Chicot aquifer is the primary groundwater production zone for drinking and municipal use in Chambers and Jefferson Counties (Tinsley, 1971). However, only small quantities of fresh groundwater (<1,000 mg/l TDS) are available in Chambers and Jefferson Counties, and these supplies are fairly well developed (Tinsley, 1971). Overall, water use in Chambers and Jefferson Counties is largely sourced from surface water compared to groundwater from the Chicot aquifer (Freese and Nichols, 2020). Historically, fresh water from neighboring Hardin and Orange Counties has been used to supplement water demand in Chambers and Jefferson Counties (Tinsley, 1971).

Water quality in the Evangeline and Jasper aquifers underlying the Chicot aquifer is generally considered very saline (>10,000 mg/l) or brine (>35,000 mg/l) with the area, and no water supply wells in the local area were found to penetrate these deeper aquifers. However, freshwater is produced from wells in the Evangeline aquifer towards the western extent of Chambers County *(e.g.,* Mont Belvieu) and along the far northern and eastern extent of Jefferson County. The Jasper aquifer is highly saline and is separated from the Evangaline and Chicot aquifers by the Burkeville confining unit. At this project site, the top of the Burkeville unit is the base of the Injection Zone (Figure V-2) and will not penetrate the Jasper aquifer. The base of the lowermost USDW is defined as an aquifer with a salinity of greater than 10,000 mg/l, which is equivalent to fluids found in the base of the Chicot aquifer. The USDW is defined by the methodology and data presented in Section V.B.3.a.

V.B.3 Definition and Description of USDW, Confining Zone and Injection Zone

In this Permit Application for the Bluebonnet Hub, the definitions for the USDW, Confining Zone and Injection Zone have been designated (see Figure V-2 and Table V-1). Each of these zones are described in the following paragraphs. Site specific maps and analysis have been made using offset well data and logs, as well as data collected from the Bluebonnet USDW 01 water well (AP No. 2 - located approximately 8,400 feet north of the proposed injection wells).

V.B.3.a Lowermost USDW

Site-specific interpretation of base USDW was completed using two methods: (1) deep resistivity readings and (2) spontaneous potential readings from the open hole logs available from offset wells. There are limited well logs available that are shallow enough to analyze, therefore secondary data are provided for AP No. 1 (Encanto 01) and AP No 2 (USDW 01) and used as validation of site-specific measurements.

The resistivity method determines formation fluid resistivity from the formation resistivity (R_t) and formation resistivity factor (F), which is related to formation porosity and a cementation factor (Schlumberger, 1987). The basis of the resistivity method is that formation fluid resistivity can be calculated from the formation resistivity and formation resistivity factor.

The resistivity of a formation (R_t in ohm-meters) is a function of 1) resistivity of formation water, 2) amount and type of fluid present, and 3) pore structure geometry. The rock matrix generally has zero conductivity (infinitely high resistivity) apart from some clay minerals and therefore is not generally a factor in the resistivity log response. Induction geophysical logging determines resistivity (R_t) by inducing electrical current into the formation and measuring conductivity (reciprocal of resistivity). The induction logging device investigates deeply into a formation and is focused to minimize the influences of borehole effects, surrounding formations, and invaded zone (Schlumberger, 1987). Therefore, the induction log measures the true resistivity of the formation (Schlumberger, 1987). The conductivity measured on the induction log is the most accurate resistivity measurement for resistivities under 2 ohm-meters.

Electrical conduction in sedimentary rocks almost always results from the transport of ions in the pore-filled formation water and is affected by the amount and type of fluid present and pore structure geometry (Schlumberger, 1988). In general, high-porosity sediments with open, well-connected pores have lower resistivity, and low-porosity sediments with sinuous and constricted pore systems have higher resistivity. It has been established experimentally that the resistivity of a clean, water-bearing formation (i.e., one containing no appreciable clay or hydrocarbons) is proportional to the resistivity of the saline formation water (Schlumberger, 1988). The constant of proportionality for this relationship is called the formation resistivity factor (F), where:

$$F = \frac{R_t}{R_w}$$

For a given porosity, the formation resistivity factor (F) remains nearly constant for all values of R_w below 1.0 ohm-meter. For fresher, more resistive waters, the value of F may decrease as R_w increases (Schlumberger, 1987). It has been found that for a given formation water, the greater the porosity of a formation, the lower the resistivity of the formation (Rt) and the lower the formation factor. Therefore, the formation factor is inversely related to the formation porosity. In 1942, G.E Archie proposed the following relationship (commonly known as Archie's Law) between the formation factor and porosity based on experimental data:

$$F = \frac{a}{\phi^m}$$

where:

ϕ = porosity

a = an empirical constant

m = a cementation factor or exponent.

In sandstones, the cementation factor is assumed to be 2, but can vary from 1.2 to 2.2 (Stolper, 1994). In the nearer surface sandstones, as sorting, cementation, and compaction decrease, the cementation factor can also decrease (Stolper, 1994).

Experience over the years has shown that the following form of Archie's Law generally holds for sands in the Gulf Coast and is known as the Humble Relationship (Schlumberger, 1987):

$$F = \frac{0.81}{\phi^2}$$

Resistivities of saline solutions vary as a function of NaCl concentration and temperature. The relationship between temperature, NaCl concentration, and resistivity are typically shown in the form of a nomograph for computational ease.

There are few wells with shallow logs for analysis in the Area of Review to employ the deep resistivity method cutoff. The nearest well with a shallow log is AP No. 10 (H.E. Williams and Crown, Central Petroleum No. 1) located approximately 2,031 ft northwest of the proposed injection site. The base of the lowermost USDW is defined by 10,000 mg/l total dissolved solids which corresponds with a 2 ohm-meter cutoff on the deep resistivity. In AP No. 10, this shift in resistivity occurs at approximately 1,547 feet BGL (1,555 ft KB) as shown in Figure V-21. Note that this depth is intentionally placed at the base of a sand unit.

The second method used for the base USDW determination was the interpretation of formation water salinity using open hole spontaneous potential (SP) logs. The SP log is a record of direct current voltage that develops naturally between a moveable electrode in the wellbore and fixed

electrode at the surface (Asquith and Krygowski, 2004). Electrical voltages arising from electrochemical factors (*e.g.*, mud filtrate, formation water) within the borehole and adjacent rock create the SP log response. These electrochemical differences are used to interpret the resistivity (salinity) of formation waters in clean permeable sands. The SP method, with temperature correction, was applied to the petrophysical log obtained in the stratigraphic test well Encanto 01 (AP No. 1 located approximately 8,400 ft north). Resistivity values from the SP method were compared to the deep resistivity method and indicated more than 10,000 mg/l total dissolved solids (TDS) at 1,280 ft KB (1,278 ft BGL), the first clean sand below proposed base USDW at 1,182 ft KB (1,179 ft BGL) (Figure V-22).

As part of confirming the USDW in the local area for project Bluebonnet, Oxy Low Carbon Solutions drilled a water sampling well (AP No. 2 USDW 01). Resistivity and SP log interpretation results for formation water quality were used to inform sample selection depths for open hole fluid sampling in the Bluebonnet USDW 01 well (AP No. 2), located 135 ft due east of the stratigraphic test well Encanto 01 (AP No. 1). Four depths were selected for open hole fluid sampling (Table V-2 and Figure V-22).

Lab analytical results matched well with interpreted formation water salinity values. Gravimetric TDS measurements provide a high level of confidence because the actual mass of the dissolved solids is measured and compared to estimations from fluid conductivity or summation of measured dissolved constituent concentrations. Multiple fluid samples were acquired in AP No. 2 (Oxy Low Carbon Ventures - USDW 01) above and below the USDW to reduce uncertainty in salinity variations with depth and assess salinity-depth relationships. The salinity-depth relationships were found to be nonlinear and increased rapidly with depth. The fluid sample acquired from the 1,260 ft KB sand (12,231 mg/L TDS) in AP No. 2 - Bluebonnet USDW 01 correlates to the 1,280 ft-KB sand in Encanto 01. This data confirms that using the deep resistivity cutoff method for wells is more conservative to establish the base of the lowermost USDW for this project. Therefore, using this cutoff and analysis of the geophysical logs is used to map the base of the lowermost USDW.

Mapping results across the 2.5-mile Area of Review (Figure V-23) indicate that the USDW falls approximately 1,100 to 1,600 ft BGL across the project site and is contained within the sands of

the Pliocene-aged Goliad Formation and associated with the Evangaline aquifer hydrostratigraphic unit.

The Evangeline Aquifer, which includes the Upper Lagarto, Lower Goliad, and Upper Goliad Formations, is made up of sand and sandstone with interbedded gravel and clay (Shaw 2016) and ranges 1,250 to 4,900 ft in thickness across Chambers and Jefferson Counties (Young 2016). Although well control is limited, logs from wells located down dip and up dip of the project site yield similar relative depths in the range identified above. However, the water sampling analysis from AP No. 2 (USDW 01) provides confidence that the USDW does not extend into deeper formations. As a measure of safety, the USDW will be confirmed by logging with the drilling of the injection wells for the injection site. Additionally, surface casing is planned to be set at a depth greater than the lowest interpreted base USDW, approximately 2,300 ft, and will be cemented to surface.

V.B.3.b Confining Zone

The Confining Zone overlying the Injection Zone at the Bluebonnet Hub site is comprised of the upper Lagarto Formation shales. These shales are non-marine and associated with floodplain/coastal marshes and paleosols. Two whole cores collected from the AP No. 1 (Encanto 1) stratigraphic test well, captured portions of these confining shale layers, these layers were found to contain nannofossils, forams, and palynology to confirm their depositional environment as non-marine.

The Confining Zone is an approximately 900-foot-thick zone within the Lagarto from a subsurface depth of approximately 2,339 feet to 3,319 feet BGL (2,370 feet – 3,350 feet KB) as presented on the type-log (Figure V-2, Table V-1). The top of the Confining Zone was based on a well log signature at a base of persistent sand and to top of a thick shale unit which was relatively consistent across the geologic study area.

The overall thickness of the Confining Zone (shales and sands) is presented in Figure V-24 and shows that the unit is relatively consistent in thickness (between 900 to 1,000 feet) across the Area of Review. Additionally, a net clay/shale isopach map of the Confining Zone is presented in Figure V-25. The overall thickness of the net shales within the Confining Zone ranges from 500 feet

(western portion of Area of Review) up to 890 feet (southeast). The overall thickness of the shales is majority between 600 and 700 feet throughout the Area of Review. The Confining Zone has slightly more sand in the west, however, the confining zone is more than 50 percent shale throughout the Area of Review.

Plastic claystones and shales prevalent in this Miocene section effectively inhibit the vertical migration of fluids. Shales are composed of laminated clay particles. The types of clays present in the confining beds include montmorillonite, kaolinite, illite, chlorite, and mixed-layer smectite-illite (Curray, 1960). Permeability in these Gulf Coast shales characteristically fall between values of 1×10^{-5} millidarcies and 1×10^{-6} millidarcies (Subsurface, 2006).

Given the plastic and ductile nature of the shales which comprise the Confining Zone, and the vertical extent of the formation (approximately 900 ft thick), formation possesses lithologic and stress characteristics capable of preventing initiation and/or propagation of fractures. Fractures may create a secondary form of porosity through which injected fluids or reservoir fluids could migrate. This porosity is often small in magnitude but effective when interconnected. The effect usually results in an increase in permeability resulting in fluid movement through the fractured rock which may be orders of magnitude more rapid than through similar, unfractured rock. Such transmissive fractures may exist deep in the overpressured zone of the Gulf Coast where increased temperatures and pressures have cemented the sediments into rock (Galloway et al., 1982). However, in unconsolidated sediments of the Lagarto Formation, the shales have not undergone lithification. So, it is probable that fracture planes, should they occur, become filled with material of significantly lower permeability. Thus, it is unlikely that fractures in unconsolidated Gulf Coastal sediments will effectively transmit fluids.

It is noted that in the future whole core will be collected and tested from the confining zone as part of the data acquisition plan during the drilling and construction of the Injection Wells. All relevant core data currently available for the site provided is contained in Appendix V-2 (*submitted confidentially in Section XIII*).

V.B.3.c Injection Zone

The overall Injection Zone at the Bluebonnet Hub site is defined as the subsurface formations between the depths of approximately 3,319 feet and 4,599 feet BGL (3,350 feet to 4,630 feet-KB). Geologically, this includes the upper portion of the Miocene-aged Lagarto Formation and is greater than 1,100 feet thick at the project site as presented in Figure V-26. This zone is comprised of an upper Containment Interval, two proposed Injection Intervals, and isolating shales between and below the Injection Intervals. As with the Confining Zone, there is little change in thickness of the Injection Zone across the Area of Review. The zone is thickest in the south at approximately 1,250 feet thick and slightly thins to the north to approximately 900 feet. However, these are the extremes, and the Injection Zone averages approximately 1,050 to 1,150 ft thick across a majority of the Area of Review

The uppermost portion of the Injection Zone consists of approximately 472 feet (total) of an upper Containment Interval between 3,319 – 3,791 BGL (3,350 – 3,822 KB) as presented in Figure V-2 (AP No. 11 Type Log). Individual sand beds in this Containment Interval are generally discontinuous, which is indicative of fluvial/coastal depositional environments, and range from 10 feet to 60 feet thick. This zone (overlying the Injection Intervals) provides containment of injectate if it should migrate upwards from the Injection Interval but will remain in the overall Injection Zone. These alternating clays and shales also add a measure of protection for pressure bleed off. The lower portion of the Injection Zone is significantly more sand-prone than the Containment Interval and contains the Injection Intervals at the Bluebonnet Hub.

During the drilling and testing of AP No. 1 (Encanto 1) Stratigraphic Test well, Rotary Sidewall Cores (RCA) were obtained through this unit. Four RCA's from a depth of approximately 3,300 ft to 3,666 ft (Table V-4). These cores provide site-specific data on the porosity and permeability of this containment interval. The RCAs were collected in silty-shale rich intervals and show the porosity of these layers' ranges from 12.61 percent to 19.38 percent, with low permeabilities ranging from 5.0 md to 29.2 md. The permeability contrast between the containment zone above the injection intervals would impede the risk of vertical fluid movement out of zone.

V.B.3.d Injection Intervals

The injection interval sands for the Bluebonnet Hub are located within the basal portion of the Miocene-aged Lagarto Formation (Fleming Group) and have been designated the Orange Sand and the Yellow Sand for this permit application. The sands are composed of weakly consolidated sandstones and shales deposited in fluvial, deltaic, strandplain and non-marine (coastal floodplain) environments. Two Injection Interval Sands (Yellow and Orange Sands) are defined on the Goldston Oil Company, Doornbos No. 1 (AP 11) (Figure V-2) for the Bluebonnet Hub site. Each injection interval is described in more detail below:

Orange Sand Injection Interval – Top of this sand injection interval is at 3,791 feet BGL (3,822 feet KB) and extends to approximately 4,054 feet BGL (4,085 feet KB) in Figure V-2 and consists of a total of approximately 224 feet of net sand. Figure V-27 is a net sand isopach map (50 percent spontaneous potential curve) for the Orange Sand Injection Interval. The net sand thickness ranges from 125 feet to 200 feet within the Area of Review. The thickest portion of the interval runs north south, with the thinner portions running along the easter and western edges. The pattern is typical of fluvial channel deposition.

Yellow Sand Injection Interval – Top of the injection interval is at 4,109 feet BGL (4,140 feet KB) and extends to approximately 4,419 feet BGL (4,450 feet KB) in Figure V-2 and consists of a total of approximately 240 feet of net sand. Figure V-28 is a net sand isopach map (50 percent spontaneous potential curve) for the Yellow Sand Injection Interval. The net sand thickness on average is larger than the Orange Sand Injection Interval. It averages 200 feet thick (approximate) and thins to approximately 125 in the north. The pattern of the isopach contours is also consistent with fluvial channel deposition.

During the drilling and testing of AP No. 1 (Encanto 1) Stratigraphic Test well, RCAs were also obtained through this unit, however the target was the internal shales and low permeable zones. The sands were not sampled. However, the RCA data provides a look at the expected mineralogy of the shale/low permeable zones expected with the Injection Zone, as a whole. These are presented in Table V-5. Siltstones that contain particles intermediate in size between shales and sandstones, are commonly interbedded with the shales. Because of their very small grain size and the

abundance of clays in their matrix, siltstones have very low permeability and also severely restrict fluid migration in the between formations.

Currently, there is no site-specific data present for the Orange and Yellow Injection Intervals. However, data has been required on whole core data collected from the AP No. 1 (Encanto 1) Stratigraphic Test well. This whole core was collected for Miocene-aged Oakville Formation, directly below these proposed injection zones. Table V-6 presents the lab measured porosity and permeability for the sand layers. The porosity ranges from 32.91 percent to 35.08 percent, and permeabilities range from 9,500 md to 15,200 md. Although these data come from the Oakville sands directly underlying the Lagarto proposed injection interval sands, they are considered representative of expected ranges due to same depositional facies and relative time of deposition.

It is noted that in the future the whole core will be collected and tested from the Orange and Yellow Sand Injection Intervals as part of the data acquisition plan during the drilling and construction of the Injection Wells. All core data provided is contained in Appendix V-2 (*submitted confidentially in Section XIII*).

V.B.3.e Confining Strata Beneath Injection Zone

The confining stratum beneath the Injection Zone comprises predominantly low permeability terrestrial coastal marsh/floodplain mudrocks with some interspersed silt and low permeability sand lenses. Consistent with the lower porosity and permeability of the overlying Confining Zone, it is anticipated that the porosity and permeability of this lower interval are sufficient to prevent any injected fluids from migrating below the Injection Zone. In the Area of Review, this section is approximately 150 to 300 feet thick and separates the upper and middle Miocene-aged portions of the Fleming Group. Hydrostratigraphically, the section is represented as the regionally extensive Burkeville confining unit and underlain by the saline Jasper aquifer.

V.B.3.f Blank Base Map

An uninterpreted base map is contained in Appendix V-3.

V.B.4 Local Structural Cross Sections

A cross-section location and index map (Figure V-29), and two perpendicular structural cross sections (Figures V-30 and V-31) were constructed to characterize the subsurface structure and stratigraphy in the vicinity of the 2.5-mile radius Area of Review. The structure maps include annotated structural control points, the depths at which any fault cuts were encountered, the associated displacement of the encountered faults, and the operator and lease name/number for each well. Note that the wells within the Area of Review also contain Artificial Penetration (AP) Numbers and wells outside the Area of Review are referred to by their "API" number. A set of well logs, which are used as control points for the cross sections, are found in Appendix V-4 and are presented in Table V-7.

The tabulation presented in Appendix V-4 has acronyms associated with geological maps. Where no log was available for a well it is annotated as "NL" on the Figures. Additionally, not all well logs intersect all mapped formations. Where a well log was available, but not used for the analysis, acronyms for log not shallow enough (NSE) and log not deep enough (NDE) are applied.

Sections show the lateral continuity of the injection intervals and lithologic character (*i.e.* impermeable and permeable zones as defined by the SP and Gamma ray deflections) of both the containment portion of the of the injection zone (grey shaded areas) and the upper and lower confining zones across the area. The confining units are sufficiently impermeable, thick, vertical and laterally extensive to protect all strata above and below the injection interval from contamination by injected wastes. There are more than 1,500 feet of geological strata (alternating sands and shales) separating the base of the lowermost USDW and the top of the Injection Zone.

V.B.5 Local Structural Geology

The Bluebonnet Hub is in a structurally simple area where the deeply seated underlying salt is associated with salt domes. The nearest structure is the Hankamer Salt dome in the north and situated along the county line. It is a piercement salt dome structure and is located approximately 8 miles north of the town of Anahuac and 8 miles from the Bluebonnet hub site. The project site is sufficiently far away from the domes that faults caused by the movement of the diapirs do not extend near the site.

Structural maps were prepared using a Tobin basemap obtained for this TCEQ Permit Application. A representative number of wells were selected based upon the availability and quality of well logs. These were obtained through public (Texas Railroad Commission Central File Room and Online Databases) and commercial (TGS, IHS, and Enverus) sites. Structure maps include annotated structural control points, depths at which fault cuts were encountered, associated displacement of encountered faults, operator and lease name/number for each well, and a unique "Artificial Penetration (AP) Number" for each well contained within the 2.5-Mile Area of Review and is keyed into Section VIII of this application.

The following structure maps have been developed for the Bluebonnet Hub site:

- Figure V-32: Top of Confining Zone
- Figure V-33: Top of Injection Zone
- Figure V-34: Top of the Orange Sand Injection Interval
- Figure V-35: Top of the Yellow Sand Injection Interval

Each of these structure maps mimic the top of the regulatory zone/formation of interest. Local dip across the 2.5-mile radius Area of Review is generally southeasterly for all structure maps. The largest extent of dip occurs in the structure maps for the Injection Intervals, with a gentler dip across the top of the Injection and Confining Zones. No major structures exist within this 2.5-mile radius Area of Review. However, just outside the Area of Review, there is a NE-SW striking fault that dips to the southeast and crosscuts all regulatory zones.

V.B.6 Fault Delineation and Transmissibility

V.B.6.1 Fault Delineation in the AOR

One small fault is present outside the Area of Review and to the south of the project site. However, this fault was evaluated as part of this permit application. This fault is shown on all structure maps (Figures V-32, V-33, V-34, & V-35) and present on the NW-SE Cross Section (Fig V-30). Stratigraphic section missing in well logs usually indicates a fault in the subsurface, with the amount of missing section indicating the vertical separation of the fault. Within the Miocene stratigraphic section, a missing well log section is usually recognizable. Faults within the Area of

Review dip at an angle of approximately 55 degrees from vertical, which is consistent with regional Gulf Coast structure. Well logs for all wells in the proximity of the faults were examined in detail for evidence of faults. The structure maps depict all faults that were identified from this detailed analysis. The conservative analysis herein considers that an abrupt stratigraphic variation indicates faulting.

The southeastern portion of Bluebonnet Hub outside the Area of Review is transected by a fault. The fault has an approximate throw of about 140 feet at the depths of the injection intervals with a downward dip towards the south. Structurally this fault places the upper portion of Orange Sand Injection Interval partial against a shale (low permeable) zone, allowing for lateral transmissivity across the lower 50 ft of the interval (Figure V-30). Similarly, the Yellow Sand Injection Interval is partially juxtaposed across a shale layer in the upper portion of the interval. However, more than 100 ft of the interval is juxtaposed against its same formation, allowing for greater lateral transmissivity across the fault.

V.B.6.2 Fault Transmissibility

The transmissivity of fluids across a fault must be considered with respect to both lateral (horizontal) and vertical components, requiring an assessment of the likelihood of a sealing surface (top seal and/or lateral seal) being present. Faults, in and of themselves, do not seal (Downey, 1984). However, faults can place porous intervals against seals and form non-transmissive barriers (traps). Additionally, materials entrained within the fault zone can also provide a seal (*i.e.*, clay smear). In a sand-shale geologic sequence, faulting will result in the juxtaposition of like and/or unlike lithologies across the fault plane in three manners: a) sand-to-sand; b) sand-to-shale; and c) shale-to-shale. Fault planes are normally considered to be inconsequential to migrating fluids and generally are of significance as sealing surfaces only because they may juxtapose rocks of differing capillary properties and fluid pressures (Downey, 1984; Smith, 1966). Each fault case, based on the juxtaposition of lithologies across the fault, must be considered during an assessment for both lateral and vertical transmissivity.

V.B.6.2.1 Vertical Fault Transmissivity

Because the shales beneath the Bluebonnet Hub site are ductile at the depths of interest, the juxtaposition of shale beds or sand-to-shale beds across a fault will form a vertical barrier (seal) to fluid flow, due to their very low vertical permeability. This property of viscoelastic deformation behavior will cause any fractures and/or faults to close very rapidly in response to the in-situ compressive stresses. This well-known ductile (or plastic) behavior of the geologically young Gulf Coast shales is amply demonstrated by the presence of shale diapir structures and the natural closure of uncased boreholes with time (Johnston and Greene, 1979; Gray et al., 1980; Davis, 1986; Clark et al., 1987; Warner and Syed, 1986; and Warner, 1988). Jones and Haimson (1986) have found that due to the very plastic nature of Gulf Coast shales, faults will seal across shale-to-shale contacts, allowing no vertical fluid movement along the fault plane. E. I. Du Pont de Nemours and Company conducted a borehole closure test at the Orangefield Dome which demonstrated the plastic nature of Gulf Coast shales and the rapidity of shale movement to seal off open boreholes in the subsurface. The test conclusively demonstrated that the young Miocene shales of the Gulf Coast will flow and seal off an open borehole in the subsurface over a short time period (*i.e.*, approximately one week; Clark et al., 1991).

The potential for fault-plane sand smear material to provide a vertical avenue for fluid movement through shale-to-shale juxtaposed lithologies is minimal in the Bluebonnet Hub area. This is due, not only to the ability of the shale layers to deform and close off any open areas in the subsurface, but also due to the fact that it can be shown, through stratigraphic and structural analysis, that many of the containment interval shale beds have not been faulted through sand beds. Therefore, there is no mechanism to place sand grains into the fault plane.

The vertical sealing nature of shale-to-shale juxtaposed lithologies can be seen in the numerous Gulf Coast oil and gas fields that have fault traps where both the top and the lateral seals are provided by shale beds. Site specific evidence of vertical seal is provided by the deeper Frio and Vicksburg oil and gas accumulations in the offset fields. The hydrocarbon accumulations would not have occurred if nearby faults were vertically transmissive above the productive intervals.

Smith (1980) presents a mechanism whereby shale may be emplaced along the fault plane to provide an effective seal against vertical fluid movement (see Figure V-36). Shale can be

deformed more readily prior to failure than sandstone in a sand-shale sequence. Continued deformation will eventually fault the shales; however, a zone of deformed shale may become greatly attenuated and trapped along the plane of the fault, resulting in a vertical seal.

Therefore, the only mechanism available for vertical movement up along a fault is through "stair-stepping", whereby the fluid potentially moves laterally across juxtaposed sand-to-sand beds. However, beneath the Bluebonnet Hub site the preponderance of shale within the containment interval above the injection interval sands and small fault offsets will quickly restrict this type of movement due to juxtaposed shale-to-shale or sand-to-shale beds. Criteria can be developed to determine if the fault within the southern vicinity of the Bluebonnet Hub is potentially vertically transmissive or are sealed based on the juxtaposition of lithologies across the fault:

1) Juxtaposed shales present in the geologic section have a ductile nature and are likely to have squeezed in from both sides of the fault plane, sealing the fault to fluid movement. The juxtaposition of shale across from a sand bed would also seal the fault to fluid movement. This characteristic of Gulf Coast shales to seal open spaces in the subsurface is a well-known and documented phenomenon.

2) Where the geologic section is predominately sand, upward fluid movement may take place and would be expected to dissipate through "stair-stepping" into the overlying, juxtaposed sand units, similar to the oil migration in the Niger Delta (Weber and Daukoru, 1975). Were the waste to migrate up through the injection interval and cross the fault, the waste would still be in the injection zone on the other side of the fault.

The overlying geologic section of predominately shales (present in the section between the top of the Injection Zone and the Injection Intervals), which provide extensive shale-to-shale contacts along the fault plane, will prevent waste migration out of the Injection Zone.

V.B.6.2.2 Lateral Fault Transmissivity

Lateral fault seal can arise from juxtaposition of porous and permeable reservoir rock against nonporous or nonpermeable rock, or by the development of fault rock having a high entry pressure. Faults, in and of themselves, do not seal (Downey, 1984), however, faults can place porous

intervals against seals that form non-transmissive barriers (traps). Fault planes are normally inconsequential to migrating fluids and generally are of significance only in the circumstance of shallow, near-surface faulting in an overall tensional regional stress environment. In such cases, field observations and theory (see Secor, 1965, for example), show that the fault plane may act as an open transmissive fracture. However, the process of faulting may result in a "disturbed" fault zone between the offset lithologies. Therefore, a two-tiered analysis approach may be required. First-order fault seal analysis involves identifying reservoir juxtaposition areas over the fault surface using mapping techniques. Second-order fault seal analysis ascertains whether the reservoir to reservoir contacts are likely to support a pressure difference. A number of mechanisms have been recognized whereby fault planes can act as seals (Knipe, 1992):

a) Juxtaposition, in which reservoir rock are juxtaposed against a low-permeability unit with a high entry pressure;

b) Clay smear or entrainment of clay/shale into the fault plane, thereby giving the fault "disturbed zone" a high entry pressure;

c) Cataclasis, which is the crushing of sand grains to produce a fault gouge of finer grained material, giving the fault "disturbed zone" a high capillary pressure; and

d) Diagenesis, where preferential cementation along a previously permeable fault plane may partially or completely remove porosity, creating a hydraulic seal.

Juxtaposition seals can be recognized explicitly by mapping the contact of the various units across a fault. To identify or predict sealing via clay smear, cataclasis, or diagenesis requires an ability to relate these mechanisms to measurable properties or processes in the subsurface. The initial host rock is an important control on the fault disturbed zone material and properties, and thus, on seals. The host-rock properties that exert the most influence are the clay or phyllosilicate content, porosity, and permeability (Knipe, 1997).

Each of the sealing mechanisms is described in more detail in the following subsections. Note that none of the attributes described is, in itself, a measure of the sealing capacity of the fault surface. Instead, these attributes are an estimate of the sealing nature or relative likelihood of a seal being developed along a fault surface. To be useful, they must be calibrated from known fault seal and non-seal situations.

V.B.6.2.3 Connectivity of Juxtaposed Lithologies

The initial consideration in the evaluation of lateral transmissivity across a fault is the determination of juxtaposition of porous lithologies across a fault and the connectivity of the juxtaposed porous lithologies. In a sand-shale geologic sequence, such as those beneath the Bluebonnet Hub, faulting will result in the juxtaposition of like and/or unlike lithologies across the fault plane in three manners: a) sand-to-sand, b) sand-to-shale, and c) shale-to-shale. Each fault case must be assessed separately for the lateral transmissivity of the juxtaposition of lithologies across the fault. In the case of a sand and shale sequence, the connectivity considers that fraction of net sand that is in geometric contact with sand across the fault. The lower the connectivity, the more likely the fault will tend to act as a seal and, therefore, the greater the effect of the fault on impeding fluid flow, resulting in increased pressure buildup. The determination of the percentage of connectivity requires an accurate depiction of the stratigraphy on both sides of the fault for its entire length. For complex situations, a fault-plane section (a display of the geometry of the stratigraphy brought into contact by fault displacement, *i.e.*, two sides of a fault juxtaposed) can be prepared to show relationships (Allen, 1989). The plane of the Allen Section is not vertical, but dips along the plane of the fault. Alternatively, a "juxtaposition diagram" (Knipe, 1997) can be constructed from the stratigraphy on either side of the fault to evaluate lithological cross-contacts. High sand-to-sand connectivity at the fault plane will have minimal impact on the lateral transmissivity of the reservoir.

Fault planes are normally inconsequential to migrating fluids and generally are of significance as sealing surfaces only because they may juxtapose rocks of differing capillary properties and fluid pressures (Smith, 1966, and Downey, 1984). Much of the knowledge base for characterizing fault seal/non-seal emanates from studies in oil fields, which deal with unlike fluid phases (oil-water) juxtaposed across a fault. In these examples, where porous intervals are juxtaposed, significant additional pressure (displacement pressure) may be needed to overcome capillary properties and force hydrocarbon molecules into connate water-filled pore spaces through and across a fault that would otherwise be transmissive to like-phase fluids (Smith, 1966). The forces that need to be overcome include the hydrocarbon-water interfacial tension and wettability of the reservoir rock, prior to initiation of hydrocarbon fluid flow. The discounting of the existence of the pressure differential effect due to differing capillary properties has probably influenced field study

conclusions where there are insufficient data to recognize this phenomenon as the cause for sealing.

V.B.6.2.4 Clay Smear

In cases where thick, undercompacted clay shales are interspersed between porous intervals, clay smears can develop and be emplaced along a fault plane (Smith, 1980). Undercompacted clays can be deformed much more readily prior to failure than sandstone can in a sand-clay sequence. Continued deformation will eventually fault the clay/shales; however, a zone of deformed clay/shale may become greatly attenuated and trapped along the plane of the fault, resulting in a vertical and horizontal seal. Such fault-plane clay smears are common small-scale features and have been reported in East Texas outcrops (Smith, 1980), coal mines in Germany (Weber, 1978; and have been inferred from log interpretation of fault zones (Weber, 1978; Berg and Avery, 1995). Conclusions from faulting case histories indicate that the fault-zone clay/shale thickness and petrophysical properties of the clay/shale, in the displaced section at the time of faulting, are the primary factors that govern whether or not a clay/shale will "smear" and form boundary fault-zone material for sealing. Lehner and Pilaar (1991) observed from fault outcrops that clay smear, as an effective sealing mechanism, is likely to occur only in soft sediments and at sufficiently slow fault slip velocities.

Smith (1980) found that growth faults, which form relatively near the surface contemporaneously with deposition (*i.e.*, syndepositional faults), have a greater potential to be sealing due to clay smear than post-depositional faults, forming when sediments are more indurated. Harding et al. (1989) and Jev et al. (1993) also concluded that syndepositional faulting usually favors clay smear sealing because the muds are generally uncompacted at the time of displacement and are more likely to smear along the fault plane. However, even in cases of initial fault seal, fault plane seal breakdown may occur along weak areas, as the result of increased pressure differentials (resulting from production or injection) from one side of the fault to the other (Bouvier et al., 1989).

The following factors have been found to control the likelihood of clay/shale smearing: 1) thicker source beds can produce thicker clay smears; 2) shear-type smears decrease in thickness with increasing distance from the source layer; 3) abrasion-type smears decrease in thickness with increasing fault throw; and 4) multiple source beds can give a combined continuous smear

(Yielding et al., 1997). Several algorithms have been proposed for providing a quantitative approach to clay smear prediction. Bouvier et al. (1989) present a study of the Nun River field in the Niger Delta, describing the "Clay Smear Potential" as a means of estimating the likelihood of clay smearing in areas of sand-to-sand juxtaposition. The clay smear potential is a measure of the amount of clay that has been smeared from individual shale source beds at a certain point along a fault plane:

$$CSP = \sum \frac{(Shale - bed - thickness)^2}{(Dis\tan ce - from - source - bed)}$$

The Clay Smear Potential models the behavior of shear-type smears for distance tapering and additive effect of compound clay beds. Yielding et al. (1997) modified the specific formula for the Clay Smear Potential equation to a more general form, called "Smear Factor":

$$SF = \sum \frac{(Shale - bed - thickness)^n}{(Dis\tan ce - from - source - bed)^m}$$

The exponents "m" and "n" can be determined via experimental or observational studies. Note that as "n" increases above a value of one, thicker source beds are proportionally weighted higher than are thin beds (*i.e.* a bed twice as thick is weighted by more than twice as much).

Lindsey et al. (1993) proposed a "Shale Smear Factor" based on observations of abrasion smears in a lithified sequence:

$$SSF = \frac{Fault - throw}{Shale - layer - thickness}$$

Note that the Shale Smear Factor remains constant between the offset terminations because it does not depend on smear distance. However, lateral changes in fault throw would have a corresponding change on the calculated Shale Smear Factor. Lindsey et al. (1993) concluded that shale smears with a Shale Smear Factor of up to seven are likely to be continuous.

Yielding et al. (1997) recognized that the Clay Smear Potential and Shale Smear Factor may be difficult to apply in thick heterogeneous sequences due to the complications inherent in mapping

every shale bed and then considering its contributive effect at the fault surface. They suggested an approach that considers the bulk properties of the sequence at the scale of the reservoir mapping utilized, termed the "Shale Gouge Ratio":

$$SGR = \frac{\sum\left[\left(Zone-thickness\right)\times\left(Zone-clay-\ fraction\right)\right]}{Fault-throw}\times 100\%$$

The Shale Gouge Ratio represents the proportion of shale or clay that might be entrained in the fault zone by a variety of mechanisms. Wall rocks with a high shale content tend to produce greater proportion of shale or clay in the fault zone. Investigation of fields in three different basins (Niger Delta; Northern North Sea; and Offshore Trinidad) show seal threshold on the order of 10 to 20 percent Shale Gouge Ratio (Yielding et al., 1997).

V.B.6.2.5 Cataclasis

Cataclasis involves the fracture, crushing, and rotation of mineral grains along the plane of the fault (Spencer, 1977). As such, it is a mechanism of brittle deformation. When the degree of deformation is severe, cataclasis may result in a "gouge" zone along the fault that is comprised of a fine-grained matrix of crushed grains which can form a seal even when sandstones are juxtaposed (Engelder, 1974 and Pittman, 1981). A sealing mechanism is present because the petrophysical and textural characteristics of the disturbed zone material differ from the juxtaposed lithologies on either side of the fault. Cataclasis can increase or decrease the porosity of the material in the disturbed zone of the fault relative to the material in the juxtaposed lithologies. In cases of severe cataclasis, the deformed zone material may consist of crushed grains that have a lower porosity, smaller mean grain size, and poorer sorting than the juxtaposed lithologies. These characteristics may result in reduced permeabilities in the disturbed zone due to the smaller pore throat size of the gouge material, thereby increasing the potential for seal, especially between immiscible fluids, where the capillary pressures would be significantly higher in the disturbed zone material (Berg, 1975).

Knipe (1992) found that cataclastic fault gouge can have pore throat radii less than 0.001 millimeters. Antonellini and Aydin (1994) and Pitmann (1981) found that deformation bands within the fault gouge can have a porosity one order of magnitude and a permeability three orders

of magnitude less than the undeformed surrounding host rock. Gouge due to cataclasis generally only forms under conditions of significant friction along a fault plane, under high effective confining pressures (Smith, 1966). Therefore, permeability reduction and/or seal by grain crushing and/or fracturing effects at the Bluebonnet Hub site are expected to be negligible or minor since the faulting occurred at a shallow depth when the sands of interest were essentially unconsolidated.

V.B.6.2.6 Cementation/Secondary Mineralization

Cementation of fractures along the fault plane and/or of the disturbed zone material by secondary mineral deposits from circulating subsurface formation fluids may produce a zone that forms a vertical barrier to lateral fluid flow. A high degree of cementation may completely infill the voids within the pore throats of the disturbed zone, reducing the transmissivity of the material to virtually zero. Evidence from case studies in the Gulf Coast show that cementation along fault planes tends to be a surficial feature, not generally formed at depths below the ground surface (Smith, 1980).

V.B.6.2.7 Field Studies Identifying Lateral Fault Seal

Field studies of Gulf Coast salt dome reservoirs (20 cases from Good Hope Field, Louisiana and others) show that where parts of the same sandstone body are juxtaposed across a fault (30 - 300 feet of throw), the faults are laterally transmissive (Smith, 1980). These studies explore the mechanism of juxtaposition which are relevant to all faulting systems throughout the Gulf Coast. Even in those cases where "fault gouge" material was present in a disturbed zone along the fault, the faults were laterally transmissive when the same sandstone body (including the thin shale beds in the sandstone body) was juxtaposed across the fault (Handin et al., 1963). Weber and Daukoru (1975) determined from field evidence that in a young, growth-faulted basin similar to the Texas Gulf Coast, laterally non-transmissive faults are only likely when a given sand body on the high side (up-thrown) of the fault is passed by a sedimentary sequence on the down-thrown side that contains more than 25 percent shale beds (excluding the thin shale beds in the sandstone body).

Gulf Coast salt dome studies to determine the widths of fault zones, indicate that faulting is associated with relatively thin fault zones and, in some places, these faults may be represented by a discrete surface (Smith, 1980). Evidence of this can be found in cores from Raccoon Bend Field,

Austin County, Texas (Teas and Miller, 1933). The Antrim faults in exposed Eocene sediments of northwestern Houston County, Texas, were found to occur as discrete fault surfaces or thin zones less than one foot thick (Stenzel (1946), in Smith, 1980). Similarly, outcrops in the Frechen mines (near Cologne, West Germany) indicate the shear zone widths vary with the lithological compositions of the fault walls over the throw interval. Here, where sand is displaced against sand, the fault shear zones are usually only a few centimeters wide (Weber, 1978). In the Nigerian oil fields, which are similar geologically to the Gulf Coast, the examination of 1:20 scale dipmeter logs show that the widths of shear zones of normal faults generally range from less than a foot to about two feet.

Bouvier et al. (1989) developed a "Clay Smear Potential" (CSP), which represents the relative amount of clay that has been smeared from individual shale source beds at a certain point along a fault. To determine the local clay-smear sealing vs. nonsealing cutoff values, individual Clay Smear Potential values were calibrated against known trapped hydrocarbons in sand-to-sand contacts along a fault plane(s). Jev et al. (1993), in their analysis of several fault planes in a Nigerian oil field, were able to develop a useful guideline for predicting sealing potentials along a fault plane by incorporating into the Clay Smear Potential the sonic log data (to differentiate hard shales from soft shales), gamma-ray log data to detect the lithology, and fault throw. Knott (1993) analyzed 297 sealing and nonsealing faults in the North Sea and determined that the most useful parameters in fault sealing prediction are fault displacement, net-to-gross sand ratio, and the amount of sand in communication; sand connectivity having a quantifiable effect on the probability of sealing. Knott (1993) developed a Fault Seal Probability (FSP) method, plotting the maximum fault throw of faults against their total reservoir thickness (including the interbeds of shale within a sandstone body). The results show that when reservoir sands of the same sand body are in juxtaposition, the faults tend to be nonsealing.

Oil and gas field production histories can be used to document instances of laterally sealed faults. Several example cases are given below:

Eugene Island Block 330 Field Example

Alexander and Handschy (1998) analyzed the sand-to-sand juxtaposition across the major bounding field faults forming the Eugene Island Block 330 Field. Fault plane analysis, as well

as pressure and geochemical data, indicate that Field Fault F is sealing to lateral fluid flow in the majority of cases where sands of differing ages are juxtaposed (coeval juxtaposed sands tend to be laterally transmissive). Six cases of sand-to-sand juxtapositions with differing pore fluids is documented in their Table 4, indicating that Fault F is a lateral seal that prevents fluid flow across the fault. In the case of the down-thrown KE-2 Sand and the up-thrown LF Sand, a 261 $\pm$ 114 psi pressure differential exists across the fault, demonstrating that Fault F is a seal to pressure as well (Alexander and Handschy, 1998).

Javelina-East McCook Field Example

Berg and Avery (1995) present evidence of laterally sealed faults set up by fault shear zones in the Javelina-East McCook Field of South Texas. A normal fault with a shear zone is interpreted in the Shell Davis 3 well, immediately overlying the productive "Y" Sand, forming a "high-side" seal. A shallower fault in the same well sets up a "low side" seal against the fault shear zone in the "R" sandstone.

V.B.6.2.8 Field Examples of Laterally Transmissive Faults

Oil and gas field production histories can be used to document instances of laterally transmissive faults. Several example cases are given below:

Akaso Field Example

Jev et al. (1993) present evidence that laterally transmissive fault conditions exist between Akaso Field and the adjacent Cawthorne Channel Field in Nigeria. During development of Akaso Field in 1990, formation pressure testing results from the initial field wells indicated that the unproduced Akaso G sands had undergone significant pressure depletion (140-311 psi) as compared to the shallower field sands, which were hydrostatically pressured. Additionally, the Akaso G sands (0.404 psi/ft in 1990) and the Cawthorne Channel E sands (0.406 psi/ft in 1988, originally hydrostatic) showed a remarkably similar pressure gradient with respect to time. Geologically, the Akaso G sands are juxtaposed against the E sands of the Cawthorne Channel Field, which have been producing since 1970 (see Figure V-37). The E sands in Cawthorne Channel Field have produced over 2.5 billion gallons of oil since being brought on line (Jev et al., 1993). The similar pressures in the two juxtaposed sands and the pressure

depletion (subhydrostatic) in the Akaso G sand relative to the shallower sands, conclusively demonstrate communication across the fault that separates the two fields.

Gulf Coast Gas Field Example

Conoco has provided a Gulf Coast example of a field that is known to have pressure communication across faults based on the production history of the wells. The field was produced over a time period in excess of 25 years. Figure V-38 shows the structure at the top of the productive sand, a cross section through the field at the level of the productive sand, and several pressure decline curve comparisons for wells in adjacent fault blocks. Pressure decline curves (bottomhole pressure with time) were constructed for individual wells in each of the fault blocks. Pressure decline curve comparisons were made for the two sets of adjacent fault blocks (Blocks D & I and Blocks C & E) that are known to be in pressure communication (Figure V-38). The pressure decline curves in the adjacent blocks overlay, clearly demonstrating that the blocks are in pressure communication.

V.B.6.2.9 Lateral Fault Transmissivity Considerations

Criteria can be developed from these case studies to potentially determine is the fault within the southern proximity are laterally transmissive or are laterally sealed:

1) Where the sand-shale ratio of the faulted geologic section indicates a substantial amount of impermeable shale (25 percent or greater in shale beds) is present, the shale can be expected to be smeared along the fault plane during the growth of the fault. This clay smear would impede fluid movement laterally to a juxtaposed sand, resulting in a laterally non-transmissive fault.

2) A fault is laterally sealing where the entire injection interval sand is juxtaposed with a low permeability layer such as clay or shale.

3) A fault is laterally non-sealing where parts of the same sandstone body (excluding shale beds within a sandstone body) are juxtaposed (Smith, 1966; Smith 1980).

Both the Yellow and Orange Injection Interval are partially juxtaposed against a shale layer in the upper portion of the interval, while juxtaposed against itself (sand body) in the lower portion.

However, this potential barrier or reduction in flow are located well beyond the modeled critical pressure and plume extent provided in Section VII – Reservoir Mechanics.

V.B.7 Confining Zone Faults and Fractures

No Faults exist within the 2.5-mile Area of Review. The nearest fault lies in the south of the project site (downdip)and outside the Area of Review. It is shown on the Structure Maps and the NW-SE Cross Section (Figure V-30). It extends through the Injection Zone and up into the Confining Zone. Vertical fault displacement is projected as less than 100 ft of throw. The critical pressure front (Cone of Influence) and the waste plumes extents will not reach the fault as demonstrated in Section VII – Reservoir Mechanics. Pressures required to move fluids out of the Injection Zone are contained within the Area of Review.

As part of the data acquisition plan (See Section VI.A.9), Bluebonnet will run image logs in the open hole portions through the Confining Zone at time of drilling and construction. An image log, also known as a "fracture finder log" will analyze the open borehole wall for direct observation of fractures and details. Additionally, whole core will be collected across the lowermost portion of the Confining Zone and analyzed in lab for stress characteristic. This site-specific data will be used to confirm the local absence of fractures in the Confining Zone.

V.B.8 Confining Zone Characteristics

The purpose of evaluating a confining layer or layers for containment is to provide assurance against vertical migration of the injected fluid or saline water from the Injection Zone into overlying freshwater bearing aquifers. Such vertical movement may result from:

- Intergranular flow through unbreeched confining strata,
- Flow through naturally fractured or faulted confining strata,
- Flow through confining strata with diagenetic secondary porosity,
- Flow through artificially fractured strata, and
- Flow through abandoned, unplugged or improperly plugged wells.

The following discussion explains the above potential pathways of fluid movement.

Naturally Fractured or Faulted Strata

Fractures may create a secondary form of porosity. This porosity is often small in magnitude but effective when interconnected. The effect usually results in an increase in permeability resulting in fluid movement through the fractured rock which may be orders of magnitude more rapid than through similar, unfractured rock. Such transmissive fractures may exist deep in the overpressured zone of the Gulf Coast where increased temperatures and pressures have cemented the sediments into rock (Galloway et al., 1982a). However, in unconsolidated sediments it is probable that fracture planes become filled with material of significantly lower permeability. Thus, it is unlikely that fractures in unconsolidated Gulf Coastal sediments will effectively transmit fluids.

Because the shales at the Bluebonnet Hub site are plastic at the depth of interest, it is unlikely that coherent, transmissive fractures or faults would form. When two bodies of shale, or shale and sand, slide past each other along a fault, it is likely that the fault plane will become filled and sealed with plastic shale. Morrow, et al. (1984) found that the permeability of fault gouges generally ranged between 1×10^{-4} and 1×10^{-7} millidarcies. Permeabilities of this magnitude are equal to or less than those of most clay shales in confining layers. Jones and Haimson (1986) have noted that due to the very plastic nature of the Gulf Coast Region shales, faults tend to seal themselves, allowing no vertical fluid movement up the fault plane. Evidence of this sealing tendency can be seen in numerous oil and gas fields with a fault trapping mechanism. The large amount of hydrocarbon accumulation in these fields would not have occurred if faults served as a vertical conduit. Perkins (1961) postulated that hydrocarbon sealing faults in the Gulf Coast may form from soft shale smearing and impregnating the faulted sandstone face during fault movement. He states, "in essence, a natural mudcake" is formed over the sand fault plane surface and an impervious barrier is created against which migrating hydrocarbons may accumulate. Clark (1989) presents a similar scenario of the vertically sealing nature of Gulf Coast faults and their effects on groundwater flow.

Cementation of cavities and fractures along fault zones and cementation of porous fault zone material such as fault breccia by secondary mineral deposits from subsurface waters will also produce a zone that has low permeability to fluid migration (Smith, 1980). The result is a fault

plane that contains cemented, low-permeability material which should impede the vertical migration of fluid along the fault.

Kreitler (1977), and Kreitler et al., (1977), cite evidence which suggests that Gulf Coast faults, at least in the shallow Plio-Pleistocene section, are sealing or at least partially sealing. The evidence is the difference in observed potentiometric levels and different amounts of ground level subsidence across the Ethyl, Long Point and Eureka Heights faults in the Houston area. In all cases, the side of the fault from which groundwater pumpage was heavier exhibited lower potentiometric levels and a greater amount of subsidence. This suggests that these faults are acting as low-permeability barriers.

Artificially Fractured Strata

Injection zones can be artificially fractured if the combined hydrostatic and injection pressure exceeds the hydraulic fracture gradient at that depth. Although artificial fracturing is frequently utilized as a method to enhance hydrocarbon recovery, injection pressures for industrial wells are limited by regulations to prevent such fracturing.

Natural Intergranular Flow

The above discussion suggests that the lithological and structural conditions at the Bluebonnet Hub site are not conducive to flow through fractures or secondary porosity. Natural intergranular flow, although minimal, is the main type of fluid movement through the shale confining layers at the Bluebonnet Hub facility location. When dealing with fluid flow through any medium, the main parameter of interest is permeability and effective porosity of the medium.

Various studies on shale permeability within the Gulf Coastal Plain have been reviewed and are presented in the following pages. Published permeability data on shale are notably scarce. The reasons for this include the low economic importance of shale to oil companies, the difficulty in obtaining shale cores without damaging or distorting them, and the difficulty and length of time required to perform laboratory permeability measurements.

Permeability Studies Within the Gulf of Mexico

Several researchers, Borst (1983), Bryant et al., (1975), Magara (1969), and Constant et al. (1989), have attempted to establish a relationship between permeability and the other physical properties of shale (for example, porosity, pore fluid pressure gradient, depth of burial and age).

Underground Resource Management Inc. studied the containment characteristics of several injection wells at Port Sabine, Orange County, Texas. A vertical permeability test was conducted on a core taken from the Confining Zone. Permeability of the 6,041-foot core was between 3.74 x 10^{-2} md and 5.34 x 10^{-2} md. However, it was noted that due to the dried out condition of the core, the permeabilities measured might be higher than the actual permeabilities of the sediment in its natural state.

Clark (1989) studied typical Gulf Coast shales from the Oakville, Lagarto, Anahuac, and Frio at Winnie, Texas and determined that permeabilities were on the order of 1 x 10^{-5} to 1 x 10^{-6} md.

These studies offer insight into the very low permeability of Gulf Coast shales and are relevant to the Bluebonnet Hub site. This inherent characteristic makes Gulf Coast shales an excellent medium for use as a confining stratum in waste injection operations. In summary, based on literature, the permeability of Gulf Coast shales within the Confining Zone beneath the Bluebonnet Hub site at depths of approximately should be 1 x 10^{-4} md or less. This will be compared to data collected from the coring of the Confining Zone as part of the data acquisition during the construction of the injection wells.

V.B.9 Buffer Aquifers and Potentiometric Surfaces

V.B.9.a Buffer Aquifers and Impermeable Layers

Multiple permeable aquifer/impermeable aquitard layers (at least 10 sequences) of approximately 1,100 feet fall between the base of the lowermost USDW and the top of the Confining Zone sands. These layers are a sequence of saline buffer aquifers that would allow for additional pressure and fluid bleed-off prior to reaching any USDW. Collectively, these buffer aquifer sands above the Confining Zone have porosity development and permeability, based on separation of the resistivity curves, spontaneous potential curve deflection, and gamma ray curve development and are saline.

The areal continuity of these buffer aquifers and the less permeable strata is sufficient to provide added protection to the USDW in the event of fluid movement in an unlocated borehole or transmissive fault.

V.B.9.b Potentiometric Surfaces

Groundwater in aquifers along the Texas Gulf Coast is considered to have two origins: meteoric waters (water that enters the shallow aquifers by surface infiltration) and formation waters (water trapped in sediments from the original depositional environments) (Kreitler, 1979).

These two types of waters co-exist in the basin in the following three hydrologic regimes: 1) the uppermost permeable strata are continuously recharged by meteoric waters forming a fresh-water regime, which may extend to a depth of several thousand feet below land surface, and where flow is directed downdip toward the basin center; 2) the underlying compacting strata expel original formation water or water at least several million years old from sediments forming a hydrostatic system, where waters from this essentially saline section can come in contact with the overlying meteoric sections to prevent excessive pressure buildup within the hydrostatic zone; and 3) further downdip, the underlying strata represent the overpressured or geopressured zone where abnormally high fluid pressures exist due to restricted drainage conditions (Kreitler and Richter, 1986).

Groundwater flows from areas of higher value (altitude or head) to regions of lower value. In Chambers County, the natural direction of groundwater movement in the Chicot and Evangeline aquifers is downdip, south-southeast, towards the Gulf of Mexico. However, the direction of flow can be modified and even reversed in areas of large-scale water withdrawal. In these areas, water will flow from all directions toward the area of rapid withdrawal. This phenomenon is demonstrated in the potentiometric maps for the Chicot and Evangeline aquifers shown in Figure V-39 (from Kasmarek and Robinson, 2004) with the direction of the water movement towards the city of Houston, in Harris County.

VI.B.9.c Lack of USDW

This section is not applicable. A USDW is present at the Bluebonnet Hub project site and is defined in Section V.B.3a of this technical report.

V.B.10 Seismic Risk Assesment of Area of Review

A seismic assessment for the Bluebonnet Hub project site is based upon historical seismic activity for the local area, locations of local faults and fractures, current injection activity in the area, and the thickness and compaction of the sediments and strata within the Area of Review.

The potential for induced seismicity at the Bluebonnet Hub site can be evaluated using the very conservative "zero-cohesion Mohr-Coulomb failure criterion" recommended by the U.S. Geological Survey (Wesson and Nicholson, 1987). This method is based on the following equation:

$$P_{crit} = \frac{S_v(3\alpha - 1)}{2} \quad (1)$$

where:

P_{crit} = the critical injection zone fluid pressure required to initiate slippage along faults and fractures

S_V = the total overburden stress (which represents the maximum principal stress in the Gulf Coast region)

α = the ratio of the minimum principal stress (horizontal in the Gulf Coast region) to the maximum principal stress (overburden stress)

Inherent in Equation (1) are a number of conservative assumptions; these assumptions are applied to produce a worst-case lower bound to the critical fluid pressure for inducing seismicity. These assumptions are:

1) Neglect the cohesive strength of the sediments.

2) Assume that a fault or fracture is oriented at the worst possible angle.

3) Assume a worst-case (minimum) value of 0.6 for the coefficient of friction of the rock (see Figure 4 of Wesson and Nicholson, 1987).

For present purposes, Equation (1) can be expressed in a more convenient form by introducing the so-called matrix stress ratio (K_i) (Matthews and Kelly, 1967; Eaton, 1969), which is defined as the ratio of the minimum to the maximum "effective" principal stresses. Effective principal stress is equal to actual principal stress minus fluid pore pressure (p_o). Thus:

$$K_i = \frac{\alpha S_v - p_o}{S_v - p_o} \tag{2}$$

Substituting Equation (2) into Equation (1) yields:

$$\Delta P_{crit} = \left(\frac{3K_i - 1}{2}\right)\left(S_v - p_o\right) \tag{3}$$

where ΔP_{crit} is the critical injection zone pressure buildup required to induce seismicity, with:

$$P_{crit} = p_o + \Delta P_{crit} \tag{4}$$

Equation (3) is used to evaluate induced seismicity at the Bluebonnet Hub site.

In the Section VII – Reservoir Mechanics technical report, indicates the initial pore pressure (p_O) is 0.4533 pounds per square inch per foot of depth (psi/ft) at a reference depth of 4,644 feet below ground level. Eaton (1969) provides a plot of the effective overburden stress (S_V) as a function of depth for locations along the Gulf Coast. This plot indicates S_V values exceed 0.90 psi/ft for the injection interval reservoirs. Matthews and Kelly (1967) provide a plot of the matrix stress ratio (K_i) for tectonically relaxed reservoir sediments along the Louisiana and Texas Gulf Coast. The ΔP_{crit} for the Injection Intervals is calculated at the top of the interval depth (based on Figure V-2) to determine critical pressure to induce seismicity (Table V-8). Using Equation 3, the ΔPcrit for the Injection Intervals can be calculated as follows:

Using the Orange Sand as an example:

- Pore pressure (**p_o**) gradient: 0.4533 psi/ft
- Overburden gradient (**S_v**): 0.90 psi/ft

- Depth: 3,791 ft BGL
    - Pore pressure at top of formation: 3,791 ft x 0.4533 psi/ft = 1,718 **psi**
    - Overburden pressure: 3,791 ft x 0.90 psi/ft = 3,412 **psi**
- Calculate the critical pressure gradient (**Pcrit)** using Equation 3:
    - $\Delta P_{crit} = \left[\frac{(3*0.54)-1}{2}\right][0.90 - 0.4533] = 0.138\ psi/ft$
- Calculate the critical injection zone pressure build-up required to induce seismicity at top of formation
    - Incremental Pressure Increase: 3,791 ft x 0.138 psi/ft = 524 psi

The conservatively calculated critical pressure increase required to induce seismicity on a pre-existing fault for each Injection Intervals sands is contained in Table V-8. This value is significantly higher than any of the anticipated pressures at the Bluebonnet Hub site. The modeled predicted pressure contour plots presented in Section VII show that these critical pressure isopleths are contained within the 2.5-mile area of review, even when modeled with maximum requested injection rates. Since there are no known faults or fractures within the 2.5-mile Radius Area of Review, induced seismicity will not be a problem at the Bluebonnet Hub site.

V.B.10.a Local Seismic History

Seismic activity in the area has been historically and currently very low. An earthquake search performed in October 2024 for seismic events within 200-kilometer (125-miles) of the Bluebonnet Hub site is contained in Appendix V-1. These events ranged in magnitude from 2.1 to 3.8. The closest (and largest) seismic event occurred during 1983, 1-km west-northwest of Sulphur Louisiana and was a Magnitude 3.8. This event is within a 100-mile radius (Pink circle in Appendix V-1) of the project site. The other 5 events occur more than 100 miles from the site. In the local area (~20 miles) no seismic events (natural or induced) have occurred.

V.B.10.b Injection Wells within the AOR

The are no offset injection wells within the Area of Review. However, there are three wells located just outside of the 2.5-mile radius Area of Review Boundary, which have been used for saltwater disposal from oil and gas operations. They are:

- Tepee O.C. Devillier 3 SWD (API 4207130370), located approximately 14,620 feet west – Permitted interval 2,550 to 4,050 feet, Completed interval 3,375 – 3,855 feet.
- Lases Dugat SWD-3 (API 4207132543), located approximately 13,890 feet north – Permitted Interval 2,500 – 4,500 feet.
- Lases Dugat SWD-1SW (API 4207131590), located approximately 15,325 feet north – Permitted Interval 3,050 – 4,400 feet.

All three wells have been included in the modeling in Section VII – Reservoir Mechanics (see Section VII.B).

V.B.10.c Pattern of Injection in the AOR

Detailed information regarding injection volumes and rates for the effected intervals are contained in Section VII-Reservoir Mechanics. To be conservative in the modeling, the Bluebonnet Hub has allocated 100 percent of the injected saltwater brines successively to each of the "Orange" Sand and the "Yellow" Sand (*i.e.*, entire volume in placed into each interval). The Tepee O.C. Devillier 3 SWD (API 4207130370) appears to have ceased injection since July 2004 and is not assigned an injection rate in the future model time frame. The Dugat Class II wells have injection volumes through year-end 2023 (latest reports) and are presumed to inject at their last injection rates over the entire duration of the future model term (through year end 2056).

The modeled predicted pressure contour plots presented in Section VII include the impacts from the offset injection wells. All pressures remain within the Area of Review and still do not approach the calculated pressure values required to induce seismicity.

V.B.10.d Depth to Bedrock Beneath the Injection Zone

The top of the bedrock beneath the Bluebonnet Hub is currently unknown. However, along the Gulf Coast the Louann salt bed lies at a depth of 20,000 to more than 30,000 feet (Pierce and Rich, 1962). Within the Area of Review, to the southeast of the injection wells, one of the deepest drilled wells is by the Dow Chemical Company, William Doornbos No. 1 (AP 17) and was drilled to a depth of 18,950 feet BGL (19,001 feet KB). As such, this indicates that there is a minimum thickness of more than 14,000 feet of geologic formations beneath base of the Injection Zone to top of bedrock.

V.B.10.e Geology Beneath the Injection Zone

The strata from the base of the Injection Zone extending to the deepest drilled depth in the Area of Review, are comprised of alternating shales and sands of the Tertiary. Directly beneath the Injection Zone are the shales and sands of the Middle/Lower Miocene-aged Fleming Group (Oakville formation) and the massive, bedded shales of the Anahuac Formation. These formations are approximately 3,000 feet thick at AP 11. These formations are comprised of thick sequences of alternating sands and shales consistent with deltaic deposits. Due to the nature of these sands (loose to moderate consolidation, high porosity), seismic activity risk in formation is considered extremely low.

V.B.10.f Faults within the Area of Review

A detailed discussion about faults and their nature within the Area of Review is discussed in detail in Section V.B.6. No faults were found within the Confining or Injection Zone in the Area of Review. The nearest fault system is outside the southeastern portion of the 2.5-mile radius Area of Review approximately 14,000 ft from the Bluebonnet Hub site.

V.B.11 Surface Geology

The surface geology of the local area is shown in Figure V-40. No surface faults or structural relief deformation is present. The uppermost formation underlying the Bluebonnet Hub site and which outcrops (is exposed at the surface) in the vicinity of Bluebonnet Hub site consists of Pleistocene age (age description as related to a geologic time scale depicting the sediments as younger than

approximately 2.5 million years and older than recent time) and is mostly of fluvial (river) and interdistributary (out flowing branches of a river) muds separated by sands of fluvial-deltaic (river/delta) origin. Known as the Beaumont Formation, it is a low permeability clay unit through which little or no recharge occurs to the coastal freshwater drinking aquifers.

The Beaumont Formation is described in the atlas as "mostly clay, silt, and sand; includes mainly stream channel, point-bar, natural levee, backswamp, and to a lesser extent coastal marsh and mud-flat deposits; concretions of calcium carbonate, iron oxide, and iron-manganese oxides in zone of weathering; surface almost featureless, characterized by relict river channels shown by meander patterns and pimple mounds on meander belt ridges, separated by areas of low, relatively smooth, featureless backswamp deposits without pimple mounds; thickness +/-100 feet" (Geologic Atlas of Texas, Houston Sheet, 1982). Other areas of the Beaumont Formation are described as "dominantly clay and mud of low permeability, high water-holding capacity, high compressibility, high to very high shrink-swell potential, poor drainage, level to depressed relief, low shear strength, and high plasticity; geologic units include interdistributary muds, abandoned channel-fill muds, and overbank fluvial muds and "dominantly clayey sand and silt of moderate permeability and drainage, low to moderate compressibility and shrink-swell potential, level relief with local mounds and ridges, and high shear strength; geologic units include meander belt, levee, crevasse splay, and distributary sands". There is little or no surface recharge to coastal aquifers in the vicinity of the Bluebonnet Hub site because the local area, like the surrounding region, is underlain by the impermeable Beaumont Formation.

V.C WELL LOGS

Geophysical well logs were integrated into a comprehensive characterization of the structuring and lithologic variations beneath the Bluebonnet Hub site. Data from offset wells were used in the structural mapping of the geology of the area. A clean copy of a base map is included in Appendix V-4, along with the geological interpretation database (Excel table) that was used in the geological analysis of the project site. Clean copies of well logs for used in the construction of the Cross Sections and Geological Maps are contained in Appendix V-4. The well logs are printed at an approximate scale of 1-inch equals 100 vertical log feet, are also included in Appendix V-4.

REFERENCES

Alexander, L. L., and Handschy, J. W., 1998, Fluid flow in a faulted reservoir system: Fault trap analysis for the Block 330 Field in Eugene Island, South Addition, Offshore Louisiana: Am. Assoc. Petroleum Geologists Bull., v. 82 n. 3, p. 387-411.

Allen, U. S., 1989, Model for hydrocarbon migration and entrapment within faulted structures: Am. Assoc. Petroleum Geologists Bull., v. 8, p. 803-811.

Antonellini, M., and Aydin, A., 1994, Effect of faulting on fluid flow in porous sandstones: petrophysical properties: Am. Assoc. Petroleum Geologists Bull., v. 78, n. 3, p. 355-377.

Aronow, S., and Wesselman, J. B., 1971, Groundwater Resources of Chambers and Jefferson Counties, Texas: Texas Water Development Board Report No. 133.

Baker, E. T., 1979, Stratigraphic and hydrogeologic framework of part of the coastal plain of Texas: Texas Department of Water Resources, Report 236, Austin, Texas, p. 43.

Baria, L. R., Stoudt, D. L., Victoria, P. M., and Crevello, P. D., 1982, Upper Jurassic reefs of Smackover Formation, United States Gulf Coast: Am. Assoc. Petroleum Geologists Bull., v. 66, n. 10, p. 1449-1482.

Bebout, D. G., R. G. Loucks, and A. R. Gregory, 1978, Frio sandstone reservoirs in the deep subsurface along the Texas Gulf Coast: Univ. Texas, Austin, Bur. Econ. Geology Rept. Inv. 91, 92 p.

Bentley, C. B., 1983, Preliminary Report of the Geohydrology Near Cypress Creek and Richton Salt Domes, Perry County, Mississippi: Water-Resources Investigations Report 83-4169, U. S. G. S., Jackson, MS.

Berg, R. R., 1975, Capillary pressures in stratigraphic traps: Am. Assoc. Petroleum Geologists Bull., v. 59, p. 939-956.

Berg, R. R., and Avery, A. H. 1995, Sealing properties of Tertiary growth faults, Texas Gulf Coast: Am. Assoc. Petroleum Geologists Bull., v. 79, n. 3, p. 375-393.

Bouvier, J. D., Kaars-Sijpesteijn, C. H., Kluesner, D. F., and Onyejekwe, C. C, 1989, Three Dimensional seismic interpretation and fault sealing investigations, Nigeria: Am. Assoc. Petroleum Geologists Bull., v. 72, p. 1397-1414.

Carr, J. E., Meyer, W. R., Sandeen, W. M., and McLane, I. R., 1985, Digital Models for Simulation of Ground-Water Hydrology of the Chicot and Evangeline aquifers Along the Gulf Coast of Texas: Texas Water Devel. Board Rept. 289, 101 p.

Clark, J. E., 1987, Groundwater flow in deep saline aquifers: Special Session on the Hydrologic and Geochemical Processes Involved in Deep Injection of Liquid Wastes, Groundwater

Committee of the American Geophysical Union and the International Association of Hydrogeologists, Baltimore, Maryland.

Clark, J. E., Papadeas, P. W., Sparks, D. K., and R. R. McGowen, 1991, Gulf Coast Borehole Closure Test Well, Orangefield, Texas; UIPC 1991 Summer Symposium, Reno, Nevada, talk presented July 30, 1991.

Clifford, H. J., 1973, Hydrodynamics of the Mt. Simon Sandstone, Ohio, and Adjacent Areas: in Underground Waste Management and Artificial Recharge Vol. l, American Association of Petroleum Geologists, Tulsa, OK.

Curray, J.R., 1960, Sediments and History of Holocene Transgression, Continental Shelf, NW Gulf of Mexico: F.P. Shepard, F.B. Phlegm·, and T.H. Van Andel, eds., AAPG Symposium, Project 51 API, 1951-1958, Tulsa, pp. 221-226.

Davis, K. E., 1986, Factors Effecting the Area of Review for Hazardous Waste Disposal Wells: Proceedings of the International Symposium on Subsurface Injection of Liquid Wastes, New Orleans, National Water Well Association, Dublin, OH, p. 148-194.

Davis, S. D., Pennington, W. D., and Carlson, S. M., 1987, A compendium of earthquake activity in Texas: Bureau of Economic Geology Circular, The University of Texas at Austin, Austin, Texas.

Dodge, M. M., and Posey, J. S., 1981, Structural Cross Sections, Tertiary Formations, Texas Gulf Coast; Bureau of Economic Geology, Austin, Texas.

Downey, M. W., 1984, Evaluating Seals for Hydrocarbon Accumulations: Am. Assoc. Petroleum Geologists Bull., v. 68, n. 11.

Eaton, B. A., 1969, Fracture gradient prediction and its application in oil field operations: Journal of Petroleum Technology, pp. 1353-1360.

Ellsworth, W.L., 2013, Injection-induced earthquakes: Science, v.341, p. 6142-6148

Engelder, 1974, Cataclasis and the generation of fault gouge: Geological Society of America Bulletin, Volume 85, p. 1515-152V.

Frohlich, C., Potter, E., Hayward, C., and Stump, B., 2010, Dallas-Fort Worth earthquakes coincident with activity associated with natural gas production: The Leading Edge, v. 29, p. 270-275.

Galloway, W. E., Hobday, D. K., and Magara, K., 1982a, Frio Formation of the Texas Gulf of Mexico Basin-depositional systems, structural framework, and hydrocarbon origin, migration, distribution, and exploration potential: Bureau of Economic Geology, Report of Investigations No. 122, The University of Texas at Austin, Austin, Texas, p. 78.

Galloway, W. E., 1985, Depositional framework of the lower Miocene (Fleming) episode Northwest Gulf Coast Basin: Gulf Coast Association of Geologists Society Transactions,

v. 35, pp. 67-73.

Galloway, W. E. Jirik, L. A., Morton, R. A., and DuBar, J. R., 1986, Lower Miocene (Fleming) depositional episode of the Texas Coastal Plain and continental shelf: Structural framework, facies, and hydrocarbon resources: Bureau of Economic Geology, Report of Investigations No. 150, The University of Texas at Austin, Austin, Texas, 50 p.

Gray, G. R., Darley, H. C. H., and Rodgers, W. F., 1980, Composition and Properties of Oil Well Drilling Fluids: Gulf Publishing Company, Houston Texas.

Handin, H., 1963, Experimental deformation of sedimentary rocks under confining pressure: Pore pressure tests: Am. Assoc. Petroleum Geologists Bull., v. 47, pp. 717-755.

Harding, T. P., and Tuminas, A. C., 1989, Structure of hydrocarbon traps sealed by basement normal block faults at stable flank of foredeep basins and at rift basins: Am. Assoc. Petroleum Geologists Bull., Volume 73, p. 81V-840.

Horton, S., 2012, Disposal of hyrofracking waste fluid by injection into subsurface aquifers triggers earthquake swarm in central Arkansas with potential for damaging earthquake: Seismological Research Letters, v. 83, no. 2, p. 250-260.

Jackson, M. P. A., and Galloway, W. E., 1984, Structural and depositional styles of Gulf Coast Tertiary continental margins: Application to hydrocarbon exploration: Am. Assoc. Petroleum Geologists, Continuing Education Course Note Series No. 25, p. 226.

Jev, B. I., Kaars-Sijpesteijn, C. H., Peters, M. P. A. M., Watts, N. L., and Wilkie, J. T., 1993, Akaso Field, Nigeria: Use of integrated 3-D seismic, fault slicing, clay smearing, and RFT pressure data on fault trapping and dynamic leakage: Am. Assoc. Petroleum Geologists Bull., Volume 77, p. 1389-1404.

Johnston, O. C., and Greene, C. J., 1979, Investigation of Artificial Penetrations in the Vicinity of Subsurface Disposal Wells: Texas Department of Water Resources.

Jones, T. A., and Haimson, J. S., 1986, Demonstration of Confinement: An Assessment of Class 1 Wells in the Great Lakes and Gulf Coast Regions: Journal of the Underground Injection Practices Council, Number 1, pp. 279-317.

Keranen, K.M., Savage, H.M., Abers, G.A., and Cochran, E.S., 2013, Potentially induced earthquakes in Oklahoma, USA: Links between wastewater injection and the 2011 M 5.7 earthquake sequence: Geology, v. 41, p. 699-702

Kasmarek, M.C. and Robinson, J.L., 2004, Hydrogeology and simulation of ground-water flow and land-surface subsidence in the northern part of the Gulf Coast aquifer system, Texas: U.S. Geological Survey Scientific Investigations Report 2004-5102, 111 p.

Knipe, R. J., 1992, Faulting processes and fault seal: in R. M. Larsen, H. Brekke, B. T. Larsen, and E. Talleras, eds., Structural and tectonic modeling and its application to petroleum geology: Elsevier, Amsterdam, p. 325-34V.

Knipe, R. J., 1997, Juxtaposition and seal diagrams to help analyze fault seals in hydrocarbon reservoirs: Am. Assoc. Petroleum Geologists Bull., v. 81, n. 2, pp. 187-195.

Knott, Steven D., 1993, Fault seal analysis in the North Sea: The American Association of Petroleum Geologists Bulletin, v. 77, p. 778-79V.

Kreitler, C. W., 1986, Hydrogeology of sedimentary basins as it relates to deep-well injection of chemical wastes, Proceedings of the International Symposium on Subsurface Injection of Liquid Wastes, New Orleans, National Water Well Assc., Dublin, Ohio, pp. 398-416.

Kreitler. C. W. and Richter. B.C. 1986, Hydrochemical Characterization of Saline Aquifers of the Texas Gulf Coast Used for the Disposal of industrial Waste: The University of Texas at Austin. Bureau of Economic Geology. contract report to the U.S. Environmental Protection Agency. Contract No. R-812785-01-0. 164 p.

Kreitler, C. W., Akhter, M. S., Donnelly, A. C. A. and Wood, W. T., 1988, Hydrogeology of formations used for deep-well injection, Texas Gulf Coast: Prepared for the U. S. Environmental Protection Agency under Cooperative Agreement ID No. CR812786-01-0, The University of Texas at Austin, Bureau of Economic Geology Austin, Texas, 215 p. Lehner, F. K., and Pilaar, W. F., 1991, On a mechanism of clay smear emplacement in synsedimentary normal faults: Am. Assoc. Petroleum Geologists Bull., v. 75, p. 619.

Lindsey, N. G., Murphy, F. C., Walsh, J. J., and Watterson, J., 1993, Outcrop studies of shale smear on fault surfaces; International Association of Sedimentologists Special Publication 15, p. 113-123.

Looff, Karl & Looff, Kurt, 2000, Subsidence, Sinkholes, And Piping Associated with Gulf Coast Salt Domes: Solution Mining Research Institute Fall 2000 Meeting, San Antonio, Texas pp 275-301.

Loucks, R. G., Dodge, M. M., and Galloway, W. E., 1986, Controls on porosity and permeability of hydrocarbon reservoirs in lower Tertiary sandstones along the Texas Gulf Coast: Bureau of Economic Geology, Report of Investigations No. 149, The University of Texas at Austin, Austin, Texas, 78 p.

Mancini, E. A., Mink, R. M., Bearden, B. L., and Wilkerson, R. P., 1985, Norphlet Formation (Upper Jurassic) of southwestern and offshore Alabama: environments of deposition and petroleum geology: Am. Assoc. Petroleum Geologists Bull., v. 69, n. 6, p. 881-889.

Matthews, W. R., and Kelly, J., 1967, How to Predict Formation Pressure and Fracture Gradient from Electric and Sonic Logs: Oil and Gas Journal.

Miller, C., Hales C., Clark, J. E. and Collins, G., 1989, Density drive flow near salt domes:

Underground Injection Practices Council Winter Meeting, San Antonio, Texas.

Morton, R. A., Jirik, L. A., and Galloway, W. E., 1988, Middle-upper Miocene depositional sequences of the Texas Coastal Plain and Continental Shelf: Bureau of Economic Geology, Report of Investigations No. 174, The University of Texas at Austin, Austin, Texas, 40 p.

Nealon, D. J., 1982, A Hydrological Simulation of Hazardous Waste Injection in Mt. Simon, Ohio: Master's Thesis, Ohio University.

Ohio Department of Natural Resources, 2012, Executive Summary: Preliminary report on the Northstar I Class II injection well and the seismic events in the Youngstown, Ohio area: State Report, p 1- 23, Columbus, Ohio.

Pierce, W. G., and Rich, E. I., 1962, Summary of Rock Salt Deposits in the United States as Possible Storage Sites for Radioactive Waste Materials: US Geological Survey, Geological Survey Bulletin 1148, 91 p.

Pitmann, E. D., 1981, Effect of fault-related granulation on porosity and permeability of quartz sandstones, Simpson Group (Ordovician), Oklahoma: Am. Assoc. Petroleum Geologists Bull., v. 65, n. 11, p. 2381-2387.

Secor, D. T., 1965, Role of fluid pressure in jointing: American Journal of Science, v. 263, p. 633-646.

Skoumal, R. J., Kaven J. O., Barbour A. J., Wicks, C., Brudzinski M. R., Cochran E. S., Rubinstein, J. L., The Induced Mw 5.0 March 2020 West Texas Seismic Sequence: JGR Solid Earth, Volume 126, Issue 1, January 2021

Slaughter, G. M., 1981, An Analysis of Ground Water Flow Times Near Seven Interior Salt Domes: Dept. of Energy for Battelle Memorial Institute Office of Nuclear Waste Isolation.

Smith, D. A., 1966, Theoretical Considerations of Sealing and Non-Sealing Faults: Am. Assoc. Petroleum Geologists Bull., v. 50, n. 12, p. 363-374.

Smith, D. A., 1980, Sealing and Non-Sealing Faults in Louisiana Gulf Coast Salt Basin: Am. Assoc. Petroleum Geologists Bull., v. 64, n. 2, p. 145-17V.

Spencer, E. W., 1977, Introduction to the Structure of the Earth: McGraw-Hill, Inc., New York, 640 pp.

Stolper, K., 1994, Calculate a More Accurate Water Salinity by Visually Estimating “m”: Houston Geological Society Bulletin, September 1994, p. 34.

Teas, L. P., and Miller, C. R., 1933, Racoon Bend oil field, Austin County, Texas: Am. Assoc. Petroleum Geologists Bull., v. 17, p. 1459-1491.

Todd, E. G., and Mitchum, R. M., 1977, Seismic sequences and global changes in sea level, part 8: Identification of Upper Triassic, Jurassic, and Lower Cretaceous seismic sequences in

Gulf of Mexico and offshore West Africa: in Payton, C. E., ed., Seismic Stratigraphy-Applications to Hydrocarbon Exploration: Am Assoc. Petroleum Geologists, Memoir 26, p. 145-163.

Earthquakes in Texas, Texas Almanac; 2021, www.texasalmanac.com/articles/earthquakes-in-texas.

Warner, D. L., and Syed, T., 1986, Confining layer study-supplemental report: prepared for U.S. EPA Region V, Chicago, Illinois.

Warner, D. L., 1988, Abandoned oil and gas industry wells and their environmental implications: prepared for the American Petroleum Institute.

Weber, K. J., 1978, The role of faults in hydrocarbon migration and tapping in Nigerian growth fault structures: Annual Offshore Technology Conference Proceedings, Volume 4, p. 2643-2653.

Weber, K. J., and Daukoru, E., 1975, Petroleum geology of the Niger Delta: in Proceedings of the 9th World Petroleum Conference, Volume 2, p. 209-221.

Wesson, R. L., and Nicholson, C., 1987, Earthquake Hazard Associated with Deep Well Injection, a Report to the U.S. Environmental Protection Agency: Open-File Report 98-331, U.S. Geological Survey, Reston, Virginia, p. 72.

Yielding, G., Freeman, B., and Needham, D. T., 1997, Quantitative fault seal prediction: Am. Assoc. Petroleum Geologists Bull., v. 81, n. 6, p. 897-917.

TABLES

Geostock Sandia

Table V-1
Proposed Regulatory Depths

AP No. 11: Goldston Oil Company, Doornbos No. 1 (API No. 42071322330000)			
Kelly Bushing (KB)	31 feet		
Zone	**Zone (Feet- BGL)**	**Zone (Feet- KB)**	**Zone (Feet- TVDSS)**
Confining Zone	2,339 to 3,319	2,370 to 3,350	-2,313 to -3,293
Injection Zone	3,319 to 4,599	3,350 to 4,630	-3,293 to -4,573
Orange Sand Injection Interval	3,791 to 4,054	3,822 to 4,085	-3,765 to -4,033
Yellow Sand Injection Interval	4,109 to 4,419	4,140 to 4,450	-4,090 to -4,393

**regulatory depths are based upon API No. 42071322330000 (Goldston Oil, Doornbos No. 1) type log Figure V-2 located approximately 862 feet from proposed well locations. Please note: specific depths will be be provided for the Injection Wells once they have been drilled.*

Table V-2
Water Sample and Analysis

Depth (feet -KB)*	Gravimetric TDS (mg/l)
566	2,828
909	5,133
1,261	12,231
1,433	20,986

**referenced to AP No. 2 – Bluebonnet USDW No. 1 well*

Table V-3
Injection Interval Sand Details

Interval	Sand Interval Top and Base (feet-bgl)*	Thickness (feet)	
		Gross	Net
Orange Sand	3,791 to 4,054	263	224
Yellow Sand	4,109 to 4,419	310	240
**KB =31 feet*	***Totals:***	573	464

**regulatory depths are based upon API No. 42071322330000 (Goldston Oil, Doornbos No. 1) type log Figure V-2 located approximately 862 feet from proposed well locatons. Please note: specific depths will be be provided for the Injection Wells once they have been drilled.*

Table V-4
Permeability and Porosity Upper Containment Interval of the Injection Zone

Sample Number	Depth (ft)	Net Confining Stress (psig)	Porosity (%)	Permeability Kair (md)
32	3,299.98	1,800	15.49	29.2
31	3,399.97	1,800	15.61	5.0
28	3,549.96	1,800	19.38	20.2
27	3,577.00	1,800	12.61	12.0
25	3,665.97	1,800	15.89	9.8

**RCA Data From AP No. 1 – Encanto Startographic Test Well*

Table V-5
Mineralogy of Low Permeable Zones in the Injection Interval

	Whole Rock Mineralogy (weight %)								Clay Mineralogy (Weight %)				
Depth (feet)	Quartz	K-Feldspar	Plagioclase	Calcite	Dolomite	Pyrite	Goethite	Total Clay	Illite/ Smectite*	Illite & Mica	Kaolinite	Chlorite	%S in I/S
3,300	42.9	5.6	5.5	15.8	0.2	0.0	0.0	29.9	26.1	1.5	1.7	0.6	>90
3,550	57.2	6.3	4.7	7.4	0.3	0.7	0.0	23.4	19.8	1.6	1.3	0.7	>90
4,040	50.5	5.1	5.6	21.6	0.4	0.3	0.0	16.6	12.4	1.9	1.5	0.8	>90
4,480	30.6	3.6	3.5	19.4	0.5	0.0	3.6	38.8	32.2	4.1	1.8	0.7	80-90

Table V-6
Permeability and Porosity Miocene-aged Sands in the Project Site Area

Sample Number	Depth (ft)	Net Confining Stress (psig)	Pore Volume (cm3)	Porosity (%)	Permeability Kair (md)	Bulk Volume (cc)	Grain Volume (cm3)	Grain Density (g/cm3)	Dry Weight (g)	Length (cm)	Diameter (cm)	Fresh Weight (g)
100H	5,415.90	2,300	14.397	34.08	9,500	45.466	27.846	2.622	73.002	4.132	3.743	93.885
101H	5,416.45	2,300	12.406	32.91	5,050	40.772	25.294	2.619	66.237	3.790	3.701	85.091
104H	5,417.70	2,300	16.527	34.31	13,500	51.535	31.645	2.624	83.051	4.691	3.740	106.327
105H	5,418.70	2,300	14.295	34.74	13,000	42.819	26.848	2.625	70.471	4.090	3.651	90.845
106H	5,419.70	2,300	14.991	34.57	12,000	46.454	28.367	2.628	74.552	4.413	3.661	97.281
109H	5,420.60	2,300	12.535	33.71	11,500	39.235	24.650	2.626	64.724	3.711	3.669	80.663
110H	5,421.70	2,300	14.866	33.27	10,000	49.377	29.823	2.627	78.333	4.655	3.675	97.561
112H	5,422.70	2,300	16.138	34.74	15,200	49.426	30.315	2.631	79.762	4.652	3.678	101.411
114H	5,423.70	2,300	18.302	34.77	14,200	54.652	34.337	2.628	90.253	5.061	3.708	114.906
115H	5,424.70	2,300	17.817	35.08	14,200	52.192	32.967	2.635	86.885	4.862	3.697	111.277
118H	5,425.70	2,300	20.144	34.68	10,300	60.788	37.945	2.626	99.632	5.495	3.753	125.882

**Whole Core Data From AP No. 1 – Encanto Startographic Test Well*

Table V-7
Well Used in the Construction of the Structural Cross Sections

NW-SE Cross Section					
AP No.	**Operator**	**Well Name**	**Status**	**KB (feet)**	**GL** (feet)**
38	Terra Resources, Inc	Halbouty-Deviller #1	D&A	47	29
36	Houston Natural Gas Prod	O.C. Deviller, Jr et al #1	P&A	42	30 est
33	Gulf Energy & Minerals	O.C. Deviller #4	D&A	48	28
32	Continental Oil Co.	L.G. Ogden #1	D&A	48	42 est
10	H.E. Williams & Crown	Central Production #1	D&A	36	26 est
12	P.H. Welder	William Dornbas et al #1	D&A	42	17 est
13	Blanke, Frost, Frazier	J.W. Garth Jr. #1	D&A	42	15 est
14	Dan J. Harrison, Jr	Thomas T. Garth #1	D&A	34	20 est
15	Petroleum Dev Associates	Garth Estates #1	D&A	34	21 est
--	Nicco Oil Operations*	Garth Estate #1	D&A	33	21 est
--	Kerr-McGee Oil & Gas*	Ogden et al #1	D&A	41	20 est
SW-NE Cross Section					
AP No.	**Operator**	**Well Name**	**Status**	**KB (feet)**	**GL** (feet)**
--	Cico Oil & Gas*	Gallo #2	SWD	38	22
21	Prudential Drilling Co.	Garth Co. #1	D&A	38	26 est
20	Austral Oil Exploration	Garth Brothers #4	D&A	56	26 est
19	Morris Cannan	Garth #1	D&A	38	20 est
17	DOW Chemical	Doornbos #1	D&A	52	26 est
11	Goldston Oil	Doornbos #1	D&A	57	25
8	Kerr-McGee	J.T. Terry et al. #1	D&A	44	28 est
--	Jay Simmons*	Davenport #1	D&A	42	28 est

**Wells located outside of the 2.5-Mile Area of Review and not assigned AP Nos.*

***"est"= estimate ground level depth if not provided on log or in records.*

Table V-8
Critical Pressure Buildup Needed to Induce Seismicity

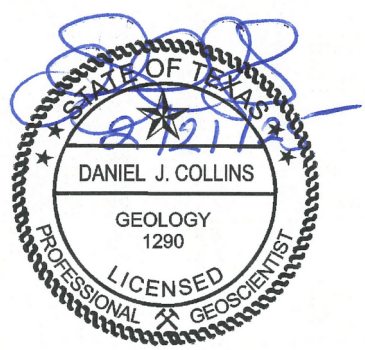
Injection Interval	Depth (ft-BGL)	Pore Pressure (p_o) Gradient (psi/ft)*	Matrix Stress Ratio (K_i) (Mattews & Kelly, 1967)	ΔP_{crit} (psi/ft)	Incremental Pressure needed for Induced Seismicity (psi)
Orange Sand	3,791	0.90	0.54	0.138	524
Yellow Sand	4,109	0.90	0.55	0.145	595

**using depth povided in Figure V-2*

FIGURES

Geostock Sandia

PERIOD	EPOCH	STAGE or GROUP	FORMATION	ENVIRONMENTAL DEPOSITIONAL LITHOLOGY	REGULATORY ZONES (relative positions)
QUATERNARY	HOLOCENE	UNDIFFERNTIATED		Fluvial deposits. Medium bedded sandstones and shales.	BASE OF LOWERMOST USDW
	PLEISTOCENE	HOUSTON L. WISCONSIN	BEAUMONT	Fluvial and deltaic deposits.	
		WISCONSIN E. WISCONSIN			
		SANGAMON ILLINOIAN			
		PRE-SANGAMON E. ILLINOIAN	LISSIE	Medium bedded sandstones and shales.	
		YARMOUTH KANSAN			
		AFTONIAN NEBRASKAN	WILLIS		
TERTIARY	PLIOCENE	CITRONELLE GROUP	GOLIAD	Fluvial, deltaic and marginal marine deposits. Medium to thinnly bedded sandstones and shales.	
	MIOCENE	FLEMING GROUP	LAGARTO	Transitional and shallow marine deposits. Medium to massively bedded shales with thin to medium bedded sandstones.	CONFINING ZONE INJECTION ZONE INJECTION INTERVALS
			OAKVILLE	Barrier/strandplain and shallow marine deposits. Massive to medium bedded sandstones and shales.	LOWER CONFINING ZONE
	OLIGOCENE	CATAHOULA GROUP	ANAHUAC	Outer shelf and slope deposits. Massive shale with thin basal sandstones and thin localized limestone.	
			FRIO	Aggradational shoreface and beach deposits. Massive bedded sandstones and shales.	
		VICKSBURG GROUP	VICKSBURG	Deltaic, outer shelf and slope deposits. Massive bedded shales and medium bedded sandstones.	

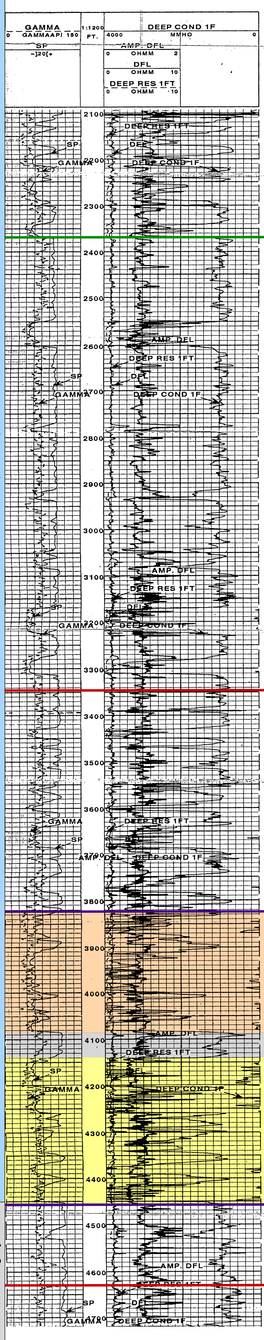


Adapted by: EDG Sandia
Date: 11/08/2019

Figure V-1 Stratigraphic Column of the Texas Gulf Coast (modified from Jackson and Galloway, 1984)

ARTIFICIAL PENETRATION NO. 11
(API No. 4207132233)
Goldston Oil Company
Doornbos No. 1
KB = 56.7 ft GL = 25.4 feet
HRI/DFL Gamma Resistivity Log
(October 31, 2002)

Hydro Stratigraphic Unit		Geologic Time Scale	
		Formation	Series
	Surface	BEAUMONT, LISSIE, & WILLIS	PLEISTOCENE
Chicot Aquifer		GOLIAD	PLIOCENE
	Base of the Lowermost USDW: ~ 1,500 feet-bgl	?	?
	Saline Buffer Aquifers		
	Top of the Confining Zone: 2,339 feet BGL (2,370 feet KB) *(-2,313 TVDSS)*		
Evangaline Aquifer	~980 feet thick (~732 feet Net Shale)	FLEMING	MIOCENE
	Top of the Injection Zone: 3,319 feet BGL (3,350 feet KB) *(-3,293 feet TVDSS)*		
	Containment Zone - 472 feet Alternating Sands and Shales		
	Top of the Injection Interval: 3,791 feet BGL (3,822 feet KB) *(-3,765 TVDSS)*		
	Orange Sand (~224 Net Sand) — *Orange Sand: 3,791 feet BGL (3,822 feet KB) to 4,054 feet BGL (4,085 feet KB)*		
	Shale Layer between Injection Intervals ~50 ft		
	Yellow Sand (~240 Net Sand) — *Yellow Sand: 4,109 feet BGL (4,140 feet KB) to 4,419 feet BGL (4,450 feet KB)*		
	Base of the Injection Interval: 4,419 feet BGL (4,450 feet KB) *(-4,393 TVDSS)*		
Burkeville Confining System	Base of the Injection Zone: 4,599 feet BGL (4,630 feet KB) *(-4,573 feet TVDSS)*		





1POINTFIVE **Bluebonnet Sequestration Hub , LLC**
Chambers County, Texas

Figure V-2
Type Log Project Bluebonnet
Regulatory Intervals

Drafted By: D. Gallagher	Scale: Not to Scale	Date: January 2025

Geostock Sandia
GKS Project No. 240069PWT - Rev 0

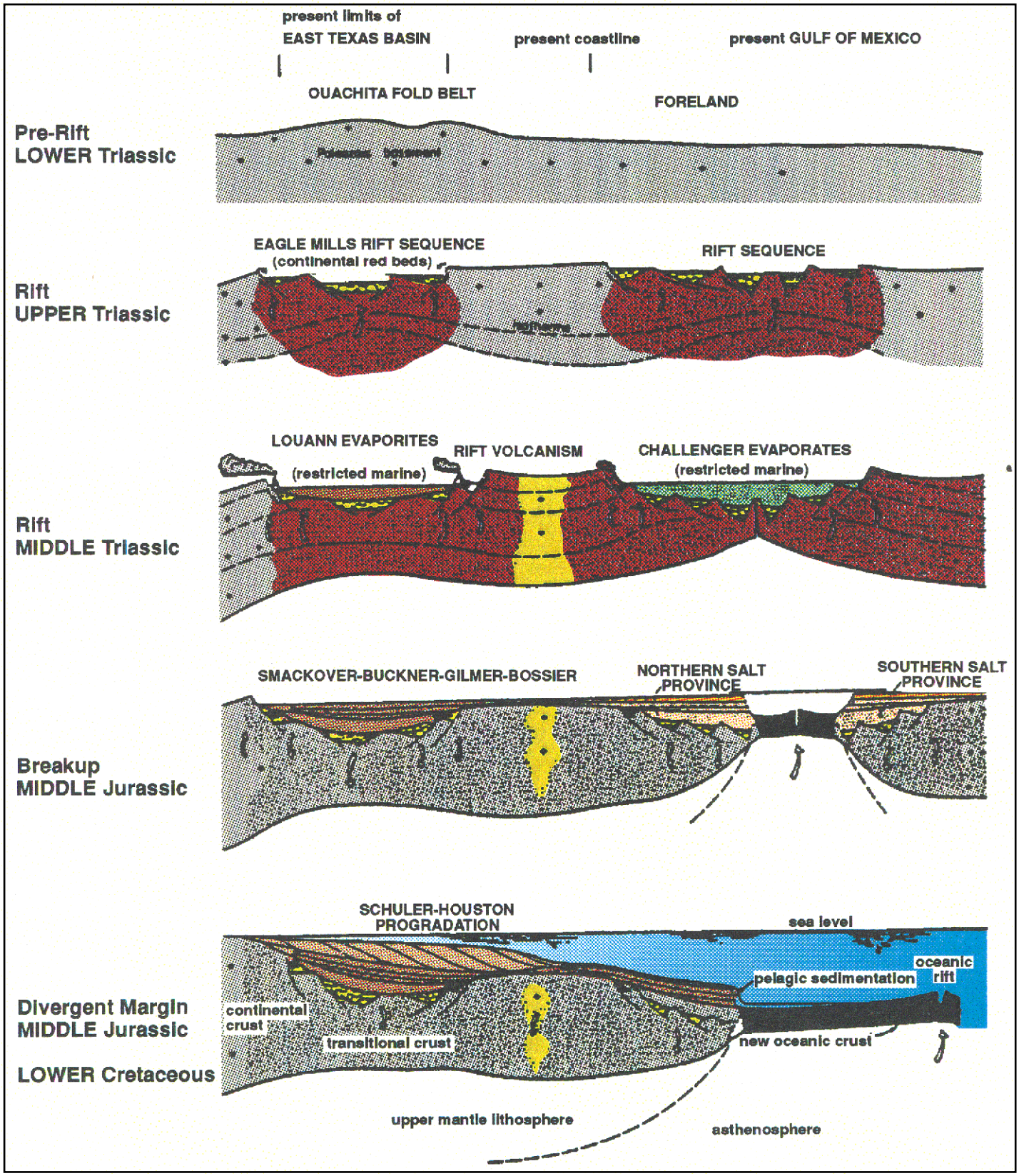


Figure V-3 Schematic northwest-southeast cross sections showing evolutionary stages in the formation of the northern Gulf of Mexico and East Texas Basin (modified from Jackson and Galloway, 1984)

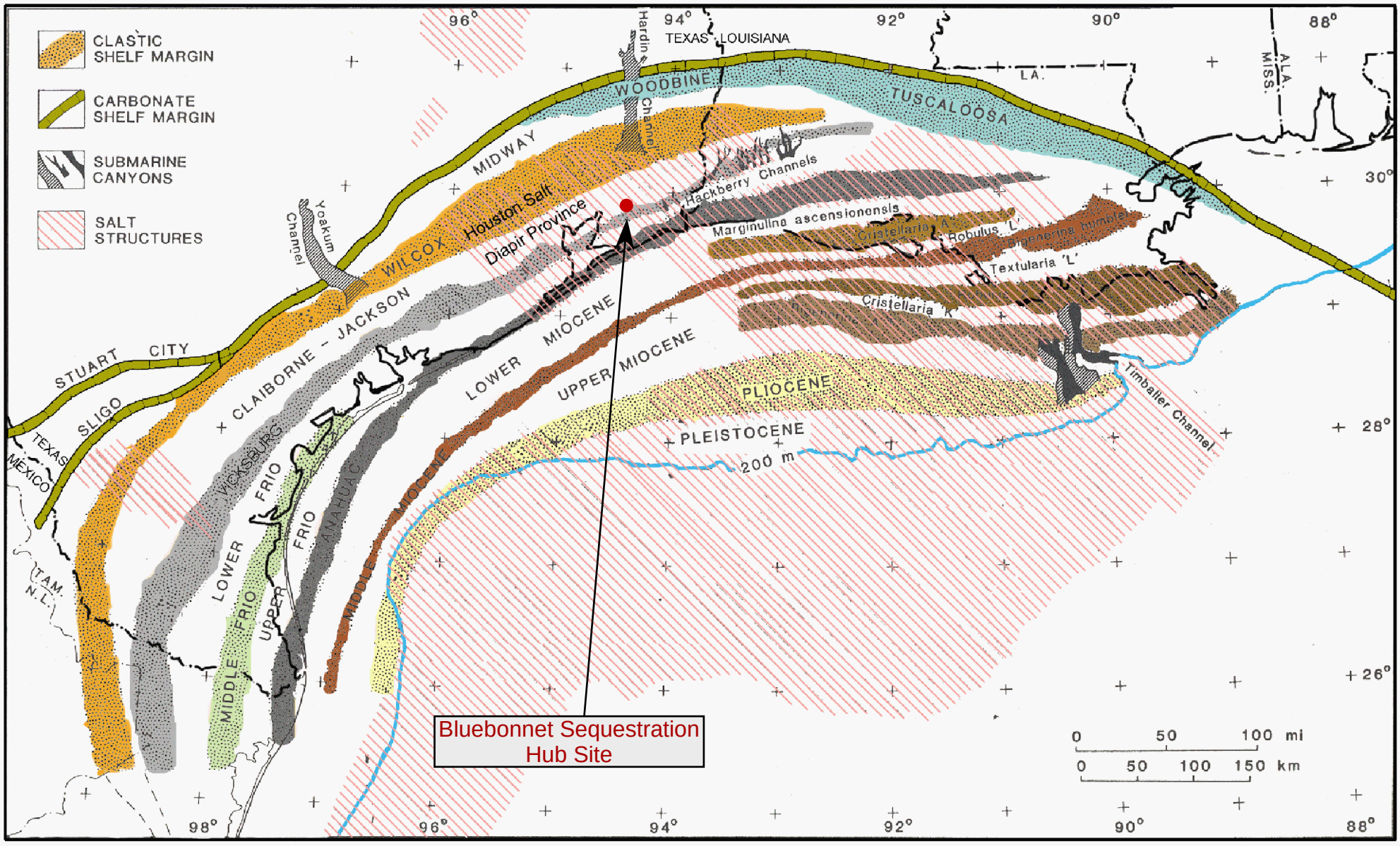


Figure V-4 Distribution of Cretaceous and Cenozoic continental margins in the northwestern Gulf of Mexico (modified from Jackson and Galloway, 1984)

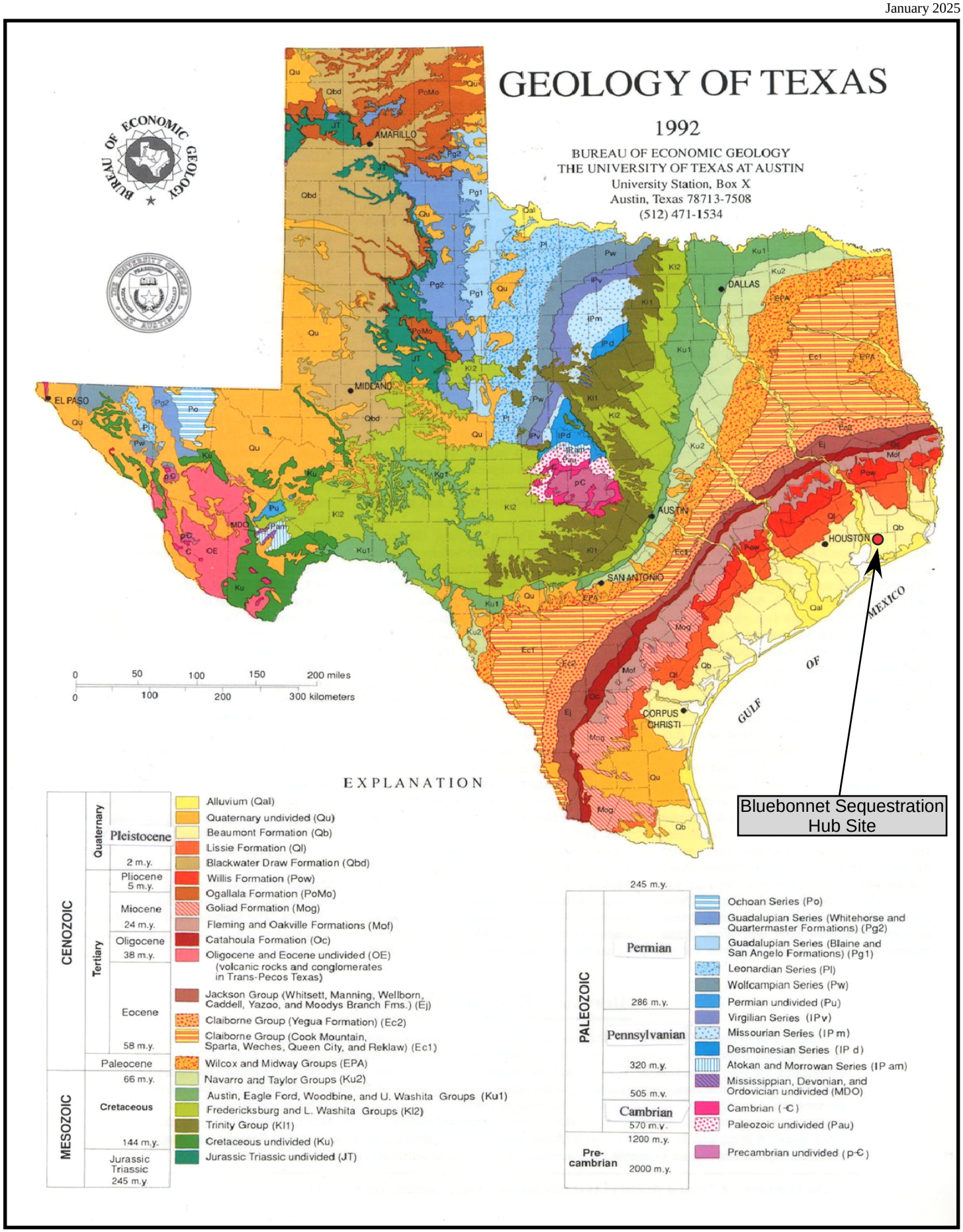


Figure V-5 Geology Map of Texas (modifed from Bureau of Economic Geology, 1992)

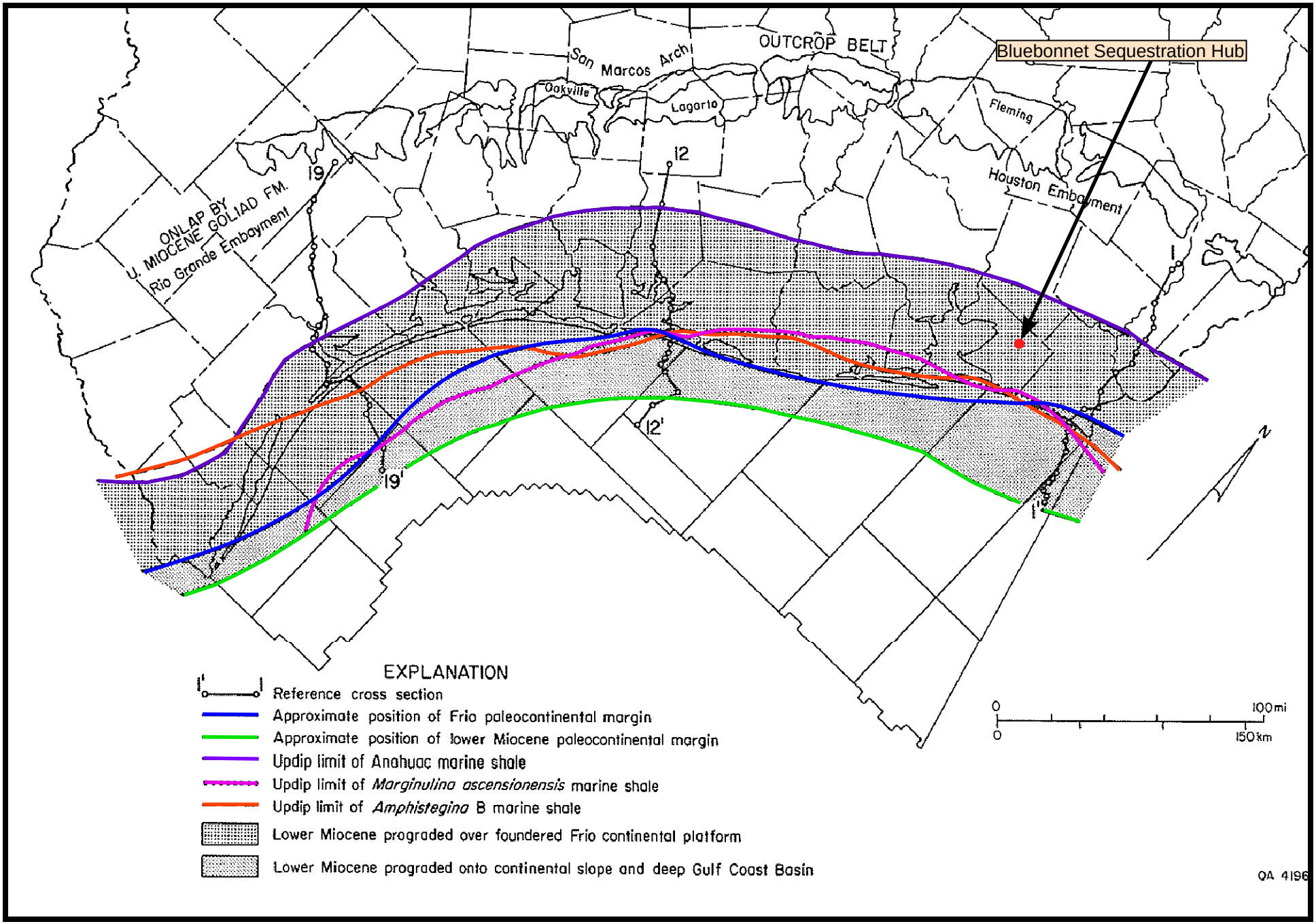


Figure V-6 Framework of the Lower Miocene Depositional Episode (from Galloway et al., 1986)

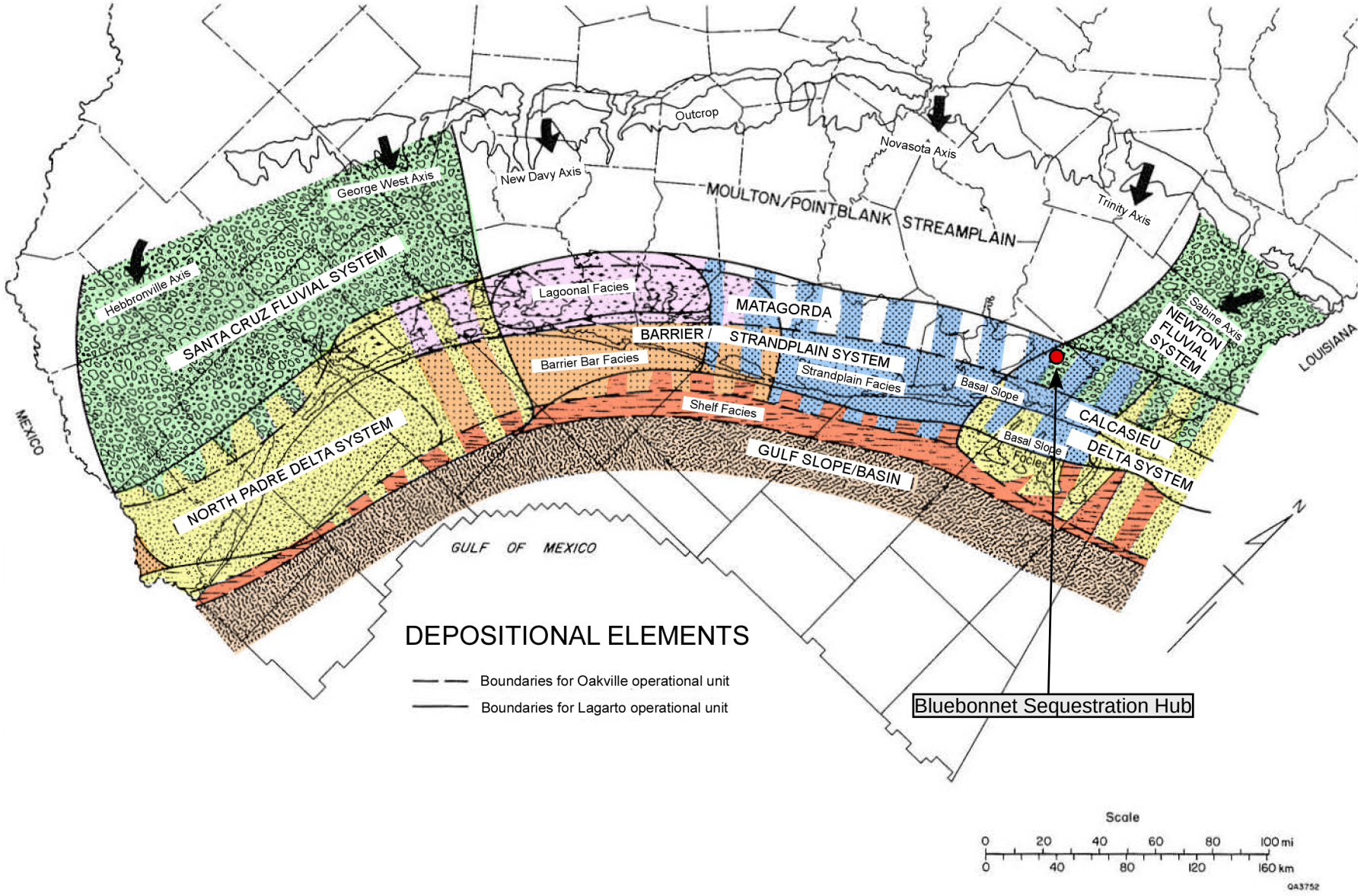


Figure V-7 Lower Miocene Depositional Systems (modified from Galloway, 1985)

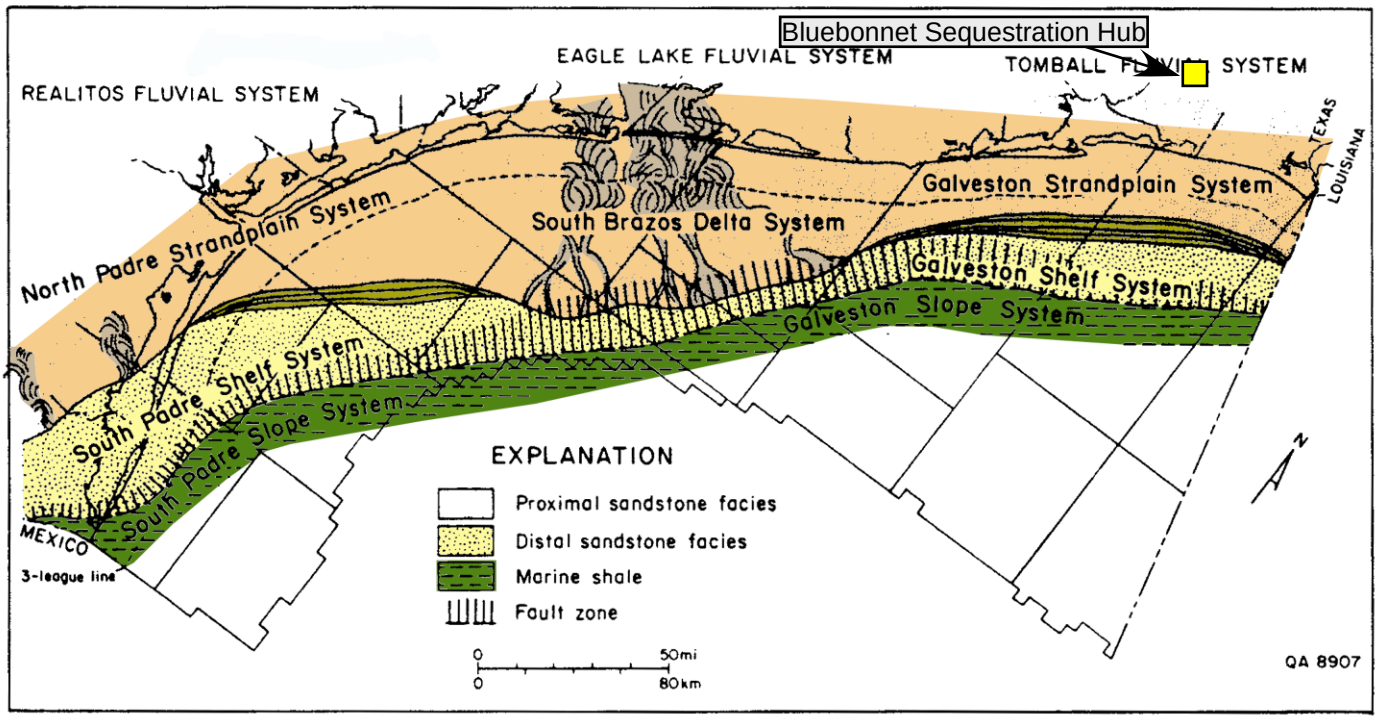


Figure V-8a Paleogeographic reconstruction of the maximum regressive episode represented by the middle Miocene (operational unit A). Map depicts the interpreted distribution of depositional systems immediately preceding the middle Miocene (*Textularia stapperi*) relative rise in the sea level and marine transgression (modified from Morton et al., 1988)

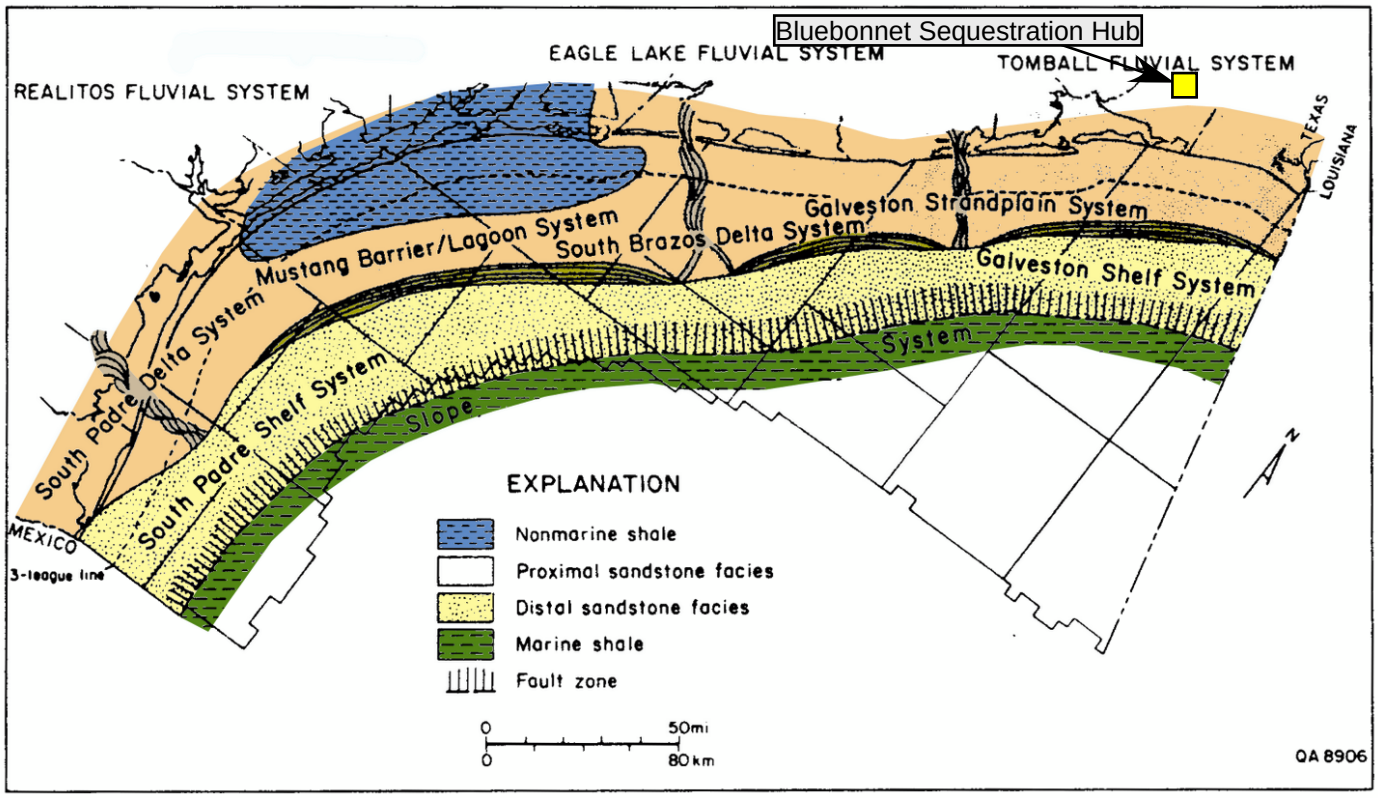


Figure V-8b Paleogeographic reconstruction of the maximum regressive episode represented by the upper Miocene (operational unit B). Map depicts the interpreted distribution of depositional systems immediately preceding the late Miocene (*Bigenerina* A) relative rise in the sea level and marine transgression (modified from Morton et al., 1988)

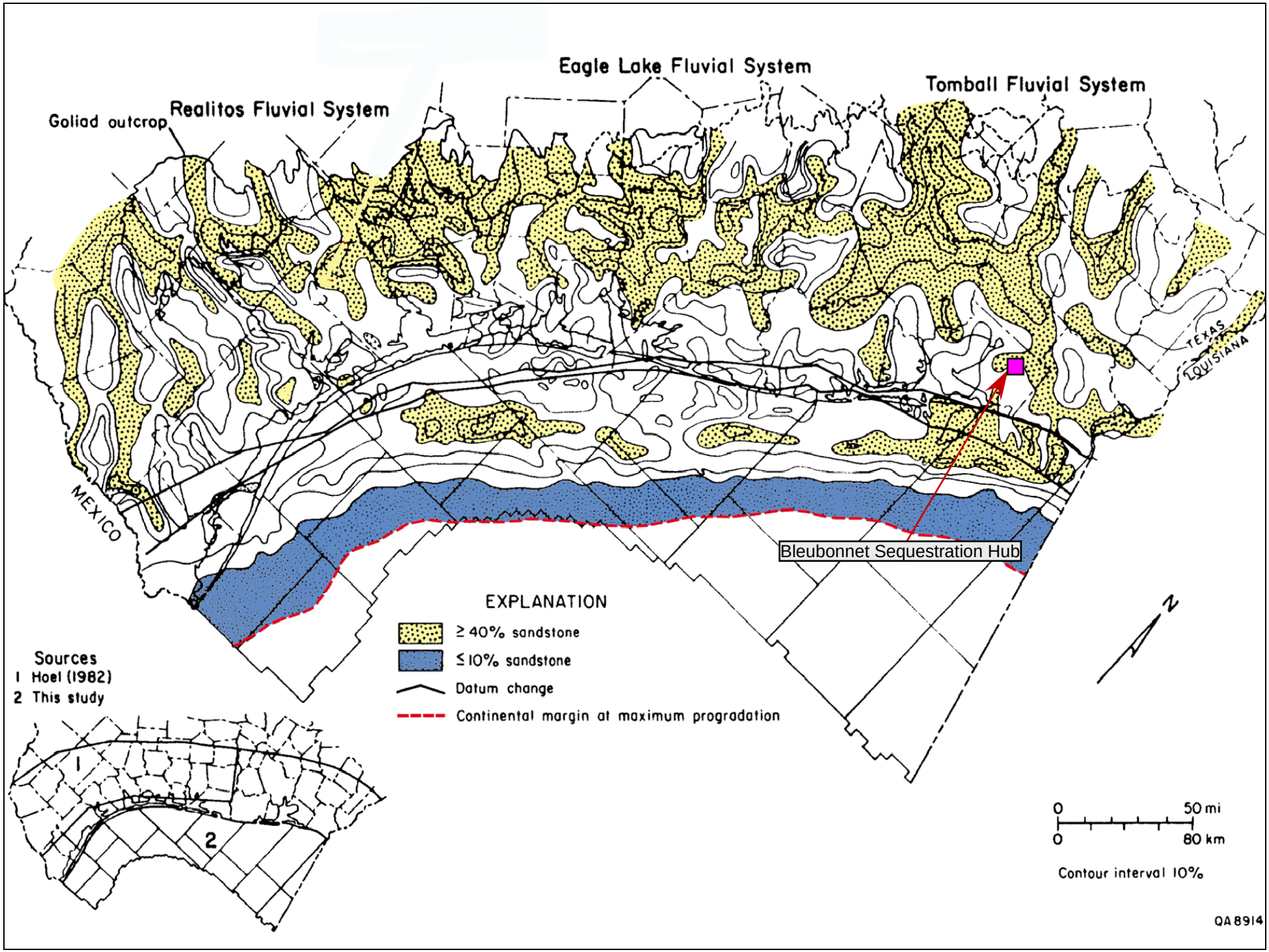


Figure V-9 Composite percent-sandstone map of all middle-upper Miocene depositional sequences (*Amphistegina* B to *Bigenerina* A) (modified from Morton et al., 1988)

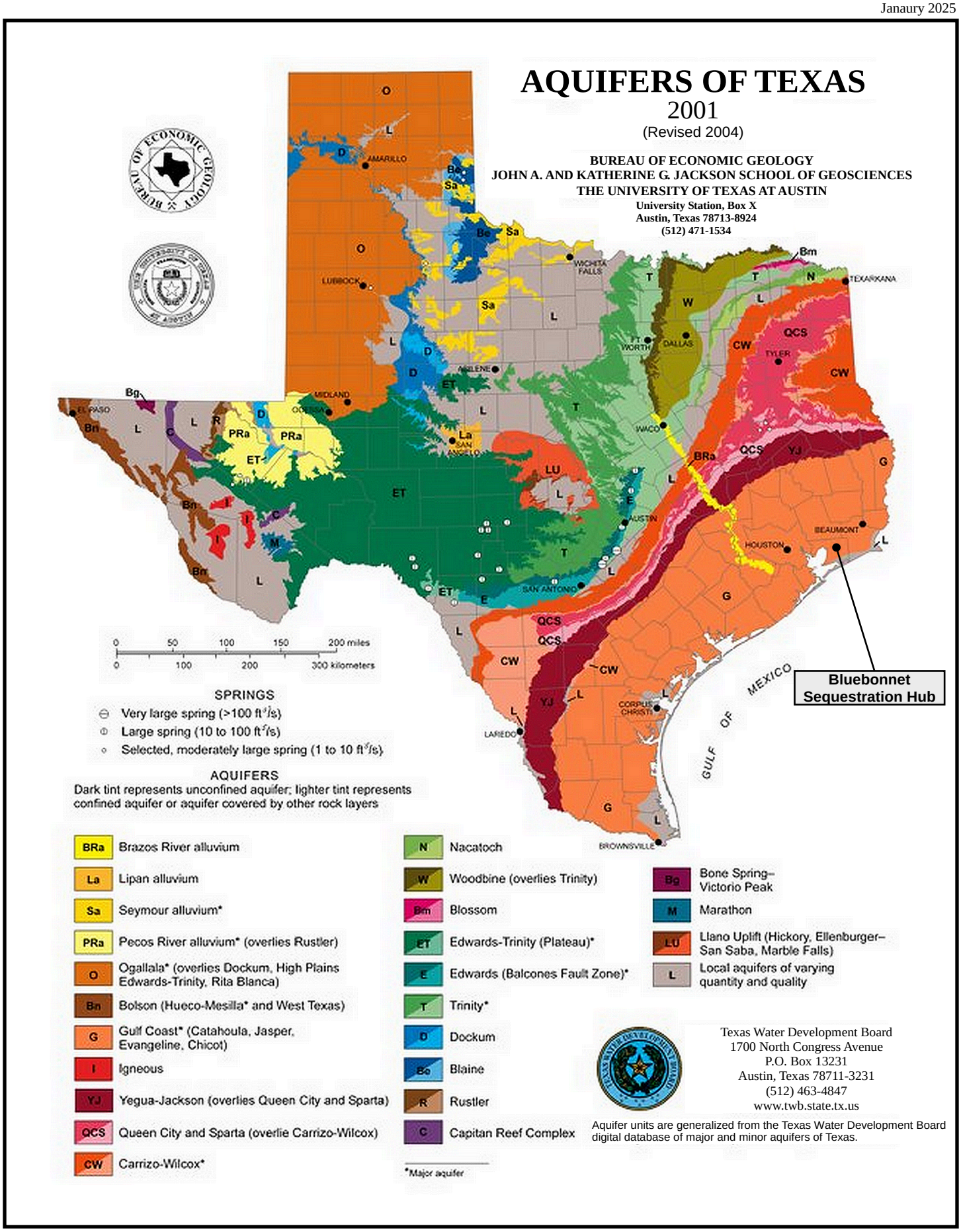


Figure V-10 Major Aquifers of Texas (Bureau of Economic Geology, 2004)

Geostock Sandia

SYSTEM	SERIES	STRATIGRAPHIC UNIT	HYDROLOGIC UNIT	
Quaternary	Pleistocene	Quaternary Alluvium	Chicot Aquifer	Upper Unit
		Beaumont Clay		
		Montgomery Formation		
		Bentley Formation		Lower Unit
		Willis Formation		
Tertiary	Pliocene	Goliad Formation	Evangeline Aquifer	
	Miocene	Lagarto Formation (Fleming Group)	Burkeville Confining System	
		Oakville Formation (Fleming Group)	Jasper Aquifer	

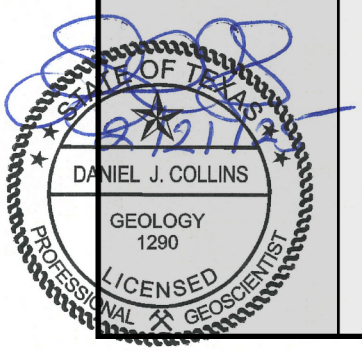


Figure V-11 Correlation of Stratigraphy and Hydrologic Units (modified from Wesselman, 1972, Baker, 1979)

B B'

1 PAULEY PET. CO. & McCULLOCH OIL CORP. No. 4 Cameron Heirs
2 HUMBLE No. 1 Ogletree
3 WOODLEY PET. CO. No. 1 Edmonds
4 CONTINENTAL & SPEED No. 1 Frost Lumber Co.
5 ATLANTIC No. 1 Nona Mills
6 SHELL No. 1 Hagy
7 GENERAL CRUDE No. D-1 Moore's Bluff
8 UNION PROD. CO. No. 2 State Tract 37
9 STANDARD OF TEXAS No. 1 White et. al.
10 THE TEXAS CO. No. 1 State Tract 189

(Feet) (Meters)

Jackson outcrop (Includes Whitsett Formation) Catahoula outcrop Fleming outcrop Quaternary outcrop

Approximate land surface

Bluebonnet Hub Projected Location

Chicot aquifer

Evangeline aquifer

Burkeville confining system

Jasper aquifer

Catahoula confining system

Base of Catahoula

Jackson Group (Includes Frio Clay and Whitsett Formation)

Base of Fleming Formation

(restricted) Sandstone

Yegua Formation

Cook Mountain Formation

Sparta Sand

Weches Formation-Queen City Sand-Reklaw Formation

Corrizo Sand-Wilcox Group

Midway Group

Textularia hockleyensis

Nonionella cockfieldensis

Textularia dibollensis

Discorbis yeguaensis

Eponides yeguaensis

Marginulina cocoaensis (by correlation)

Ceratobulimina eximia

Vicksburg Group

Textularia warreni (by correlation)

Jackson equivalent

Upper part of Anahuac Formation

Heterostegina sp. (by correlation)

"Frio" Catahoula Sandstone Formation

Group

EXPLANATION

STRATIGRAPHIC BOUNDARY-- Dashed where approximately located

HYDROLOGIC BOUNDARY (approximate)-- Catahoula confining system (restricted) and younger units

MOSTLY SAND-- Containing less than about 3000 milligrams per liter dissolved solids. Estimated from electric logs

Outcrop geology from Barnes (1968a)

0 4 8 12 16 MILES
0 6 12 18 24 KILOMETERS
VERTICAL SCALE GREATLY EXAGGERATED

approximate base of lowermost USDW

TRINITY POLK SAN JACINTO LIBERTY CHAMBERS

Bluebonnet Hub Chambers County

Location map

STATE OF TEXAS
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GEOLOGY
1290
LICENSED PROFESSIONAL GEOSCIENTIST

Figure V-12: Gulf Coast Hydrogeologic Cross Section B-B' (modified from Baker, 1979)

THE UNIVERSITY OF TEXAS AT AUSTIN
BUREAU OF ECONOMIC GEOLOGY
W. L. FISHER, DIRECTOR

Bluebonnet Sequestration Hub

STRUCTURAL CROSS SECTIONS,
TERTIARY FORMATIONS,
TEXAS GULF COAST

4 — 4'

HOUSTON CO | WALKER CO | MONTGOMERY CO | SAN JACINTO CO | SAN JACINTO CO | LIBERTY CO | CHAMBERS CO

E.L. JACKSON JR. #1 Guenther 13N-36E-4	J.S. MICHAEL #1 Virginia Dikes 11N-36E-1	REYNOLDS MINING #1 Kraus 10N-36E-8	MAGNOLIA #1-A Thompson Long Leaf Lbr. 9N-37E-9	UNION PRODUCING #1 Smither 8N-37E-5	TIDEWATER #1 Kennedy Unit 7N-38E-3	MARR & MORAN #3 Gibbs Bros. 6N-37E-5 TIES A-19	PLACID OIL #2 Gibbs Bros. 6N-38E-9	BARNES #1 Johnson et al. 5N-38E-8	MORAN #1 Browder 4N-38E-4	SHELL #1 Central Coal & Coke 4N-39E-8	MITCHELL & ASSOC. #1 Chery 3N-40E-3 TIES B-28	SUPERIOR #1 Hightower 3N-40E-9	HUMBLE #1-B Quinn 2N-40E-2	SHELL #1 Kirby Lbr. 2N-41E-5	PENINSULA EXPLOR. #1 Creel 1N-41E-1	AMERADA #1 Brown 1S-41E-7 TIES C-57	HALBOUTY #1 Wilburn 2S-42E-3	SHELLY OIL #1 Gulf Fee 3S-42E-2	McMORAN EXPLOR. #1 St. Tr. 64 3S-42E-7 TIES D-46
① 514	② 253	③ 322	④ 281	⑤ 135	⑥ 196	⑦ 385	⑧ 389	⑨ 400	⑩ 278	⑪ 179	⑫ 154	⑬ 120	⑭ 144	⑮ 140	⑯ 98	⑰ 87	⑱ 58	⑲ 21	⑳ 22

DATUM sea level

M Ft: 0 0 | 500 2,000 | 1,000 3,000 | 1,500 5,000 | 2,000 7,000 | 2,500 8,000 | 3,000 10,000 | 3,500 11,000 | 4,000 12,000 | 4,500 13,000 | 14,000 | 15,000

VICKSBURG-JACKSON

UPPER CLAIBORNE (YEGUA)

LOWER CLAIBORNE

UPPER WILCOX

MIDDLE WILCOX

LOWER WILCOX

UPPER OLIGOCENE-PLEISTOCENE

FRIO

VICKSBURG-JACKSON

UPPER CLAIBORNE (YEGUA)

200° 10.1 BHT 205°

10.3 BHT 178°

9.5 200° 9.1 10.1 BHT 289°

9.6 9.5 200° 10.2 10.2 BHT 212°

9.4 9.7 200° 10.8 10.5 10.3 10.1 11.0 300° 11.0 11.0 BHT 308°

10.1 10.4 10.7 10.7 BHT 292°

9.0 9.2 200° 300° 10.0 10.4 10.1 BHT 337°

11.4 11.7 TD 18,157 Ft BHT 367°

200° 10.0 BHT 263°

2 2 2 200° 10.4 13.2 300° 2 14.7 14.8 BHT 332°

2 2 200° 10.8 14.4 12.7 16.5 300° 16.4 300° 16.7 TD 15,676 Ft BHT 354°

16.9 TD 15,114 Ft BHT 353°

200° 10.2 11.8 11.8 300° 15.2 15.3 TD 15,402 Ft BHT 334°

200° 10.0 BHT 198°

200° 11.7 BHT 210°

200° 10.4 10.3 12.2 15.0 15.0 15.1 15.0 15.0 15.0 15.1 BHT 260°

4 200° 12.9 16.3 BHT 259°

200° 14.3 16.2 16.7 16.7 BHT 255°

- Oil production
- Gas production
- 200° ▶ Shallowest occurrence of 200° F temperature
- 10.3 Mud weight
- BHT 178° Bottom-hole temperature (°F)
- ②253 Well number with elevation (Ft) at K.B.
- 4 — 4 Number of faults generalized as one fault
- ⇦ Top of geopressure

Horizontal Scale
0 15 Mi
0 15 Km

Vertical exaggeration: x40

PLATE IV. DIP SECTION 4-4'

by M. M. Dodge and J. S. Posey

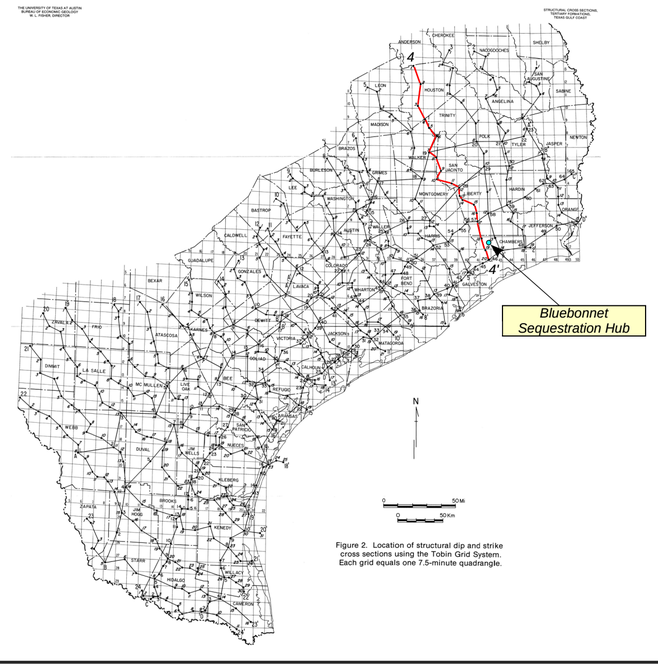

Figure 2. Location of structural dip and strike cross sections using the Tobin Grid System. Each grid equals one 7.5-minute quadrangle.

Legend

- *Top of Confining Zone (approximate)*
- *Top of Injection Zone (approximate)*
- *Base of Injection Zone (approximate)*

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8/21/17

Figure V-13
Regional NW-SE Structural/Stratigraphic Cross Section (4-4')
(modified from Dodge and Posey, 1981)

adapted by: D. Gallagher
Jan 2025

Geostock Sandia

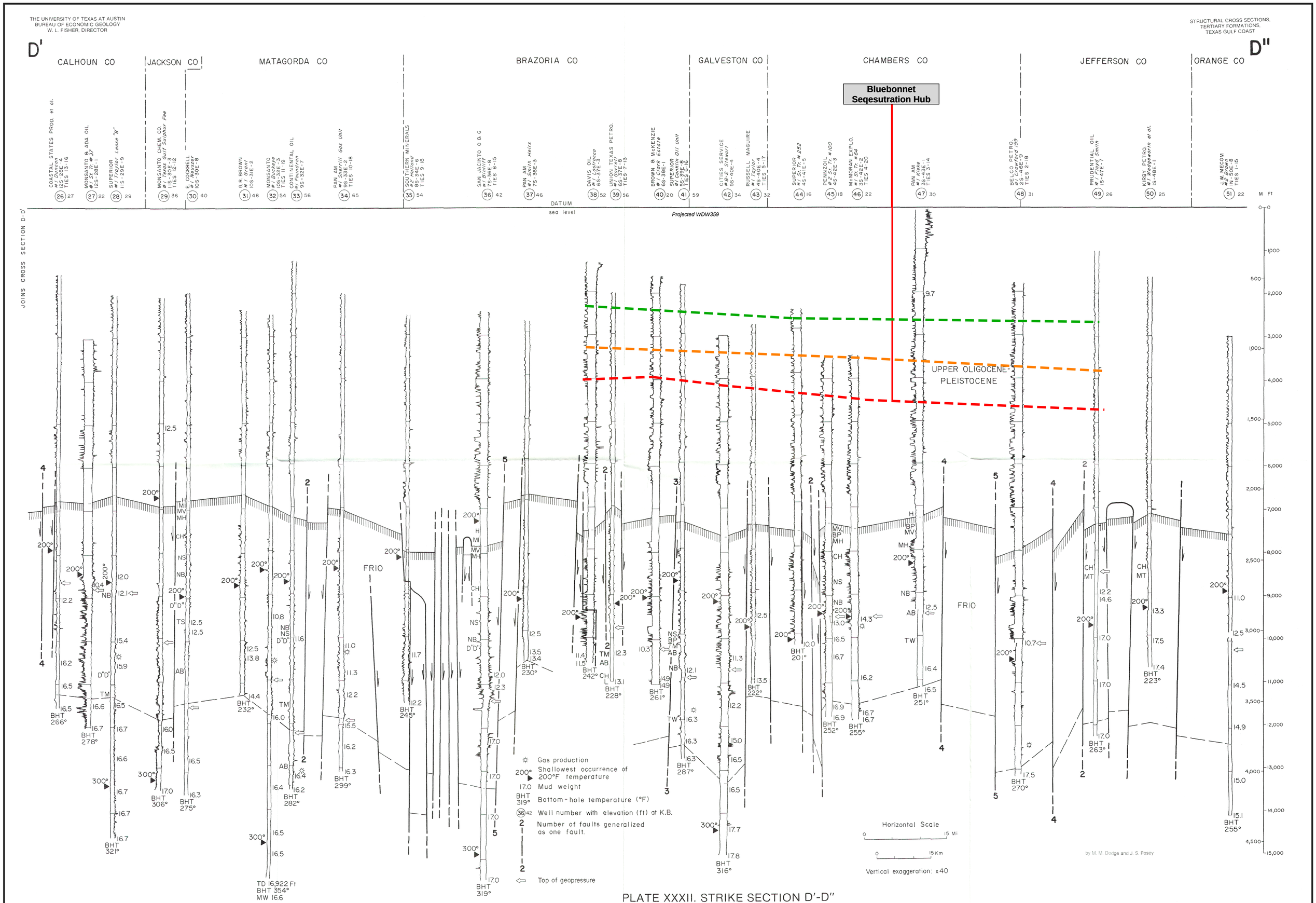

PLATE XXXII. STRIKE SECTION D'-D''

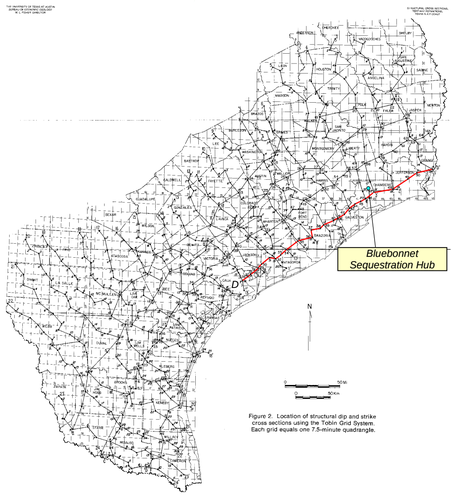

Figure 2. Location of structural dip and strike cross sections using the Tobin Grid System. Each grid equals one 7.5-minute quadrangle.

Legend

- Top of Confining Zone (approximate)
- Top of Injection Zone (approximate)
- Base of Injection Zone (approximate)

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Figure V-14
Regional SW-NE
Structural/Stratigraphic
Cross Section D-D'
(modified from Dodge & Posey, 1981)

Adapted BY: D. Gallagher
Jan 2025

Geostock Sandia

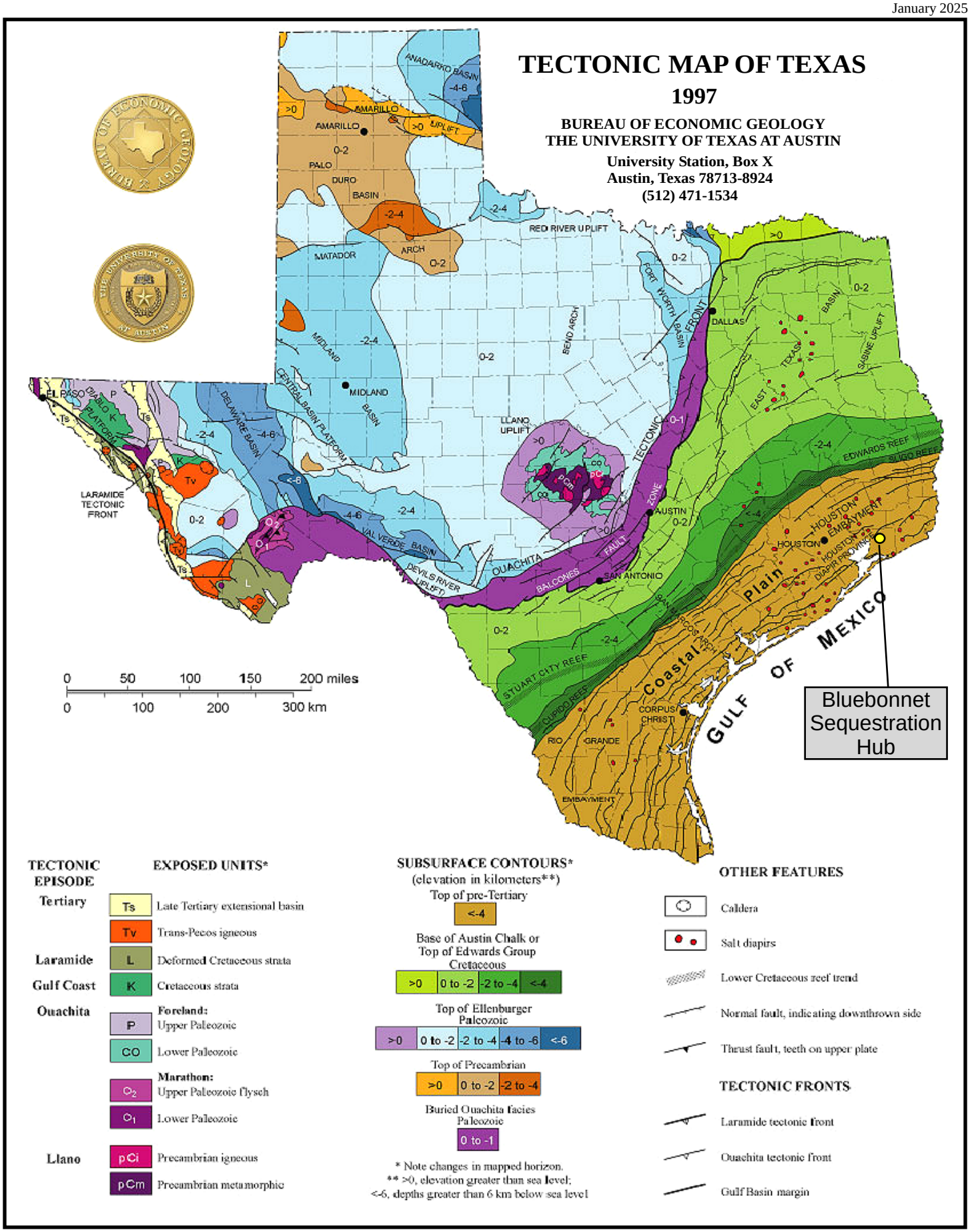


Figure V-15 Tectonic Map of Texas (from the Bureau of Economic Geology, 1997)

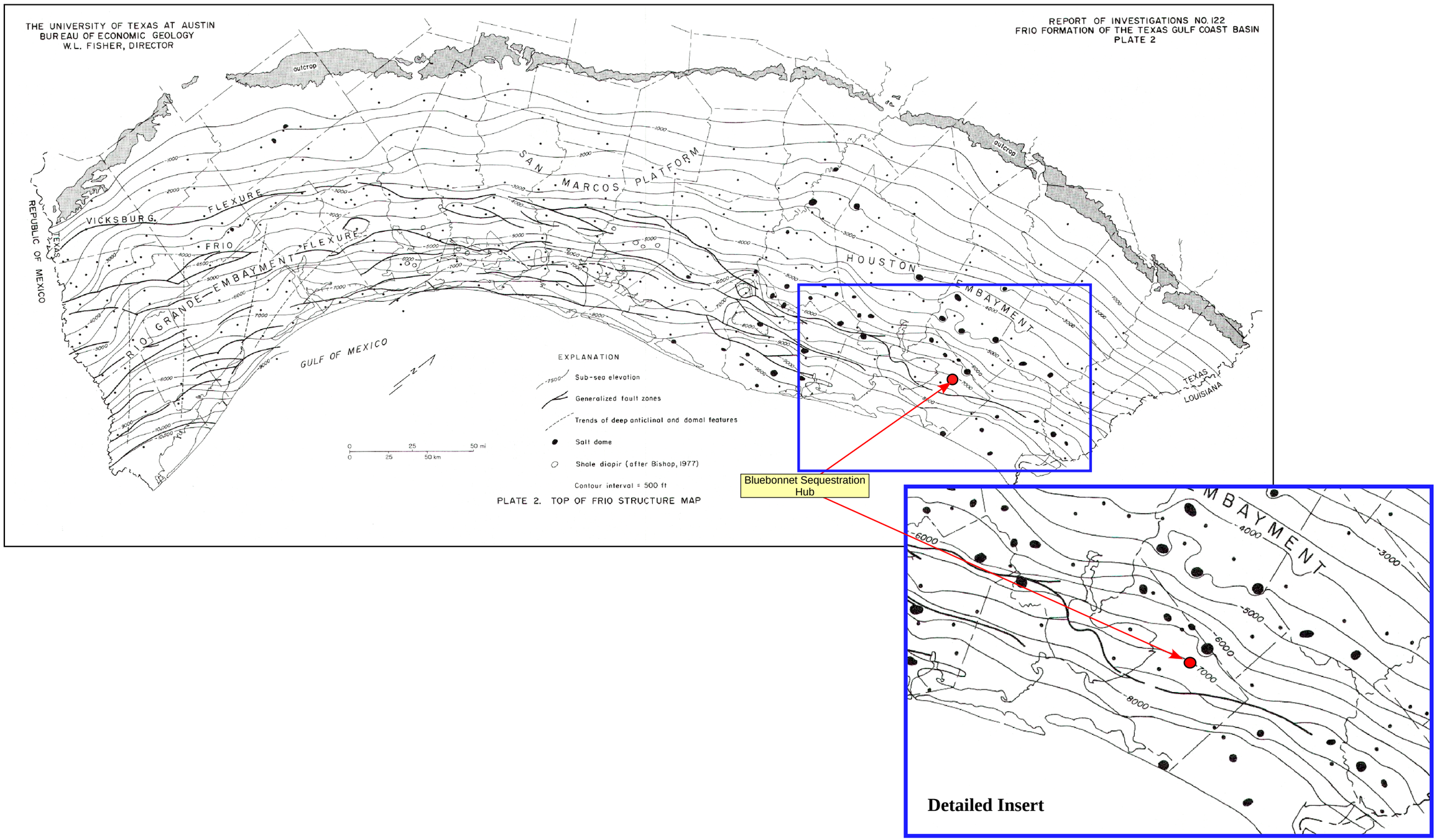
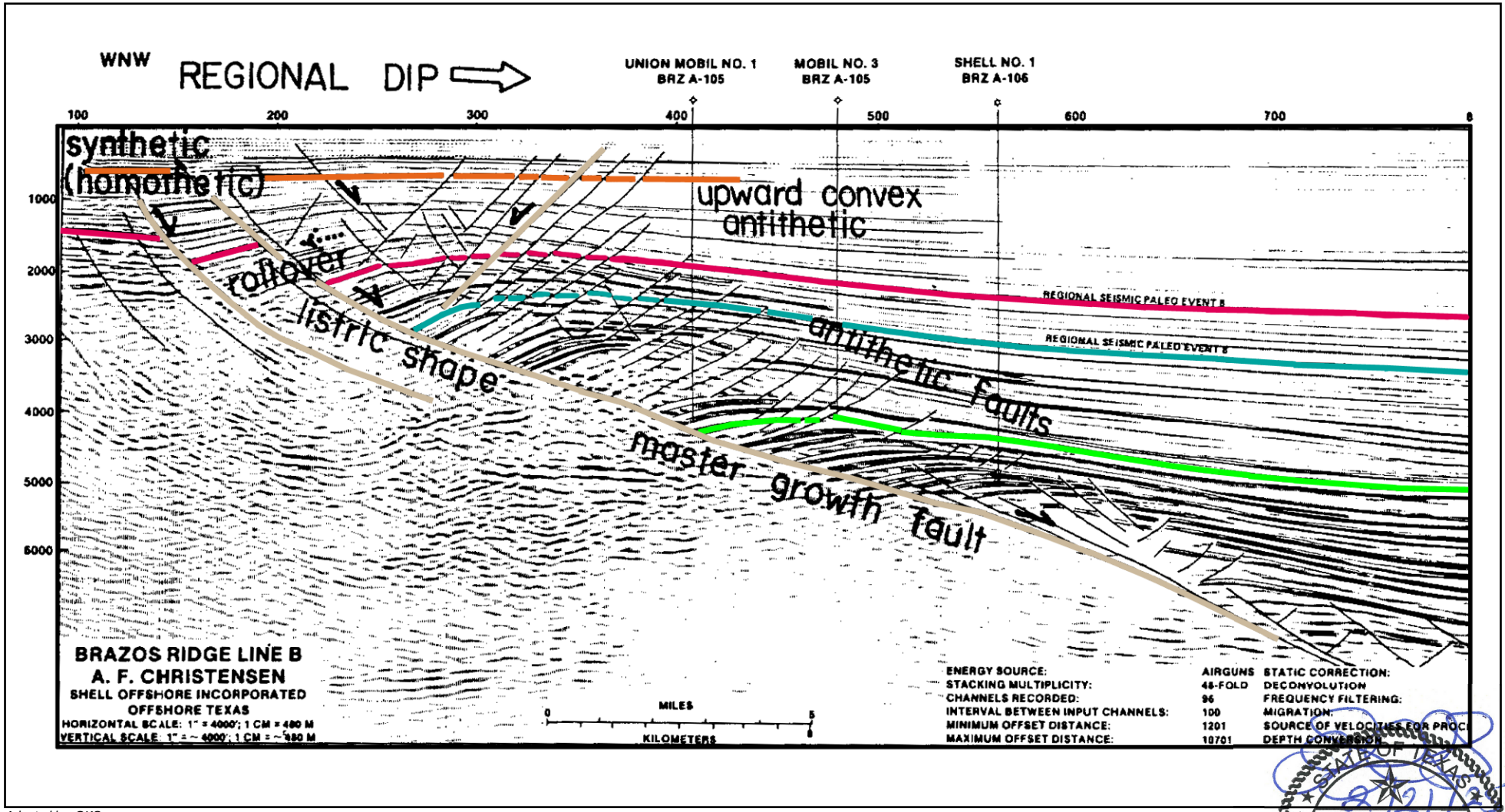
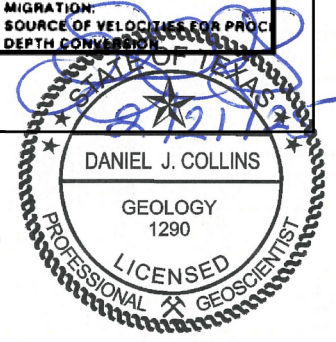


Figure V-16 Top of Frio Structure Map (modified from Galloway et al., 1982)



Adapted by: GKS
Date: Aug 2021

Figure V-17 Structure of a Gulf Coast Growth Fault (modified from Jackson and Galloway, 1984)



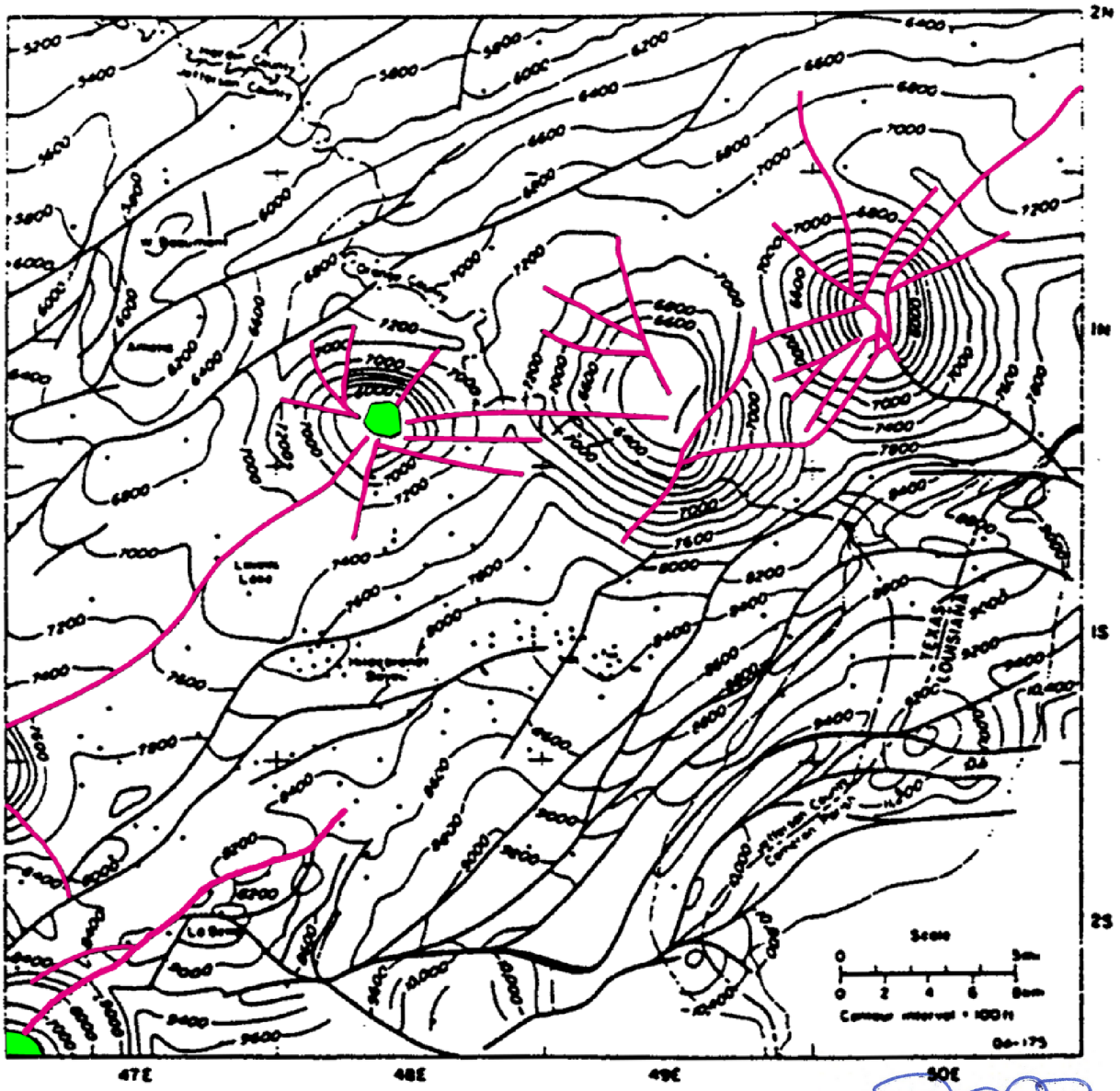


Figure V-18 Examples of Radial faulting from salt structures mapped on the top of the Frio Formation, from Port Arthur Area, Texas (modified from Jackson and Galloway, 1984)

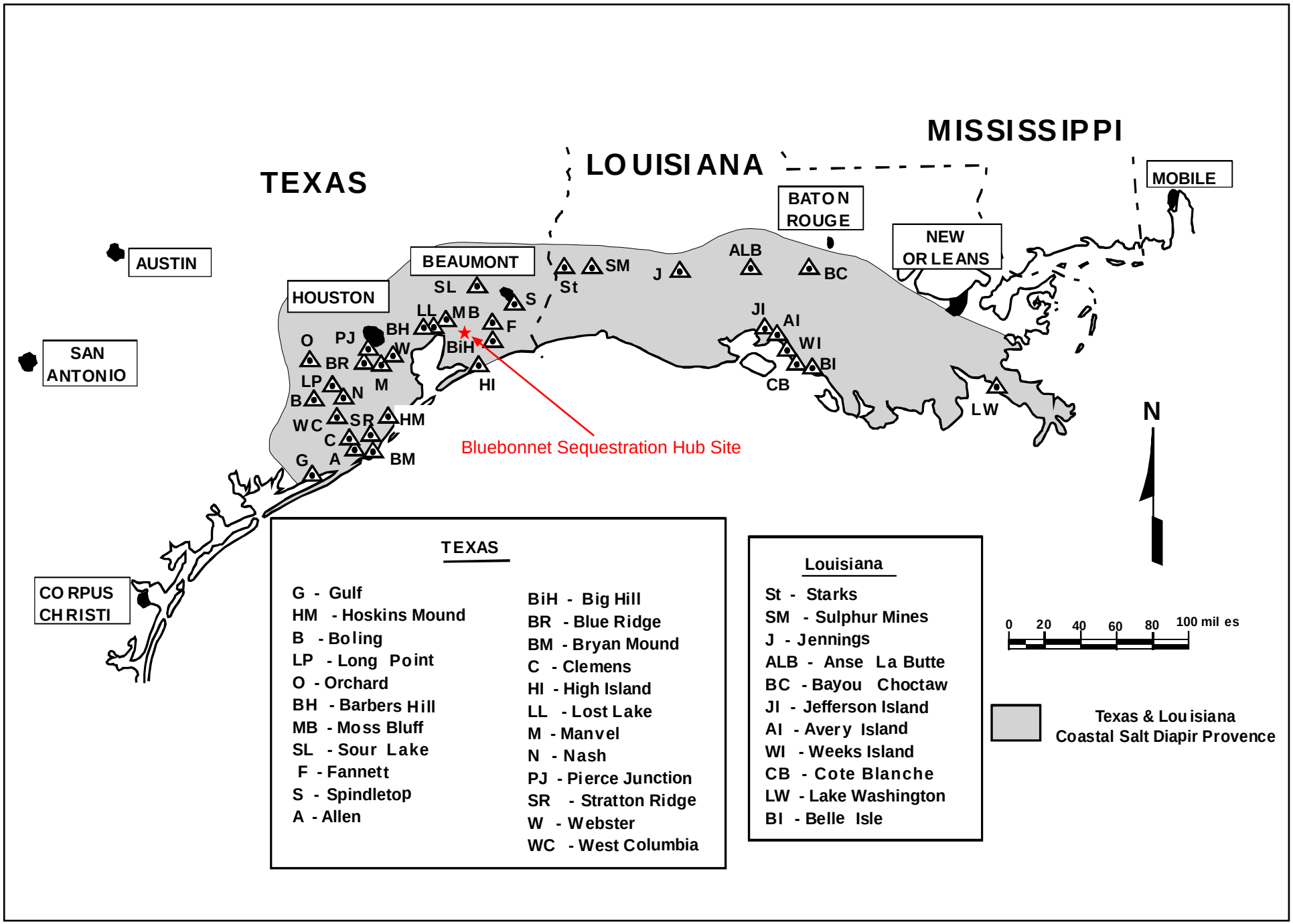


Figure V-19: Coastal Texas and Louisiana Salt Dome Locations (from Looff and Looff, 2000)

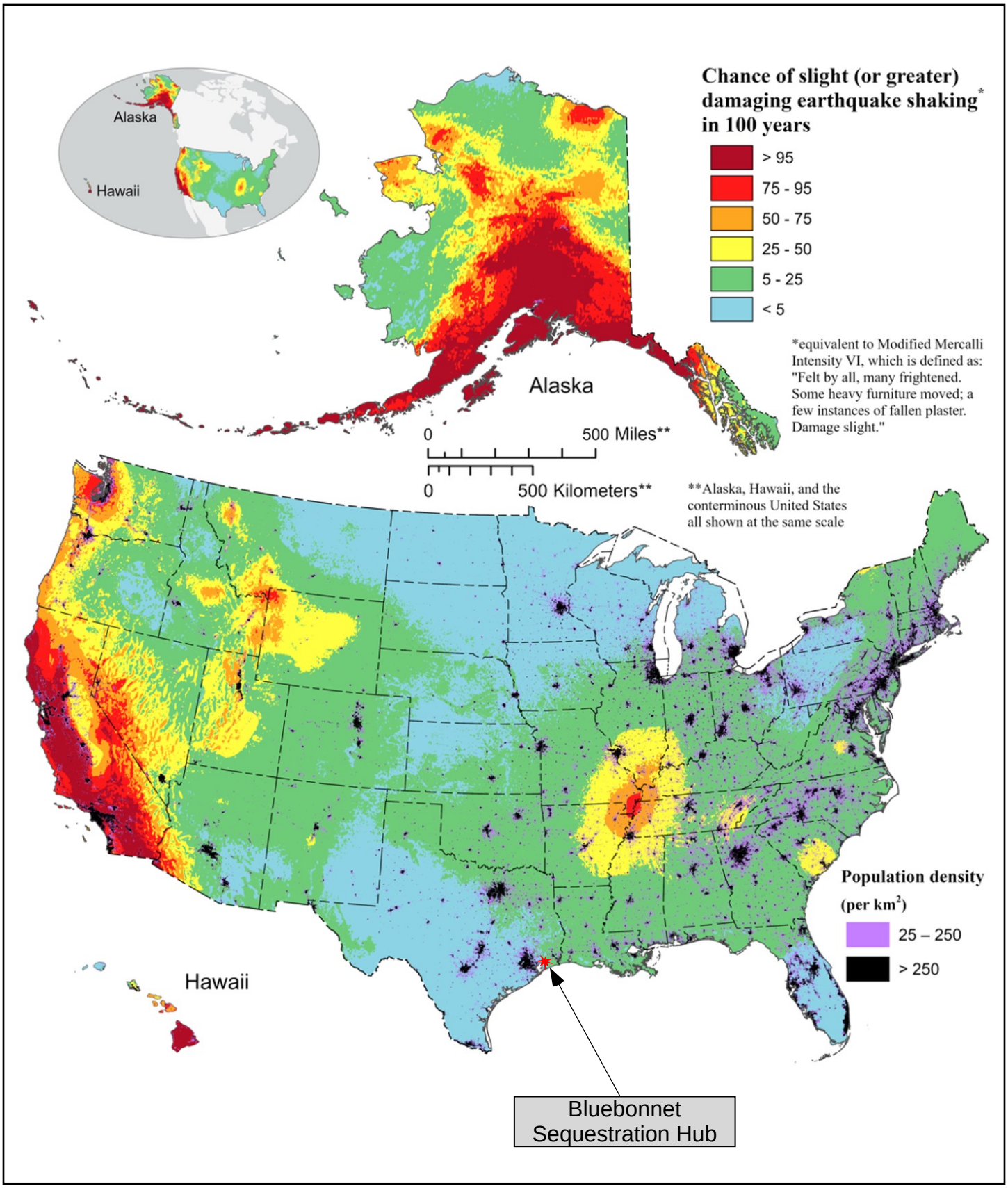
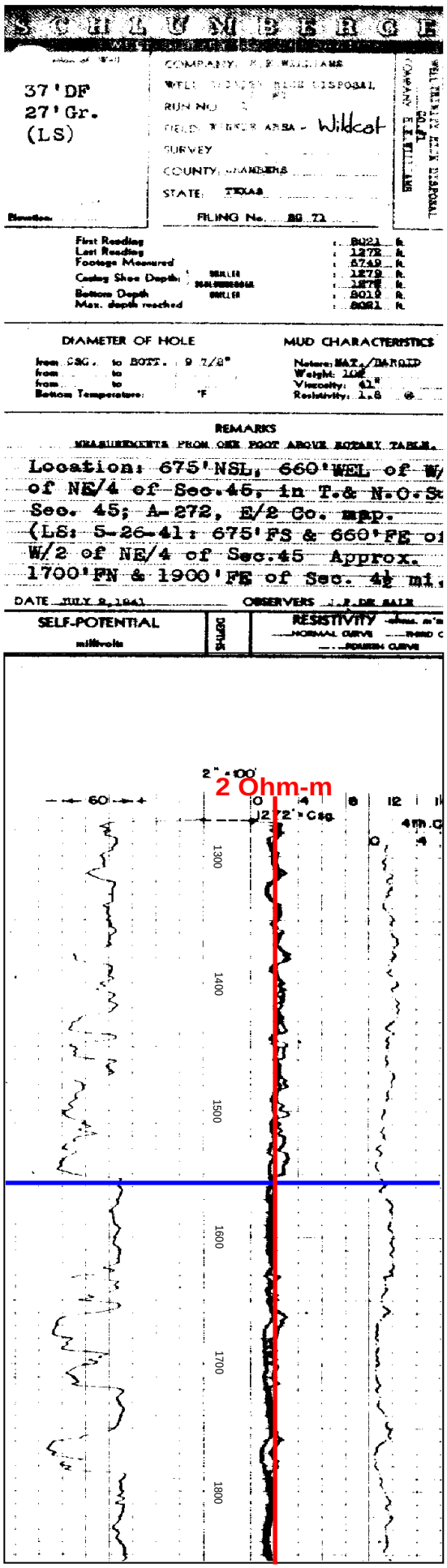
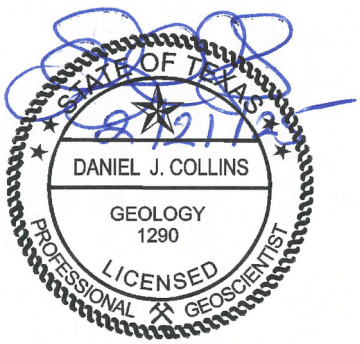


Figure V-20: Seismic Risk Map of the United States (from USGS, 2023)



LOG API NO. 420710960000
AP No. 10
H.E. Williams & Crown
Central Petroleum No. 1
TD: 8,019
KB = 36' GL = 26' (estimate)



Base of Lowermost USDW = 1,547 ft BGL ***(1,555 ft KB)***

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Chambers County, Texas

Figure V-21
USDW depth using deep resistivity method for AP No. 10

GKS Project No. 240069PWT
January 2025

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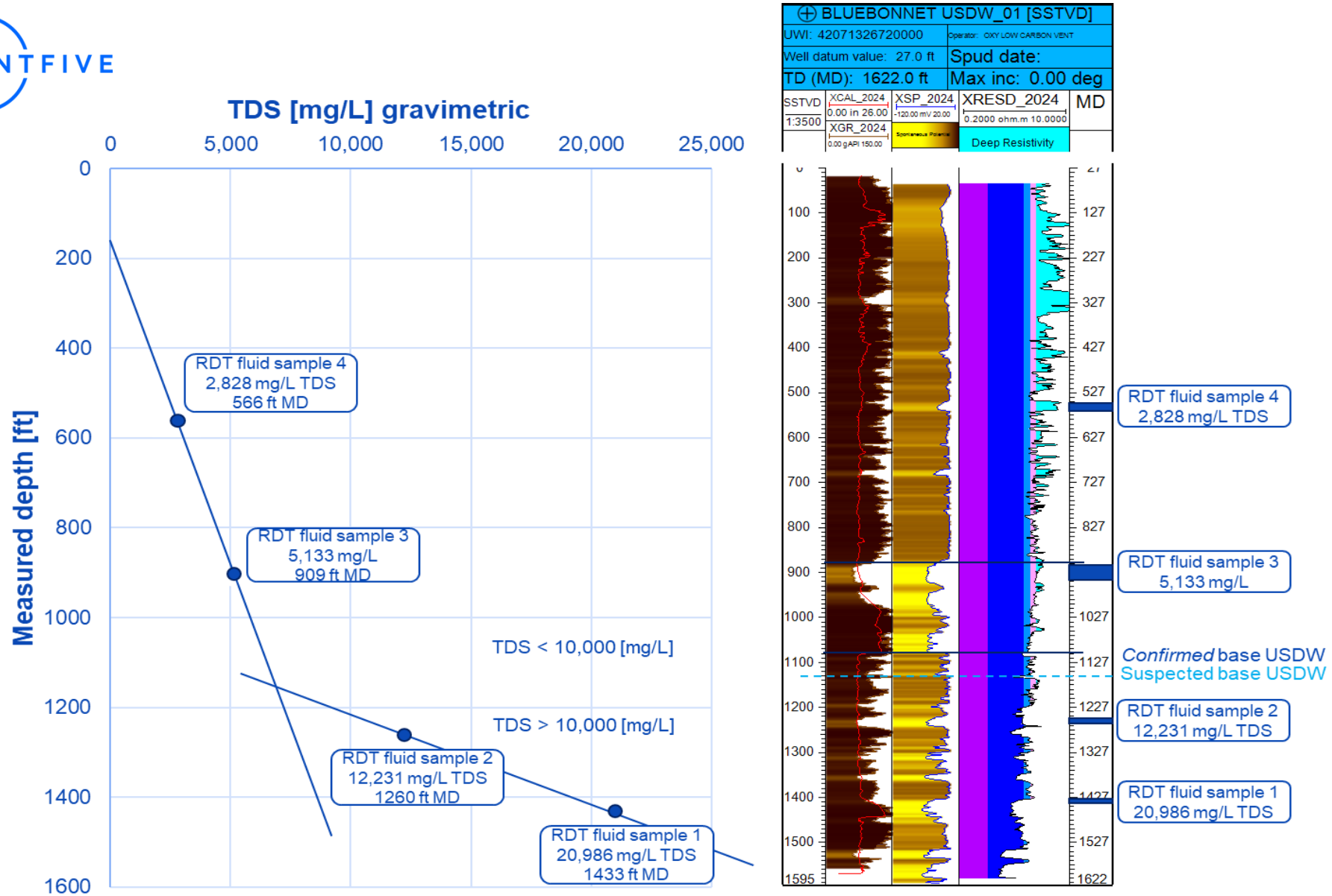

MD [ft]	TDS [mg/L] gravimetric
566.19	2,828
909.09	5,133
1,260.77	12,231
1,433.20	20,986

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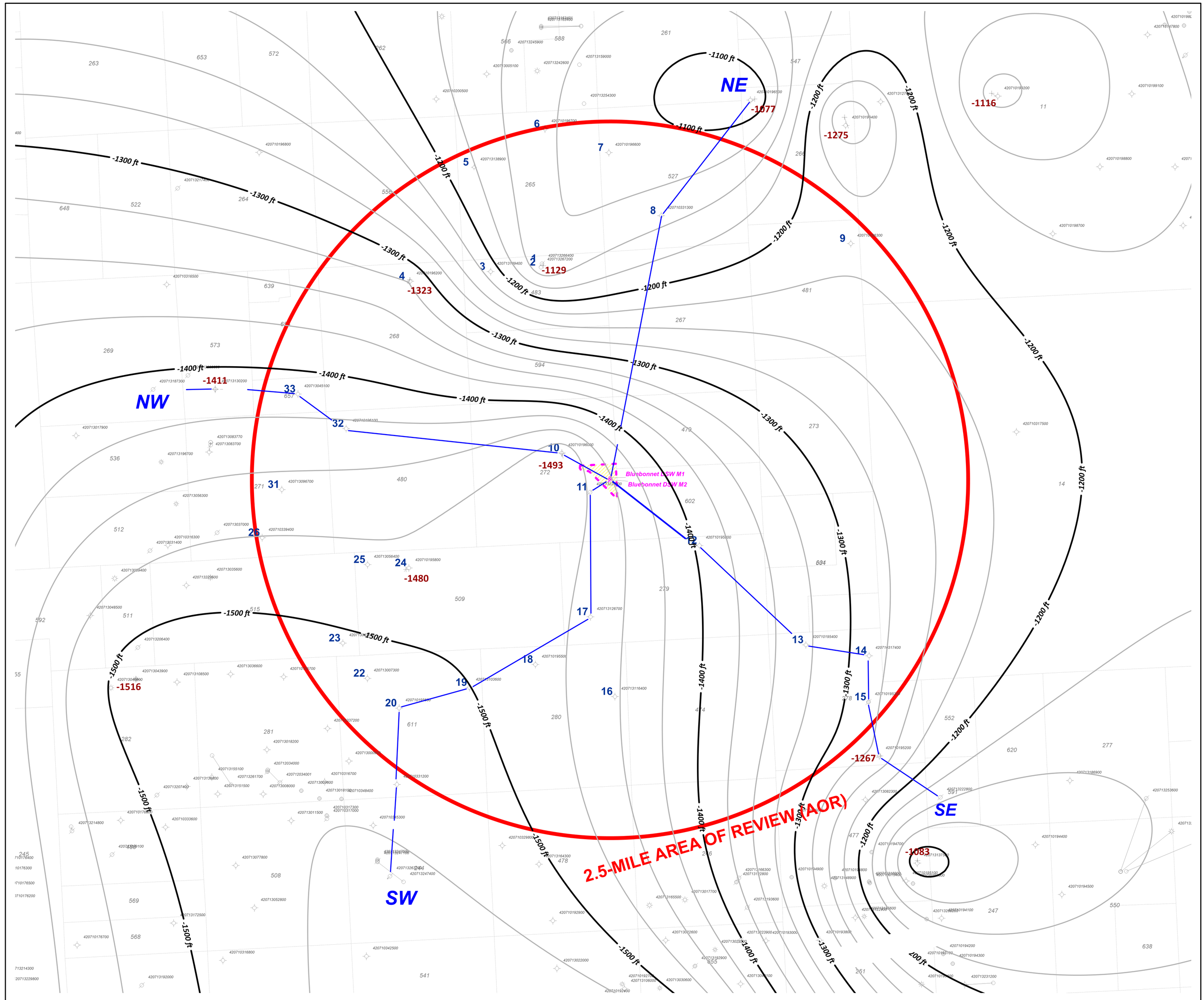
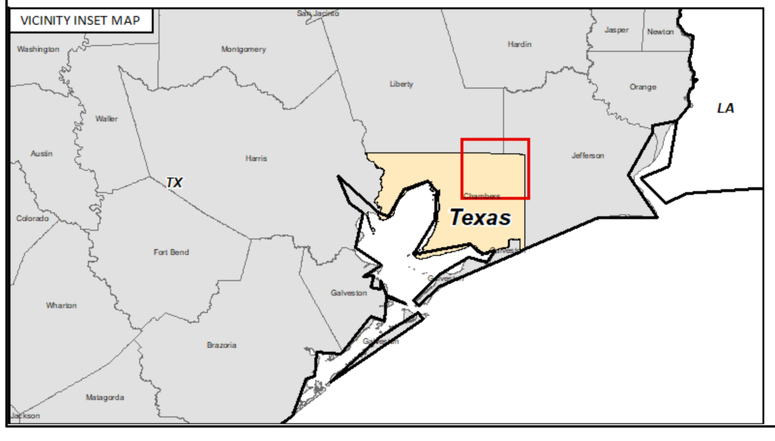
FIGURE V-22
USDW and Water Samples Analysis

CHAMBERS COUNTY, TEXAS

PROJECT INFO: SHELL US GAS & POWER, LLC – SOTERRA PROJECT (ST. HELENA PARISH, LA)		SCALE INFO: (IF APPLICABLE)	
DATE: Jan 2025	PROJECT NAME: 240068PWT	BY: GKS CHECK BY: 1P5	SHEET 1 OF 1

Geostock Sandia





N

0ft 304.8006096ft 609.6012192ft 914.4018288ft 1219.2024384ft 1524.0030481ft 1828.8036576ft

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

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NOTE: 1PointFive - Bluebonnet Sequestration Hub
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NOTE: O&G Well Locations based/sourced from data licensed from IFS Tobin, EnverusDI (EnvDI), TXRRC (08/2024)

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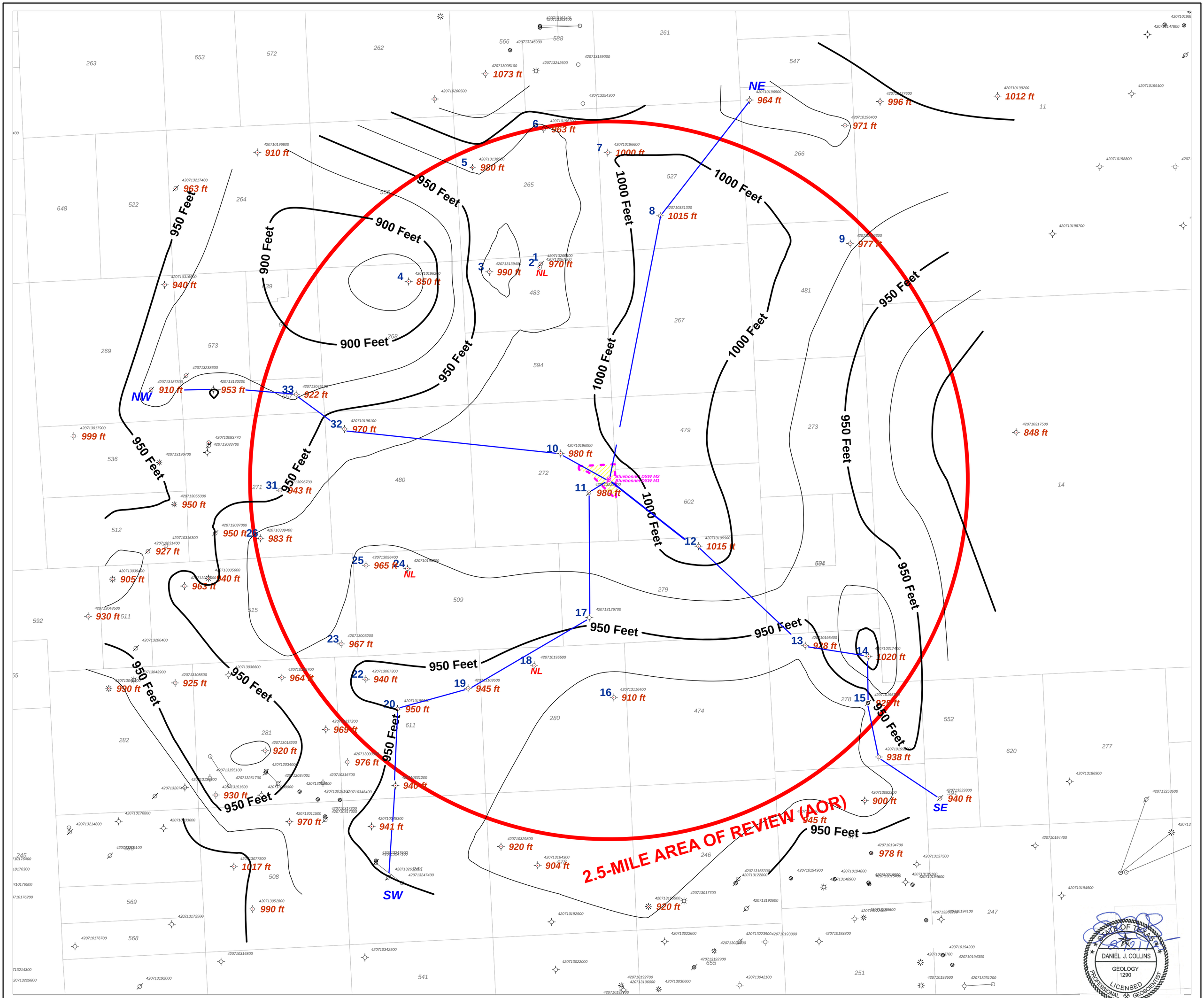
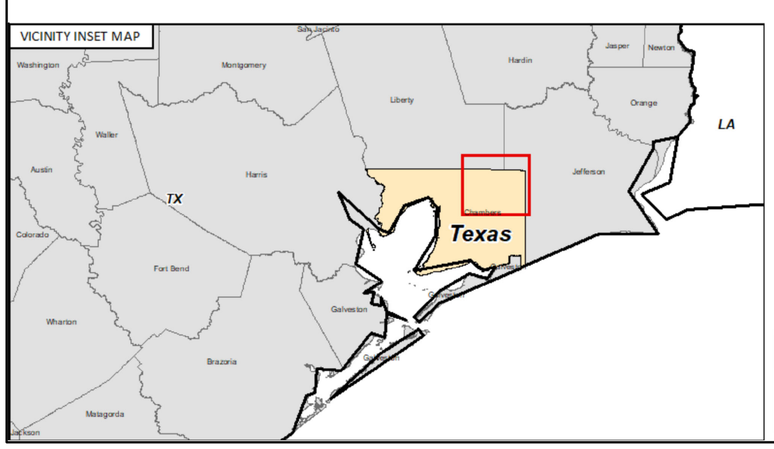
FIGURE V-23
STRUCTURE MAP
BSAE OF THE LOWERMOST USDW
(CI = 25')

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET		SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)	
DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia





Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

KEY IDENTIFIERS

AP12 : ARTIFICIAL PENETRATION (AP) WELL IDENTIFIER
-5495 : SUBSURFACE PICK PENETRATION (TVDSS)
350 : SUBSURFACE NET SAND / ISOPACH THICKNESS
F/O: HORIZON FAULTED OUT
NL: NO LOG
NDL: NO DIGITAL LOG
NDE: LOG NOT DEEP ENOUGH
NSE: LOG NOT SHALLOW ENOUGH
PQL: POOR QUALITY LOG
PDP: PROBLEM DATA POINT
NDS: NO DEVIATED SURVEY
NODRL: NOT DRILLED

CI: CONTOUR INTERVAL

NOTE: 1PointFive - Bluebonnet Sequestration Hub
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FIGURE V-24
INTERVAL THICKNESS OF CONFINING ZONE ISOPACH MAP

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

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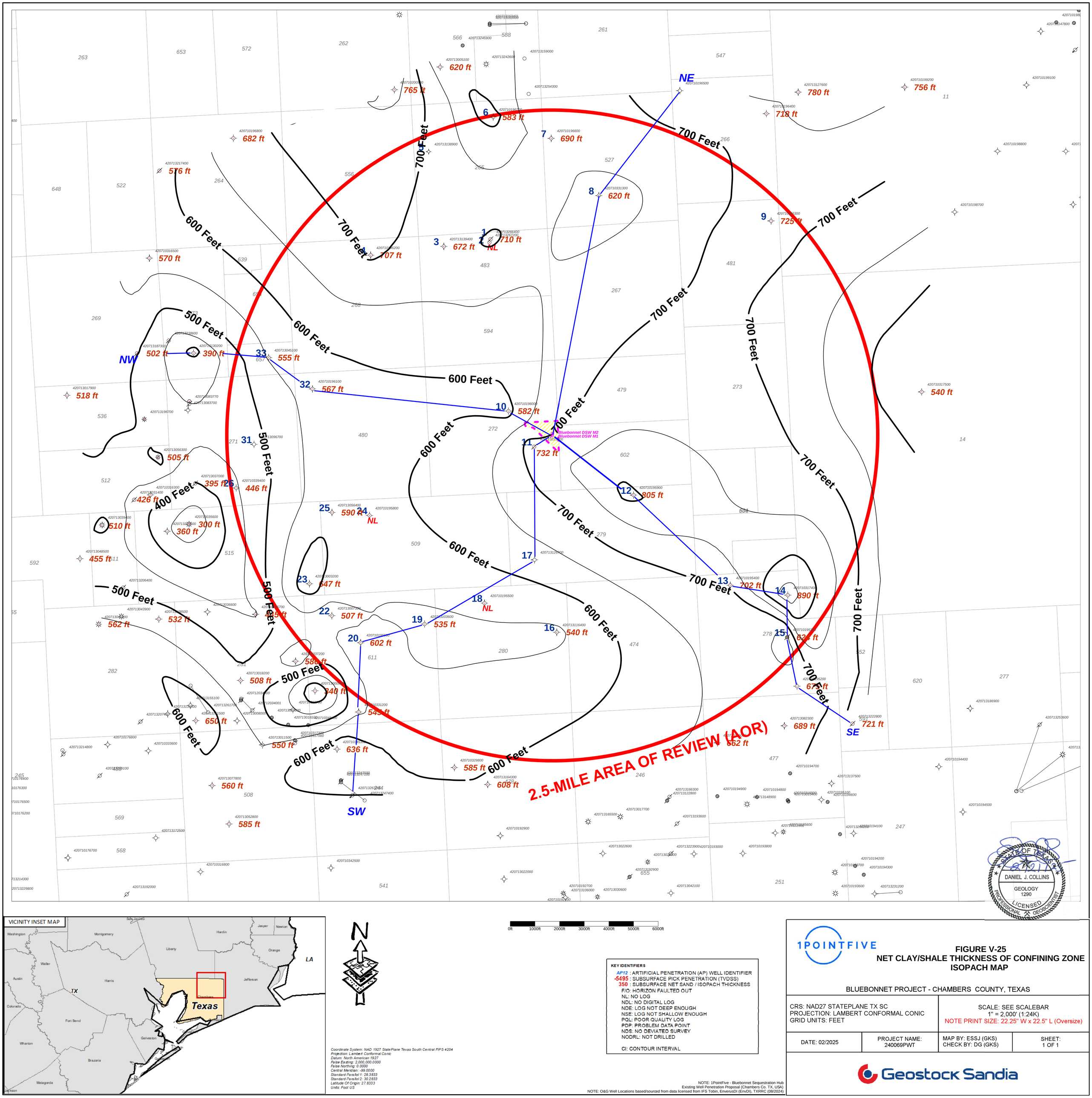
DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia



N

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
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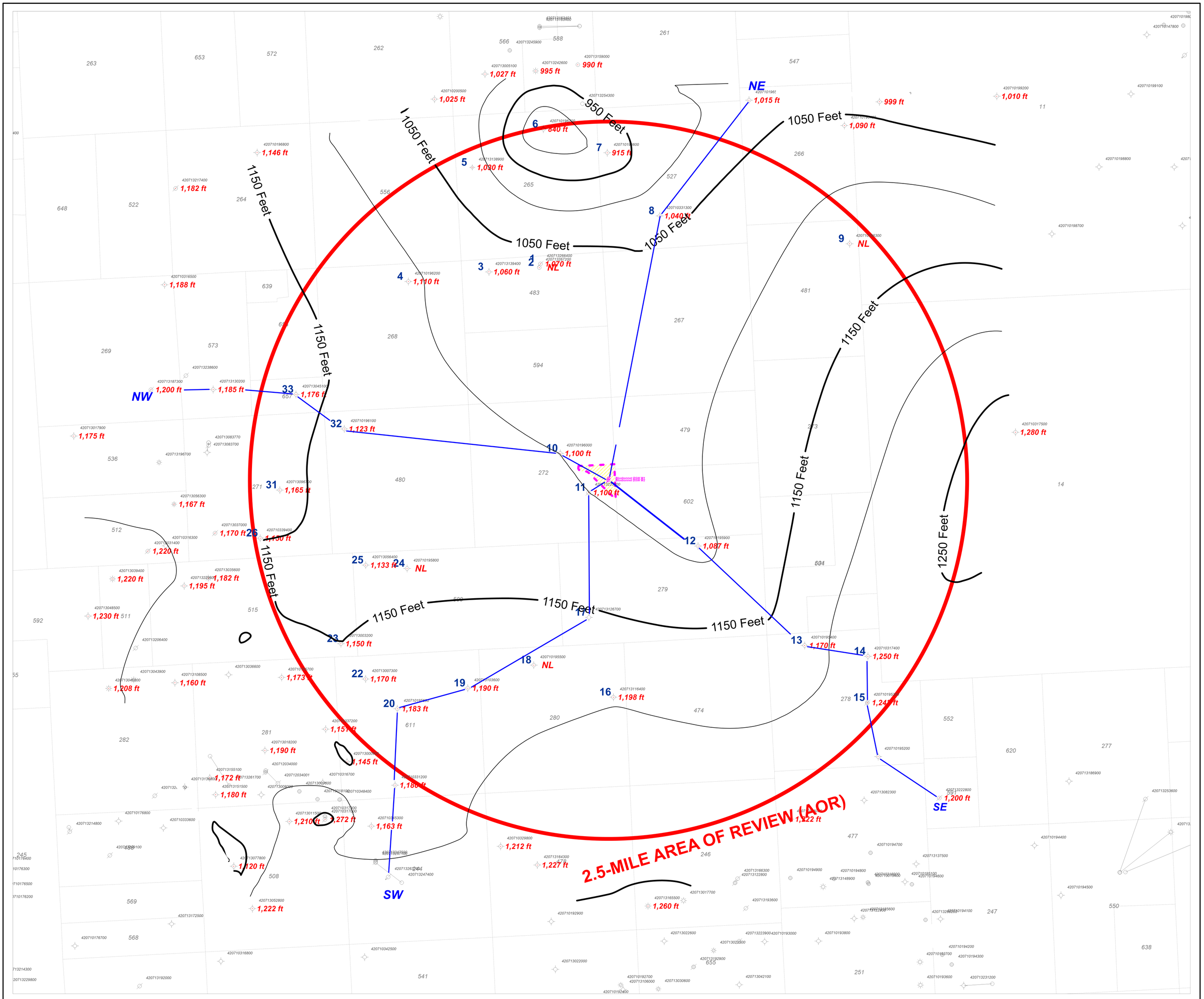
FIGURE V-25
NET CLAY/SHALE THICKNESS OF CONFINING ZONE ISOPACH MAP

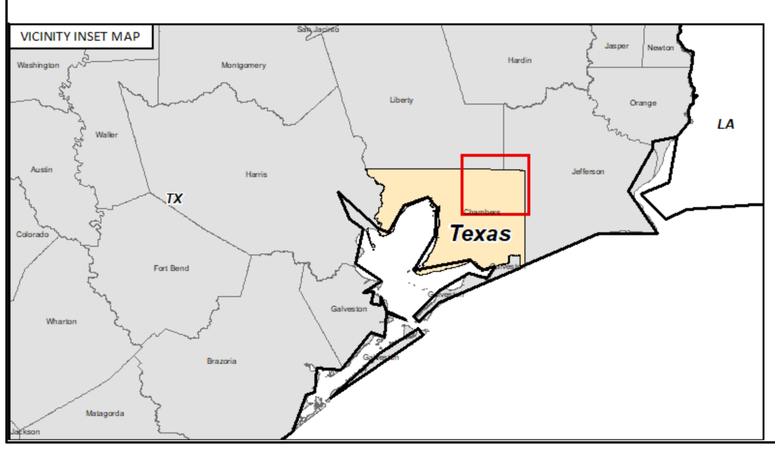
BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia





N

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

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CI: CONTOUR INTERVAL

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

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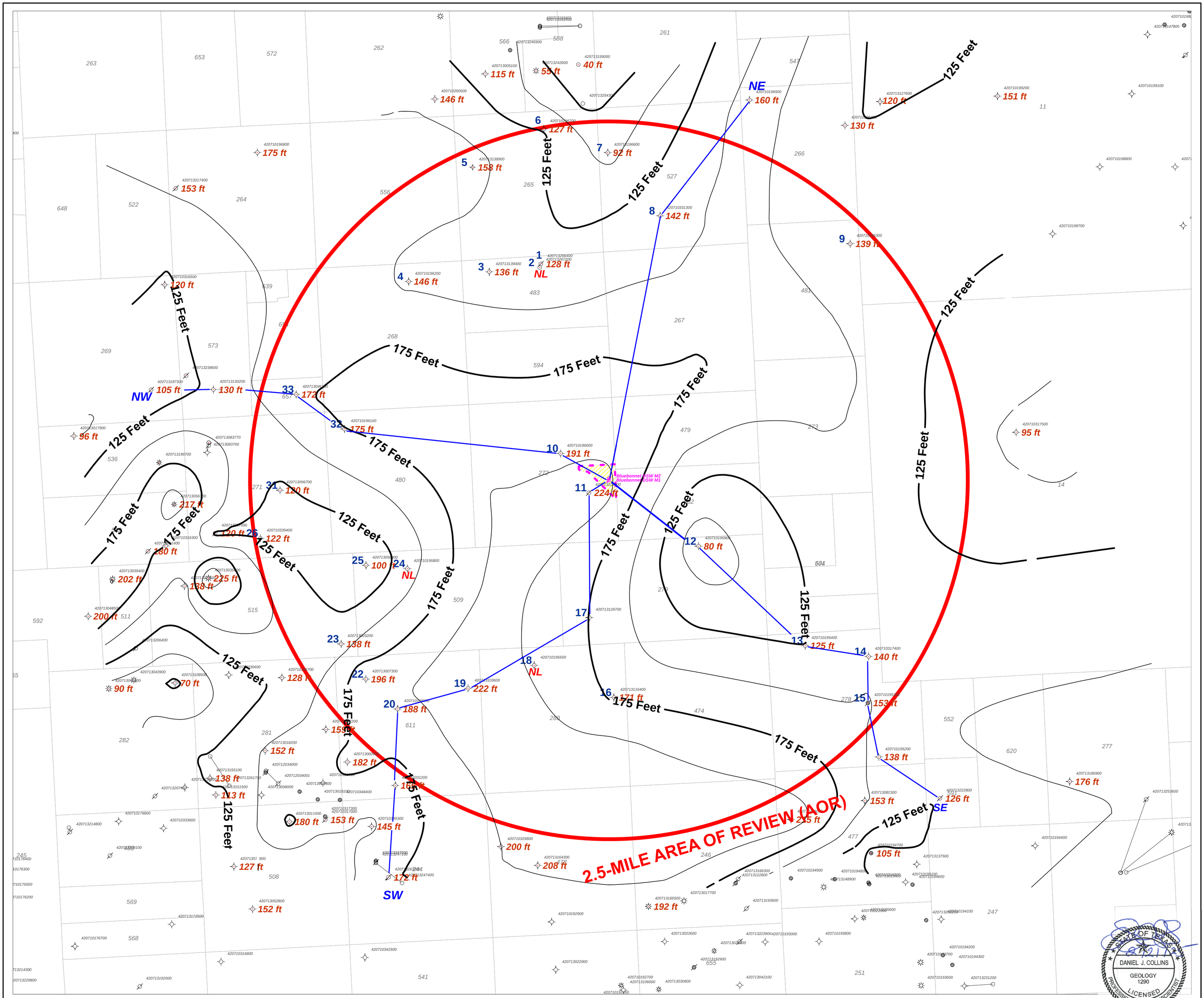
FIGURE V-26
INTERVAL THICKNESS OF INJECTION ZONE
ISOPACH MAP

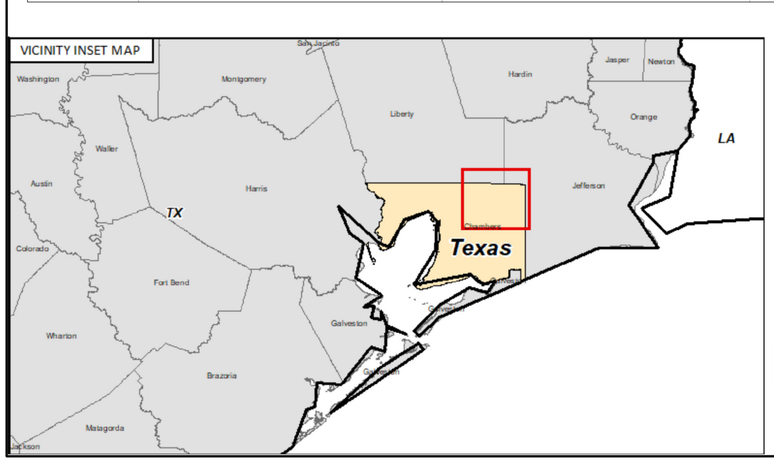
BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia





Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

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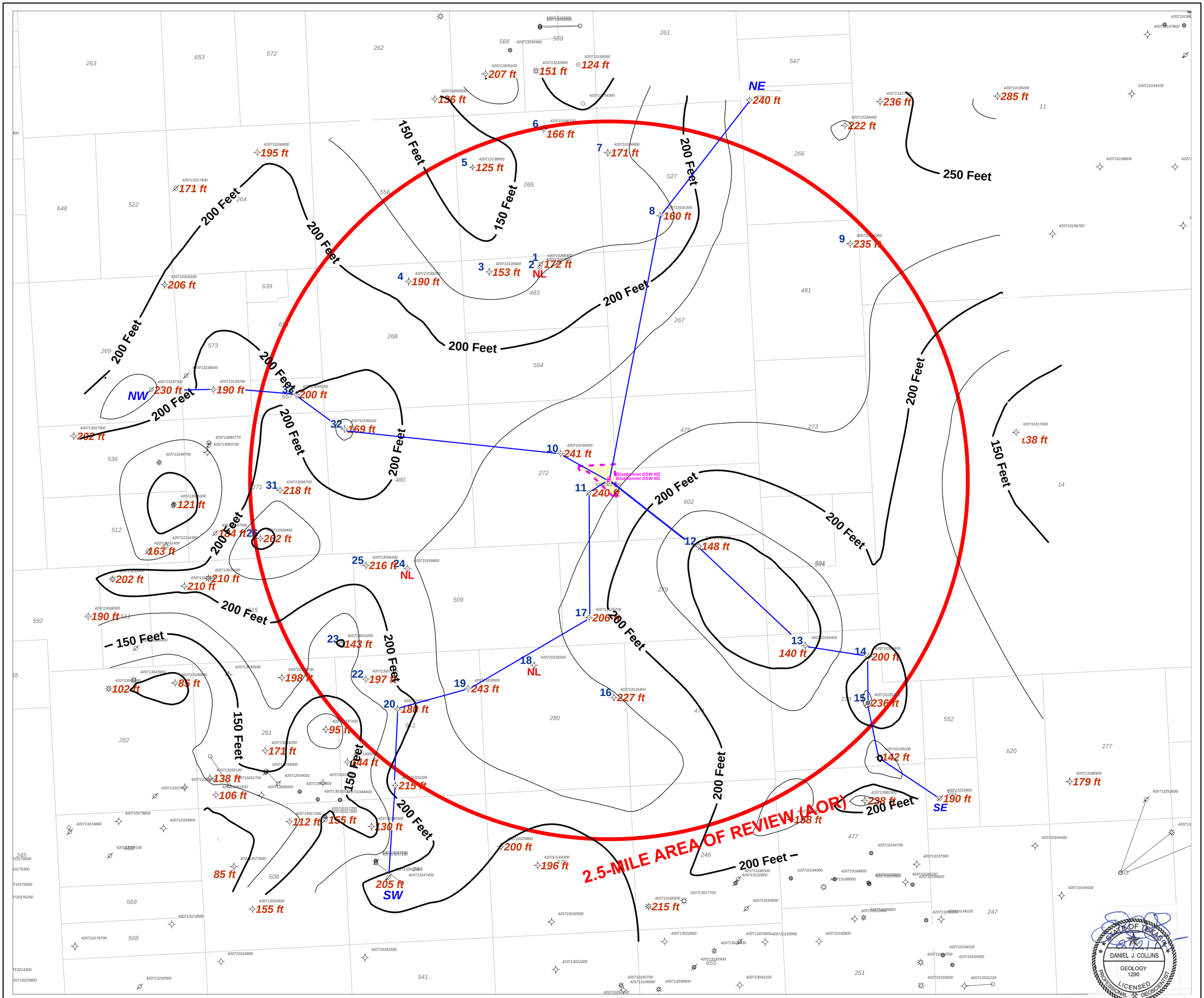
FIGURE V-27
ORANGE INJECTION INTERVAL NET SAND ISOPACH MAP

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

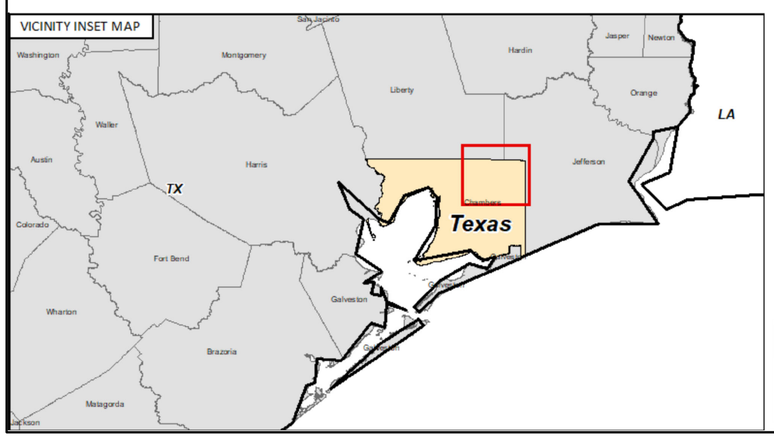
CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia



VICINITY INSET MAP



Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

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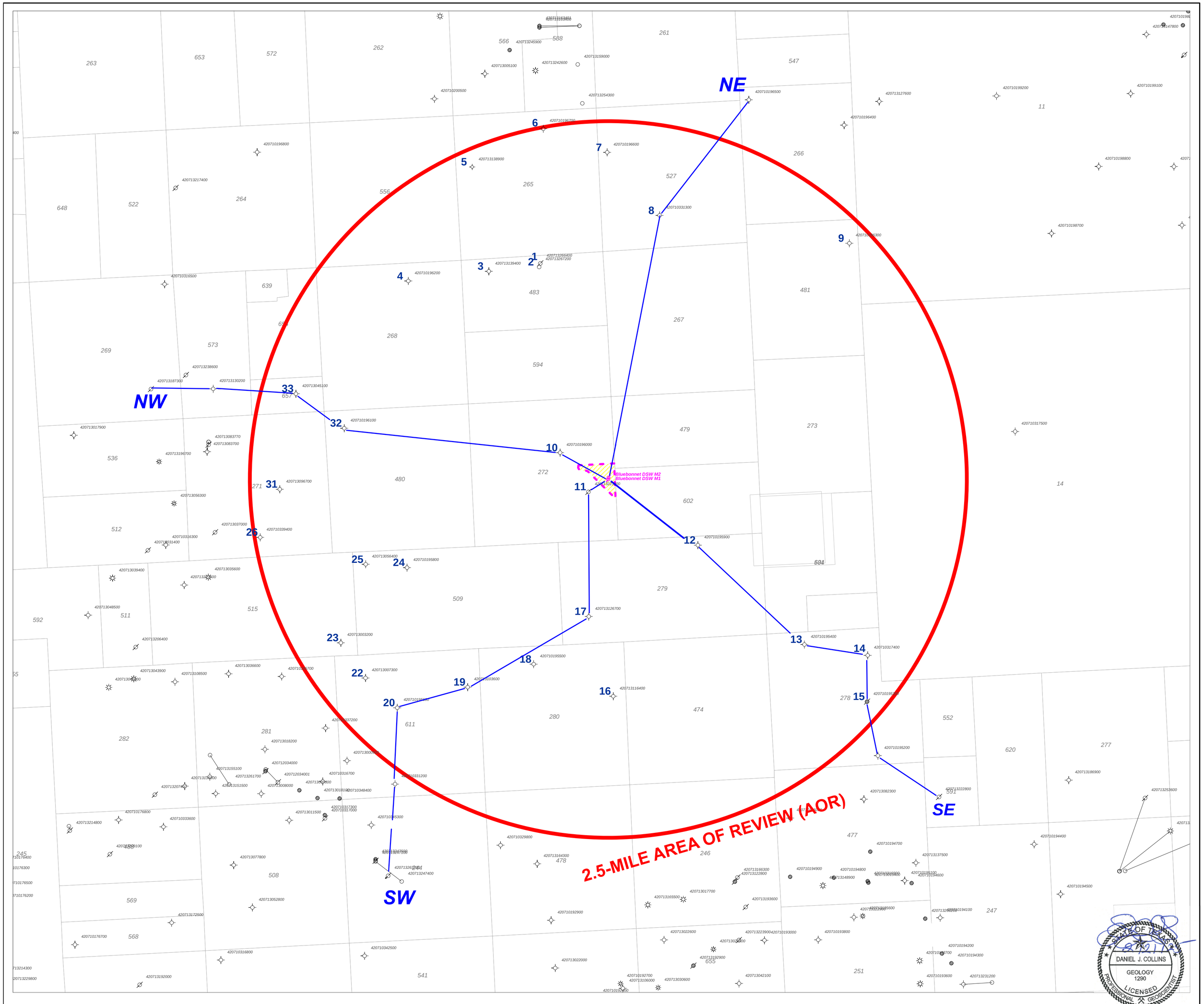
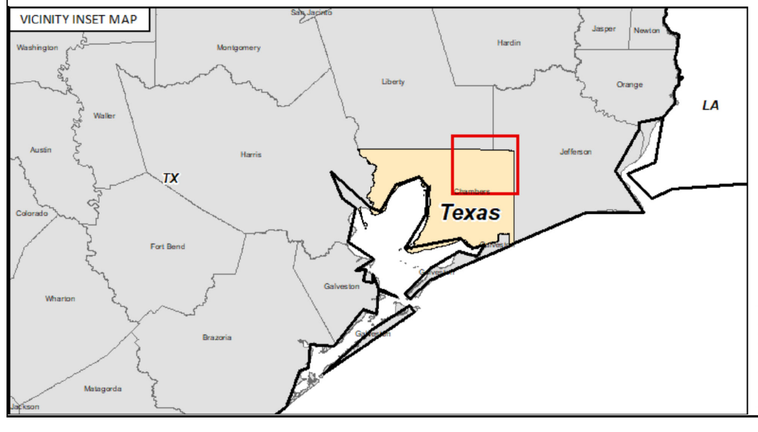
FIGURE V-28
YELLOW SAND INJECTION INTERVAL NET SAND ISOPACH MAP

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET		SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)	
DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia







0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

NOTE: 1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from IFS Tobin, EnverusDI (EnvDI), TXRRC (08/2024)

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FIGURE V-29
CROSS SECTION LOCATION MAP

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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PLEISTOCENE — BEAUMONT, LISSIE, & WILLIS

PLIOCENE — GOLIAD

MIOCENE — FLEMING

Subsea Depth Sea Level

2,296 ft	2,953 ft	7,999 ft	2,031 ft	4,282 ft	3,570 ft	2,363 ft	1,702 ft	2,033 ft	2,714 ft

42071318730000	42071304510	42071304510	42071019610	42071096000	BLUEBONNET INJECTION WELLS	42071095900	42071019540	42071019540	42071019530	42071019520	42071322228
AP 38	AP 36	AP 33	AP 32	AP 10	TD: 4,600	AP 12	AP 13	AP 14	AP 15		
Terra Resources, Inc	Houston Natural Gas Prod	Gulf Oil Corporation	Continental Oil Co	H.E. Williams & Crown	Status: Proposed	P.H. Welder	Blanke, Frost, & Frazier	Dan J. Harrison, Jr	Petroleum Dev Associates	Nicoo Oil Operations Inc	Kerr-McGee Oil & Gas
Halbouty - Deviller #1	O.C. Deviller, Jr et al #1	O.C. Deviller #4	L.G. Ogden #1	Central Petroleum Co.		William Dunbaa et al #1	J.W. Garth Jr #1	Thomas T. Garth #1	Garth Estates #3	Garth Estate #1	Ogden et al #1
TD: 10,750	TD: 9,450	TD: 12,215	TD: 9,615	TD: 8,019		TD: 9,024	TD: 9,012	TD: 9,800	TD: 9,240	TD: 8,605	TD: 9,500
Status: D&A	Status: D&A	Status: D&A	Status: D&A	Status: D&A		Status: D&A	Status: D&A	Status: D&A	Status: D&A	Status: O&A	Status: D&A
KB = 87' GL = 24'	KB = 82' GL = 30'	KB = 82' GL = 30'	KB = 42' GL = 30'	KB = 97' GL = 30'		KB = 42' GL = 30'	KB = 42' GL = 37'	KB = 58' GL = 28'	KB = 39' GL = 21'	KB = 93' GL = 32'	KB = 47' GL = 29'

APPROXIMATE BASE OF LOWERMOST USDW	1452' KB (1441' BGL) (-1412' TVDSS)			1550' KB (1519' BGL) (-1482' TVDSS)		1600' KB (1569' BGL) (-1539' TVDSS)		1390' KB (1358' BGL) (-1297' TVDSS)			APPROXIMATE BASE OF LOWERMOST USDW
TOP OF CONFINING ZONE	2272' KB (2262' BGL) (-2232' TVDSS)	2280' KB (2262' BGL) (-2232' TVDSS)	2280' KB (2258' BGL) (-2228' TVDSS)	2330' KB (2299' BGL) (-2273' TVDSS)		2400' KB (2369' BGL) (-2343' TVDSS)		2375' KB (2356' BGL) (-2339' TVDSS)			2580' KB (2567' BGL) (-2547' TVDSS)
Datum											
TOP OF INJECTION ZONE	3229' KB (3213' BGL) (-3183' TVDSS)	3282' KB (3182' BGL) (-3154' TVDSS)	3256' KB (3237' BGL) (-3206' TVDSS)	3310' KB (3279' BGL) (-3253' TVDSS)		3415' KB (3407' BGL) (-3373' TVDSS)		3390' KB (3371' BGL) (-3356' TVDSS)			3518' KB (3506' BGL) (-3486' TVDSS)
CONTAINMENT INTERVAL											
ORANGE SAND INJECTION INTERVAL	3785' KB (3777' BGL) (-3746' TVDSS)	3766' KB (3746' BGL) (-3718' TVDSS)	3772' KB (3756' BGL) (-3728' TVDSS)	3795' KB (3764' BGL) (-3738' TVDSS)		3880' KB (3868' BGL) (-3838' TVDSS)		3852' KB (3837' BGL) (-3818' TVDSS)			4120' KB (4009' BGL) (-4079' TVDSS)
Shale Seperation Layer											
YELLOW SAND INJECTION INTERVAL	4000' KB (3990' BGL) (-3959' TVDSS)	3990' KB (3970' BGL) (-3942' TVDSS)	4090' KB (4078' BGL) (-4048' TVDSS)	4070' KB (4038' BGL) (-4013' TVDSS)		4180' KB (4168' BGL) (-4138' TVDSS)		4090' KB (4076' BGL) (-4056' TVDSS)			4420' KB (4409' BGL) (-4379' TVDSS)
BASE OF INJECTION ZONE											
LOWER CONFINING ZONE	4540' KB (4527' BGL) (-4513' TVDSS)	4570' KB (4558' BGL) (-4528' TVDSS)	4540' KB (4520' BGL) (-4490' TVDSS)	4590' KB (4559' BGL) (-4533' TVDSS)		4655' KB (4643' BGL) (-4613' TVDSS)		4780' KB (4766' BGL) (-4746' TVDSS)			4860' KB (4850' BGL) (-4819' TVDSS)

SALINE BUFFER AQUIFERS											
CONFINING ZONE											
INJECTION ZONE											
LOWER CONFINING ZONE											

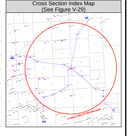
Fault

Fault 140' with AP15

Fault

dashed lines infer approximate location

Cross Section Index Map (See Figure V-29)





Scale Key



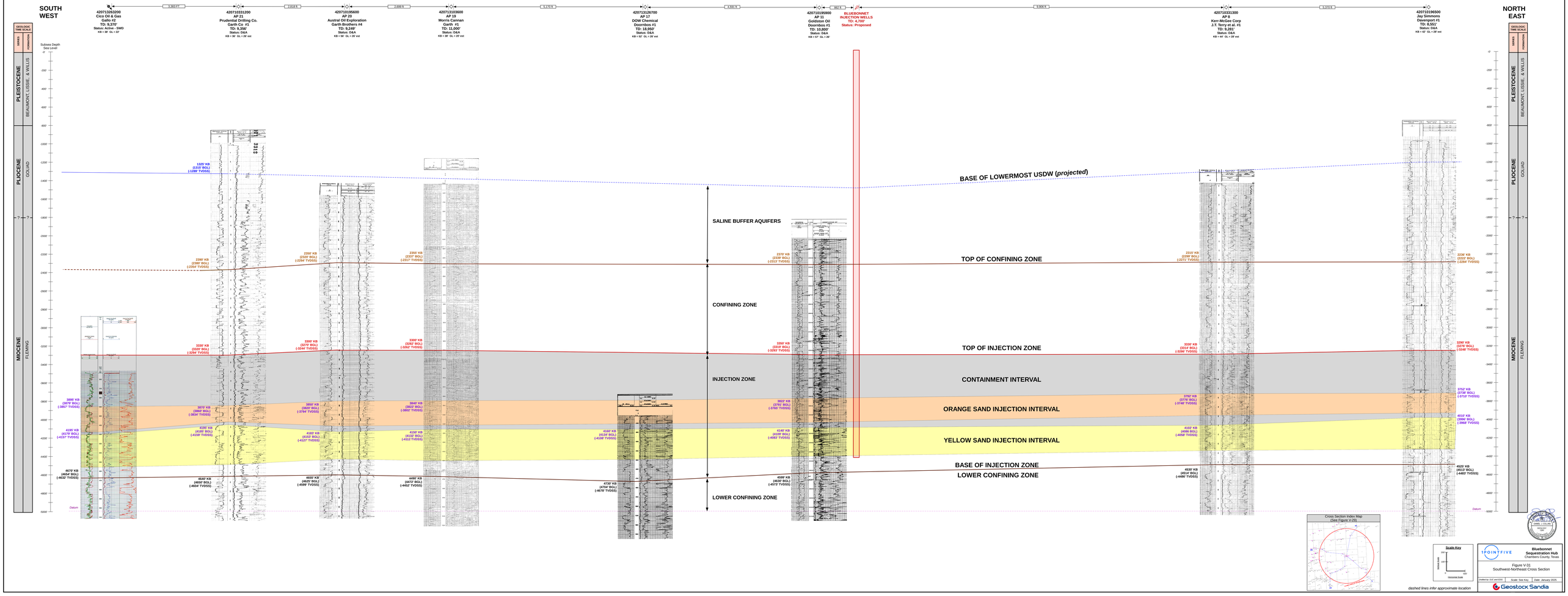
POINTFIVE

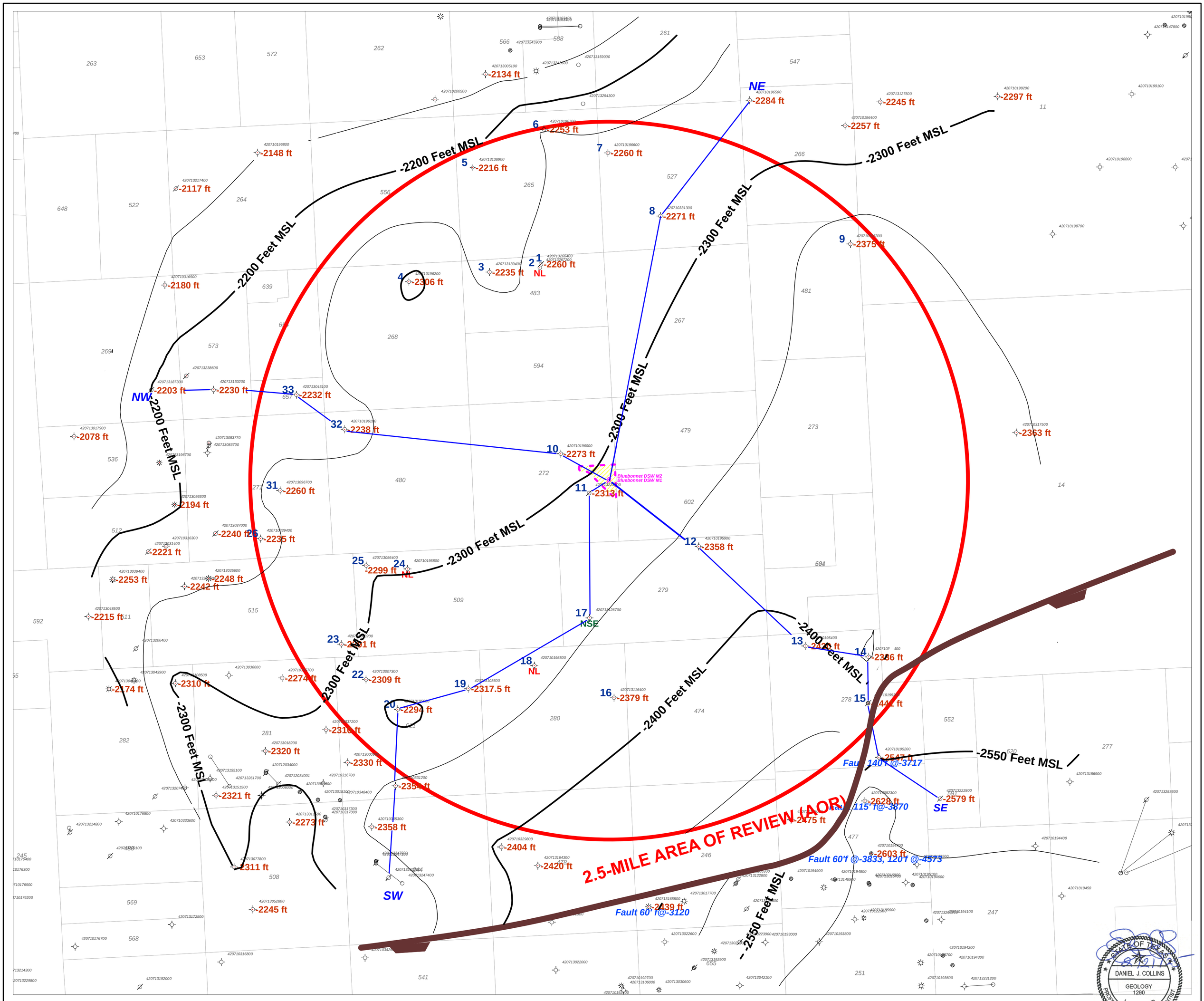
Bluebonnet Sequestration Hub
Chambers County, Texas

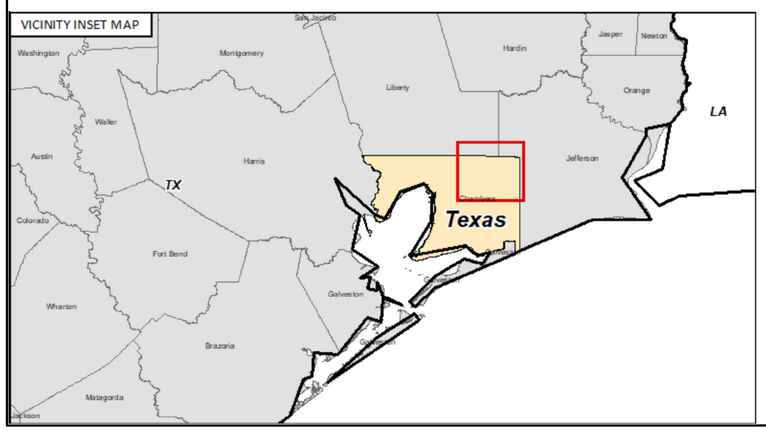
Figure V-30
Northwest-Southeast Cross Section
NW-SE

Drafted By: DJC and EGG | Scale: See Key | Date: January 2025

Geostock Sandia


SOUTH WEST
NORTH EAST
GEOLOGIC TIME SCALE
SERIES
FORMATION
PLEISTOCENE
BEAUMONT, LISSIE, & WILLIS
PLIOCENE
GOLIAD
MIOCENE
FLEMING
Subsea Depth Sea Level
420713263200 Cico Oil & Gas Gallo #2 TD: 9,370' Status: Active - SWD KB = 38' GL = 22'
420710331200 AP 21 Prudential Drilling Co. Garth Co #1 TD: 9,356' Status: D&A KB = 36' GL = 29' est
420710195600 AP 20 Austral Oil Exploration Garth Brothers #4 TD: 9,249' Status: D&A KB = 56' GL = 29' est
420713103600 AP 19 Morris Cannan Garth #1 TD: 11,000' Status: D&A KB = 38' GL = 29' est
420713126700 AP 17 DOW Chemical Doornbos #1 TD: 18,950' Status: D&A KB = 52' GL = 29' est
420710195900 AP 11 Goldston Oil Doornbos #1 TD: 10,800' Status: D&A KB = 57' GL = 29'
BLUEBONNET INJECTION WELLS TD: 4,700' Status: Proposed
420710331300 AP 8 Kerr-McGee Corp J.T. Terry et al. #1 TD: 9,281' Status: D&A KB = 44' GL = 29' est
420710196500 Jay Simmons Davenport #1 TD: 8,551' Status: D&A KB = 42' GL = 29' est
BASE OF LOWERMOST USDW (projected)
SALINE BUFFER AQUIFERS
TOP OF CONFINING ZONE
CONFINING ZONE
TOP OF INJECTION ZONE
INJECTION ZONE
CONTAINMENT INTERVAL
ORANGE SAND INJECTION INTERVAL
YELLOW SAND INJECTION INTERVAL
BASE OF INJECTION ZONE
LOWER CONFINING ZONE
LOWER CONFINING ZONE
Cross Section Index Map (See Figure V-29)
Scale Key
Vertical Scale
Horizontal Scale
dashed lines infer approximate location
1POINTFIVE
Bluebonnet Sequestration Hub
Chambers County, Texas
Figure V-31
Southwest-Northeast Cross Section
Drafted by: DJC and EDU
Scale: See Key
Date: January 2025
Geostock Sandia





Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

NOTE: ALL STRUCTURE MAP GEOLOGIC PICKS ARE MEAN SEA LEVEL (MSL)

KEY IDENTIFIERS

AP12 : ARTIFICIAL PENETRATION (AP) WELL IDENTIFIER
-5495 : SUBSURFACE PICK PENETRATION (TVDSS)
350 : SUBSURFACE NET SAND / ISOPACH THICKNESS
F/O: HORIZON FAULTED OUT
NL: NO LOG
NDL: NO DIGITAL LOG
NDE: LOG NOT DEEP ENOUGH
NSE: LOG NOT SHALLOW ENOUGH
PQL: POOR QUALITY LOG
PDP: PROBLEM DATA POINT
NDS: NO DEVIATED SURVEY
NODRL: NOT DRILLED

CI: CONTOUR INTERVAL

NOTE: 1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from IFS Tobin, EnverusDI (EnvDI), TXRRC (08/2024)

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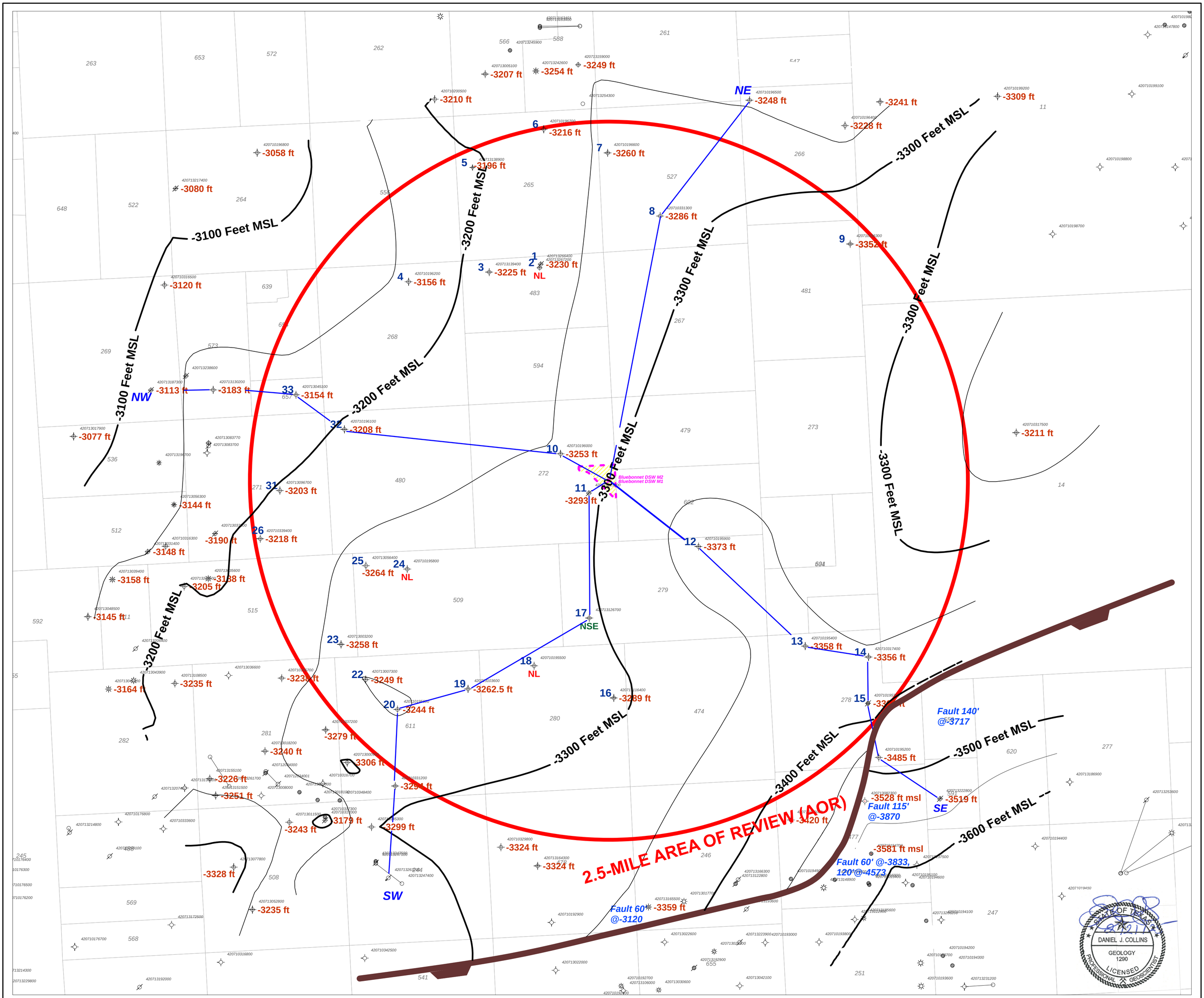
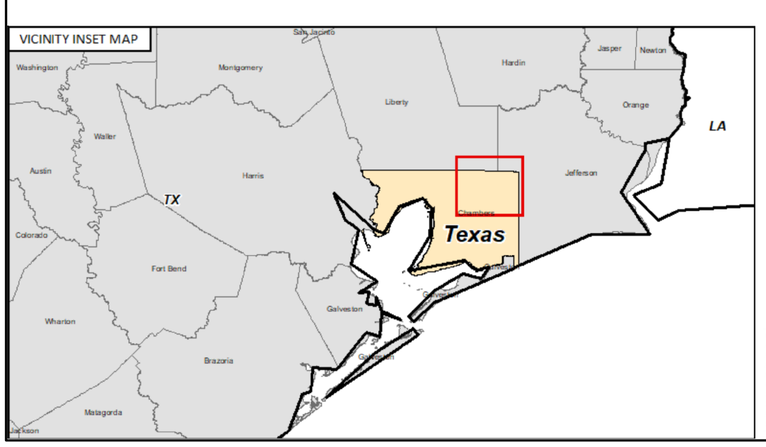
FIGURE V-32
STRUCTURE MAP
TOP OF THE CONFINING ZONE

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET		SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)
DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)
		SHEET: 1 OF 1

Geostock Sandia





0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

NOTE: ALL STRUCTURE MAP GEOLOGIC PICKS ARE MEAN SEA LEVEL (MSL)

KEY IDENTIFIERS

- AP12 : ARTIFICIAL PENETRATION (AP) WELL IDENTIFIER
- -5495 : SUBSURFACE PICK PENETRATION (TVDSS)
- 350 : SUBSURFACE NET SAND / ISOPACH THICKNESS
- F/O: HORIZON FAULTED OUT
- NL: NO LOG
- NDL: NO DIGITAL LOG
- NDE: LOG NOT DEEP ENOUGH
- NSE: LOG NOT SHALLOW ENOUGH
- PQL: POOR QUALITY LOG
- PDP: PROBLEM DATA POINT
- NDS: NO DEVIATED SURVEY
- NODRL: NOT DRILLED

CI: CONTOUR INTERVAL

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

NOTE: 1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from IFS Tobin, EnverusDI (EnvDI), TXRRC (08/2024)

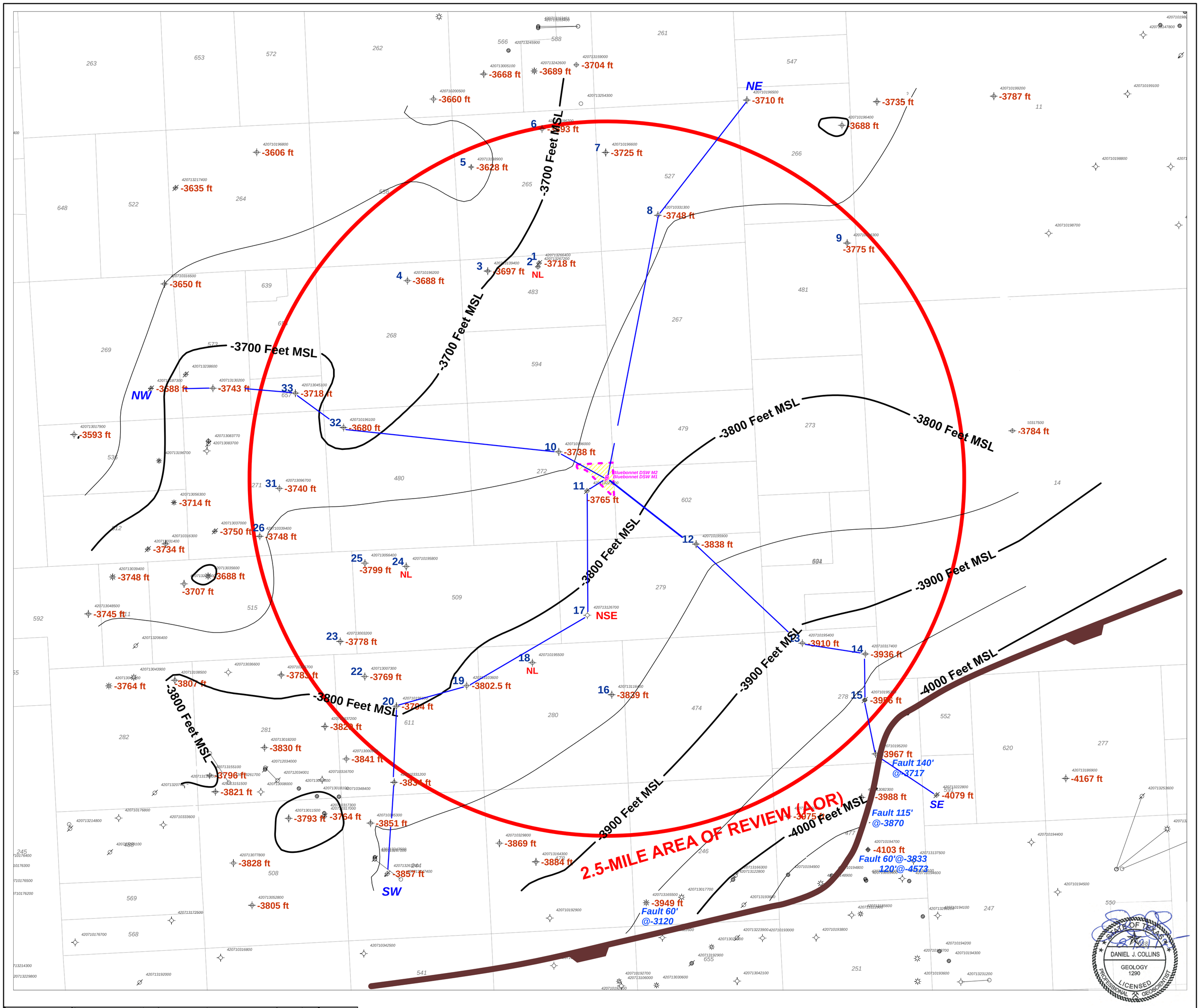
1POINTFIVE

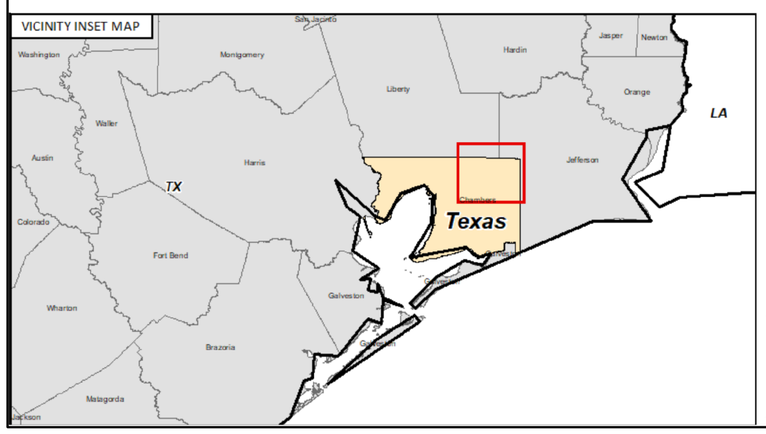
FIGURE V-33
STRUCTURE MAP
TOP OF THE INJECTION ZONE

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET		SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)
DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)
		SHEET: 1 OF 1

Geostock Sandia





0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

NOTE: ALL STRUCTURE MAP GEOLOGIC PICKS ARE MEAN SEA LEVEL (MSL)

KEY IDENTIFIERS

AP12 : ARTIFICIAL PENETRATION (AP) WELL IDENTIFIER
-5495 : SUBSURFACE PICK PENETRATION (TVDSS)
350 : SUBSURFACE NET SAND / ISOPACH THICKNESS
F/O: HORIZON FAULTED OUT
NL: NO LOG
NDL: NO DIGITAL LOG
NDE: LOG NOT DEEP ENOUGH
NSE: LOG NOT SHALLOW ENOUGH
PQL: POOR QUALITY LOG
PDP: PROBLEM DATA POINT
NDS: NO DEVIATED SURVEY
NODRL: NOT DRILLED

CI: CONTOUR INTERVAL

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

NOTE: 1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from IFS Tobin, EnverusDI (EnvDI), TXRRC (08/2024)

1POINTFIVE

FIGURE V-34
STRUCTURE MAP
TOP OF ORANGE SAND INJECTION INTERVAL

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia

-4000 Feet MSL
-3900 Feet MSL
-4100 Feet MSL
-4200 Feet MSL
-4300 Feet MSL
2.5-MILE AREA OF REVIEW (AOR)
NE
NW
SW
SE
NL
Fault 140' @-3717
Fault 115' @-3870
Fault 60' @-3120
Bluebonnet DSW M2
Bluebonnet DSW M1
1 -4022 ft
2 -4022 ft
3 -3985 ft
4 -3936 ft
5 -3884 ft
6 -3996 ft
7 -4012 ft
8 -4058 ft
9 -4043 ft
10 -4013 ft
11 -4083 ft
12 -4138 ft
13 -4258 ft
14 -4256 ft
15 -4256 ft
16 -4159 ft
17 -4108 ft
18 NL
19 -4112.5 ft
20 -4127 ft
22 -4099 ft
23 -4093 ft
24 NL
25 -4059 ft
26 -4038 ft
31 -4010 ft
32 -4048 ft
33 -3942 ft
-3959 ft
-3992 ft
-4009 ft
-3960 ft
-3968 ft
-3910 ft
-3983 ft
-4007 ft
-3848 ft
-3865 ft
-3880 ft
-3883 ft
-3958 ft
-3848 ft
-4014 ft
-4030 ft
-4046 ft
-4044 ft
-4058 ft
-4070 ft
-4053 ft
-4091 ft
-4125 ft
-4080 ft
-4134 ft
-4159 ft
-4096 ft
-4151 ft
-4138 ft
-4099 ft
-4177 ft
-4178 ft
-4157 ft
-4132 ft
-4203 ft
-4214 ft
-4288 ft
-4315 ft
-4298 ft
-4297 ft
-4101 ft
-4043 ft
-4022 ft
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-4159 ft
-4177 ft
-4157 ft
-4256 ft
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-4138 ft
-4083 ft
-4048 ft
-4010 ft
-4038 ft
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-4298 ft
-4315 ft
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-4138 ft
-4099 ft
-4096 ft
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-4091 ft
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-4093 ft
-4108 ft
-4159 ft
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-4099 ft
-4096 ft
-4151 ft
-4159 ft
-4134 ft
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-4091 ft
-4125 ft
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-3883 ft
-3958

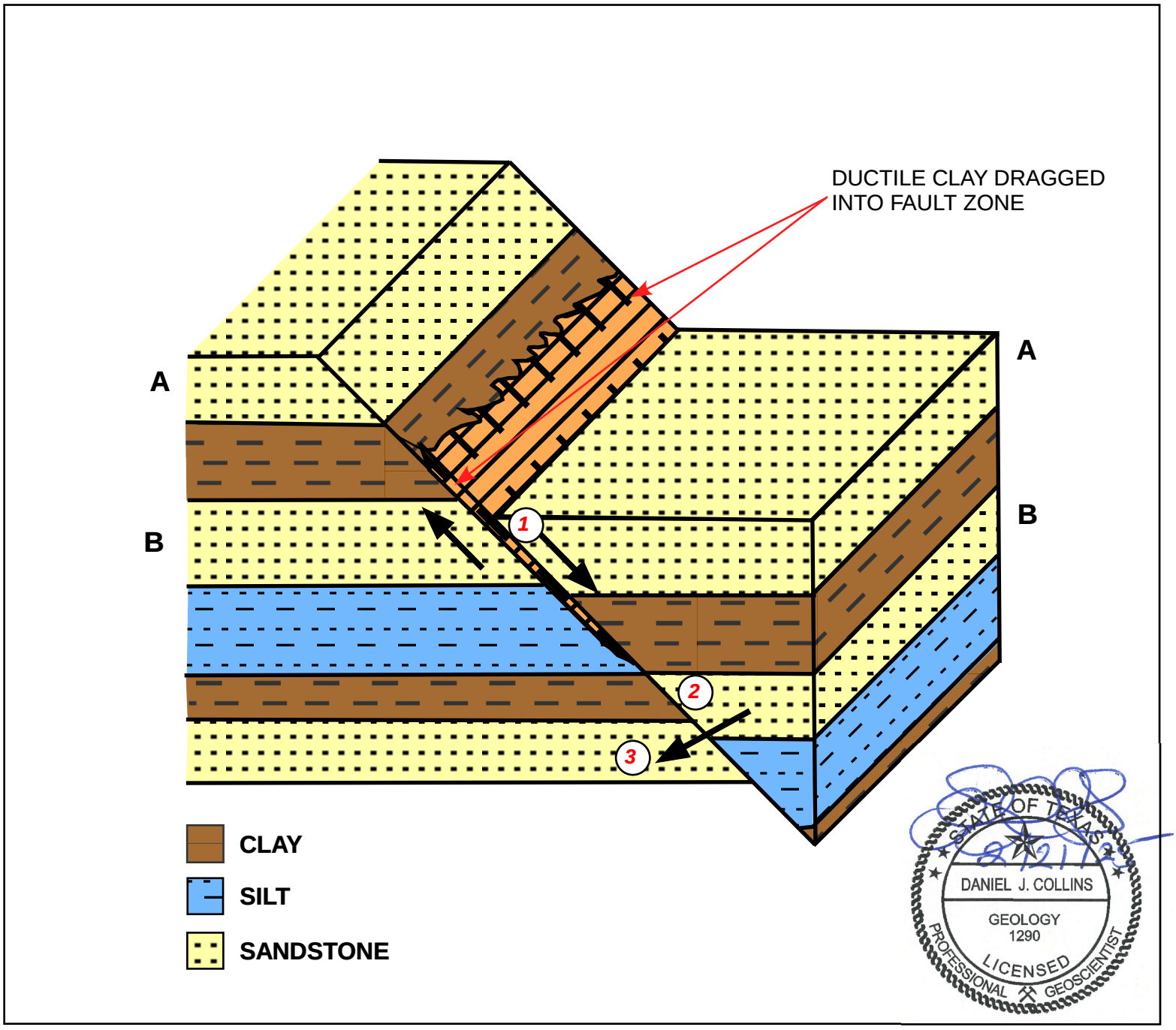


Figure V-36 Fault seal and nonseal (modified from Smith, 1980 and Downey, 1984)

(1) dragging of ductile clays into fault plane during faulting creates clay seal between two sandstones (A and B)

(2) juxtaposition of reservoir to impermeable clay bed

(3) sandstone-to-sandstone window, or leak in fault plane creating possible spillpoint to migrating fluids

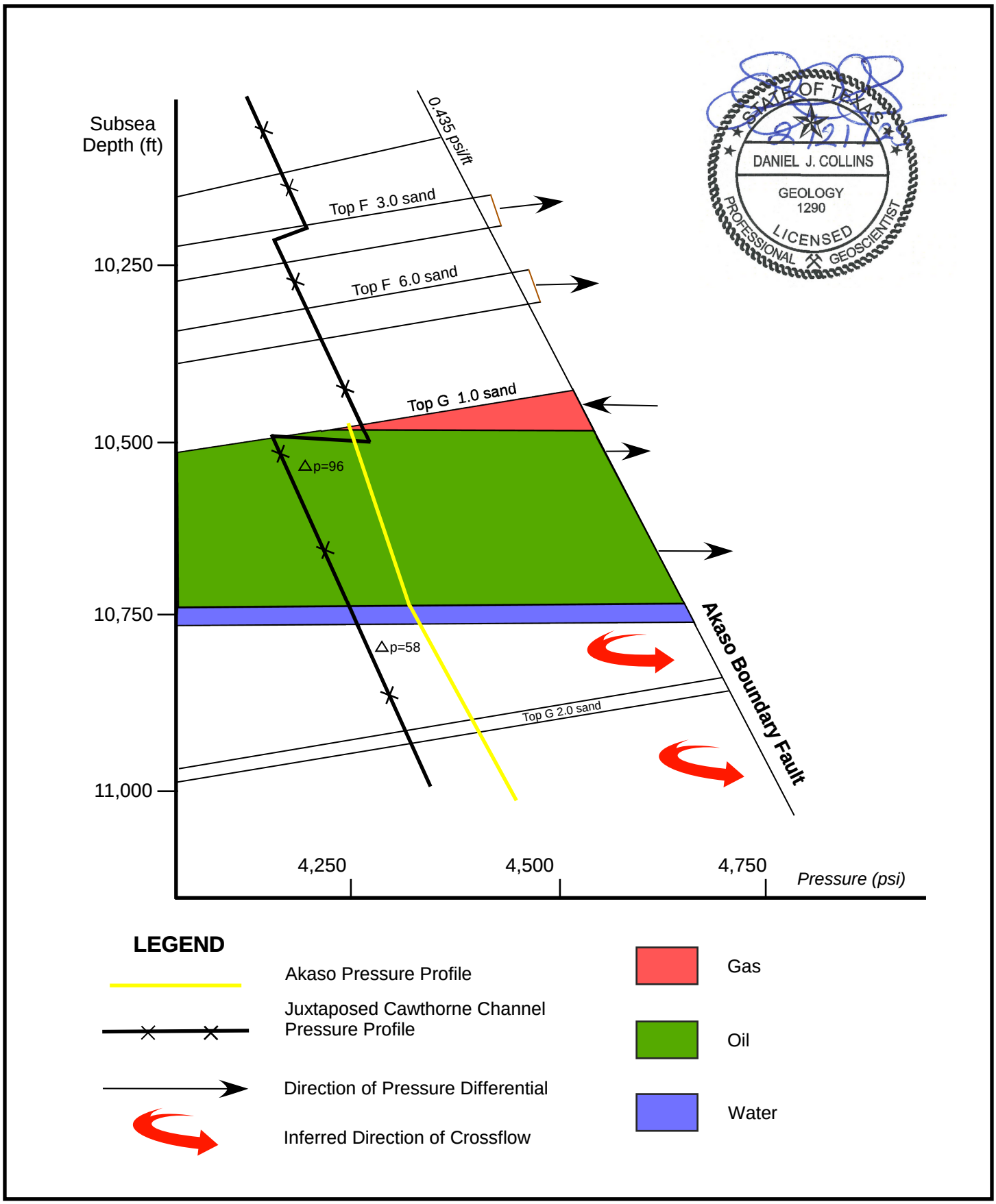
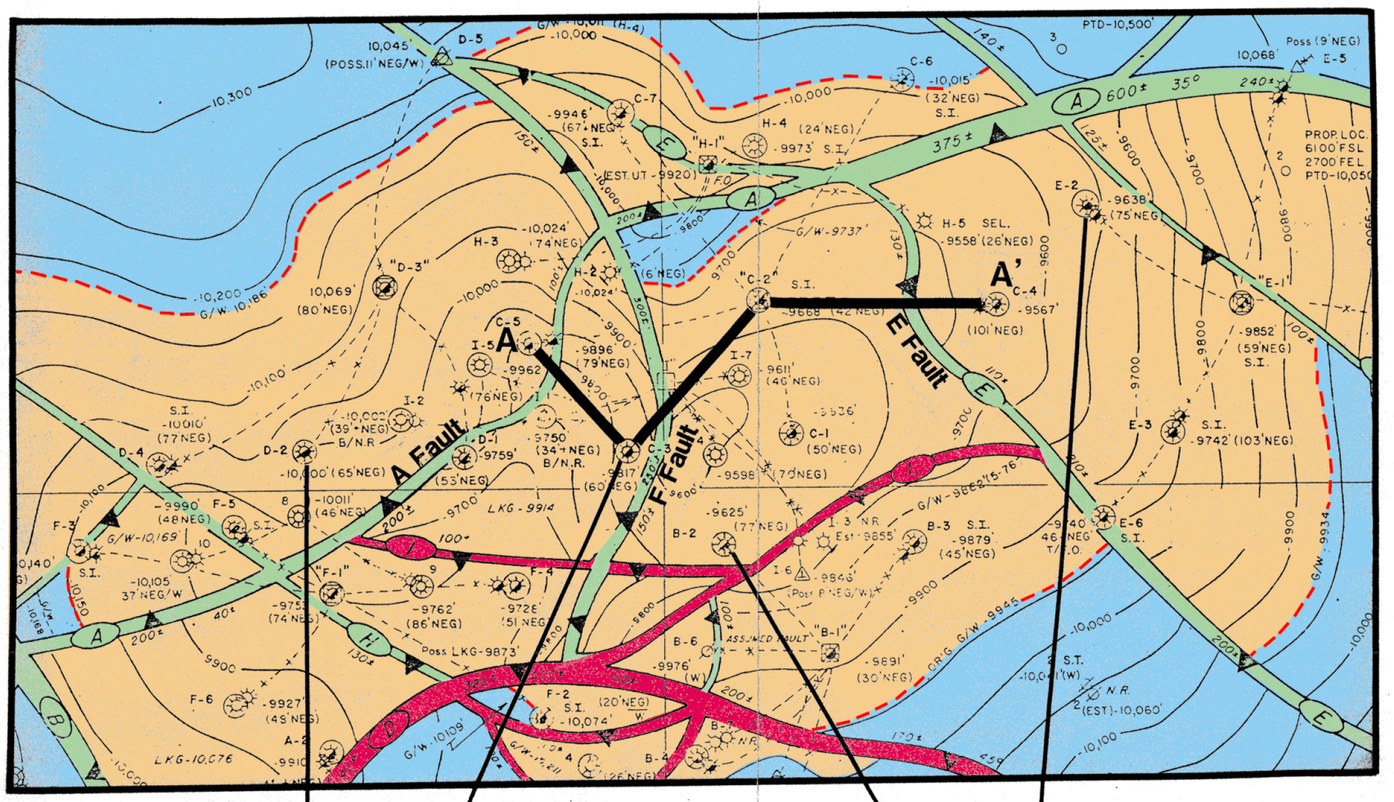
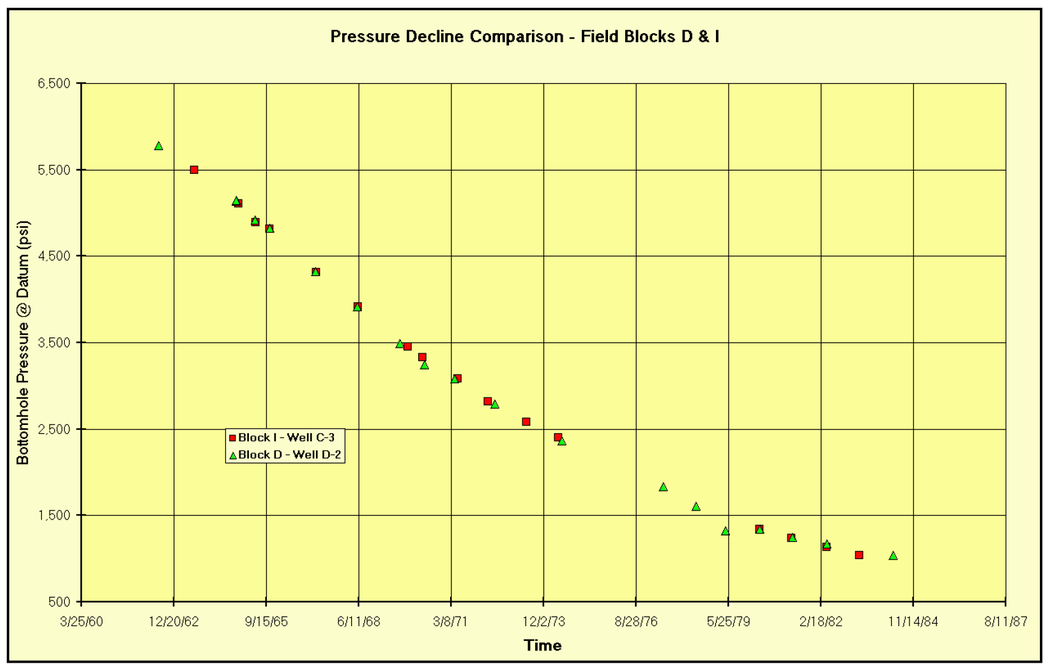
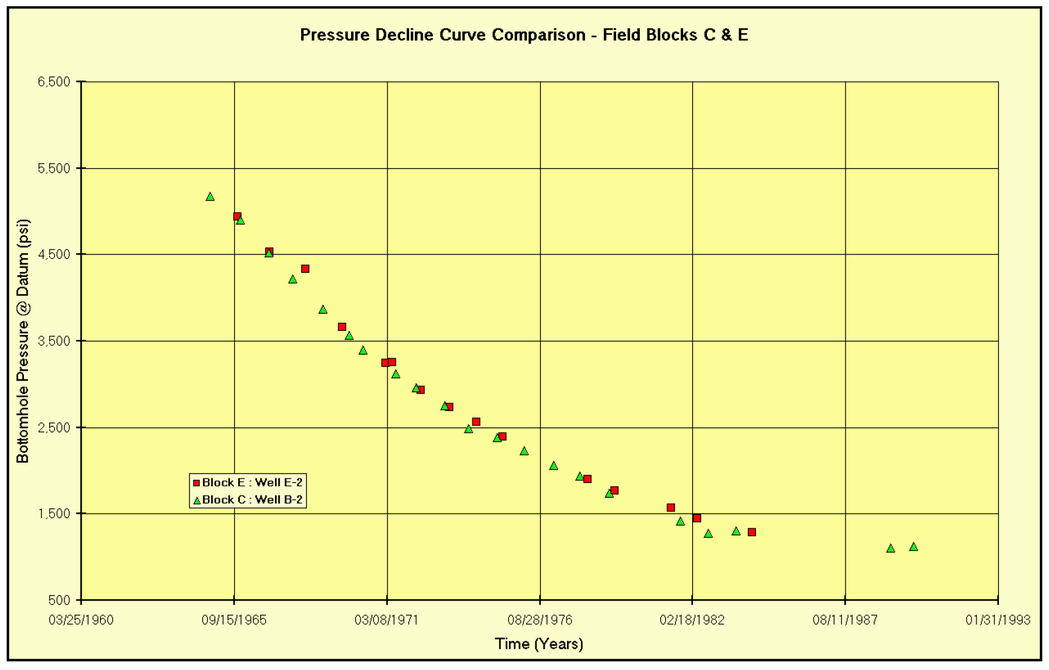
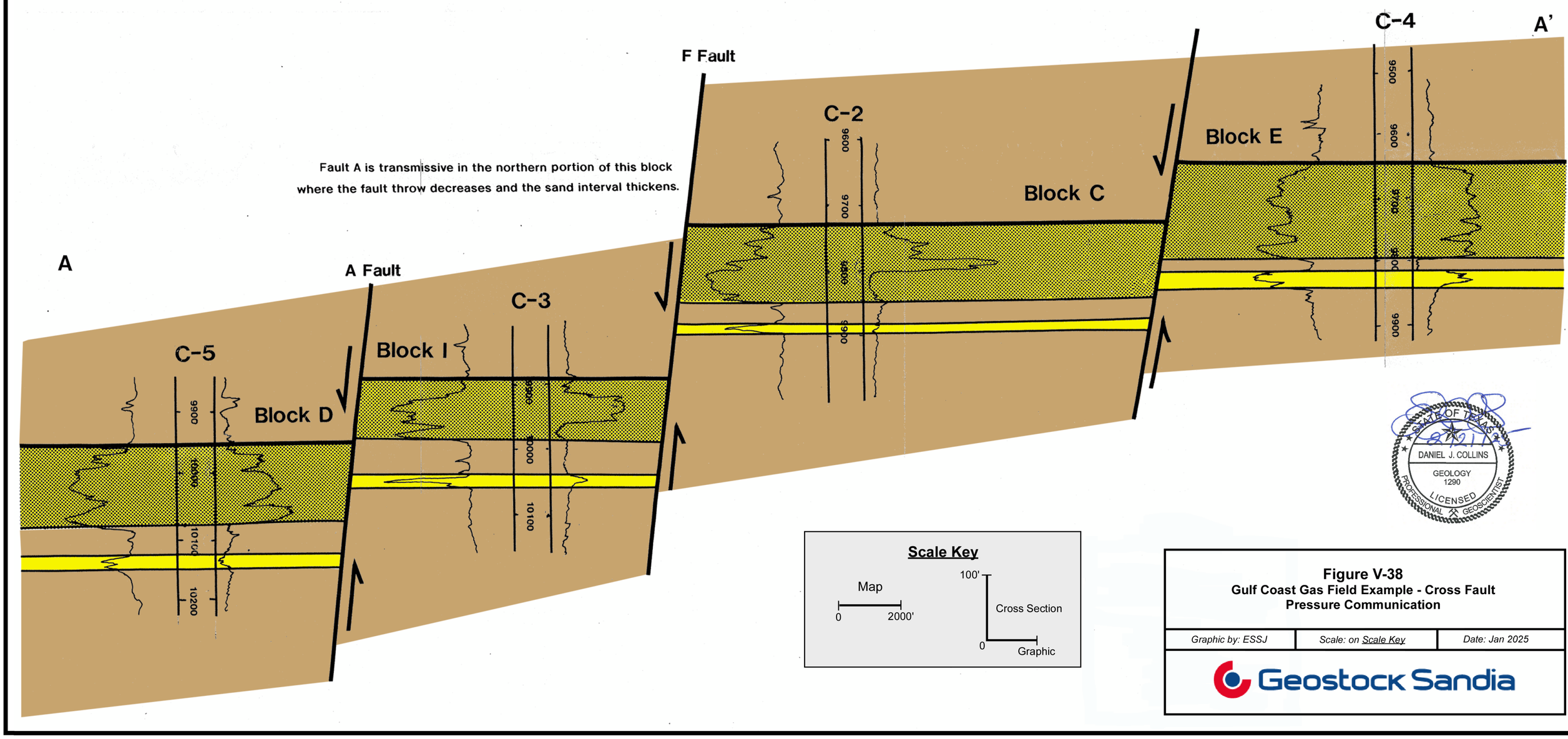


Figure V-37 Schematic Cross Section and Pressure Profile of the Akaso G Reservoirs (modified from Jev et al., 1993)









STATE OF TEXAS
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Scale Key

Map: 0 — 2000'

Cross Section: 0 — 100' — Graphic

Figure V-38
Gulf Coast Gas Field Example - Cross Fault Pressure Communication

Graphic by: ESSJ	Scale: on Scale Key	Date: Jan 2025

Geostock Sandia

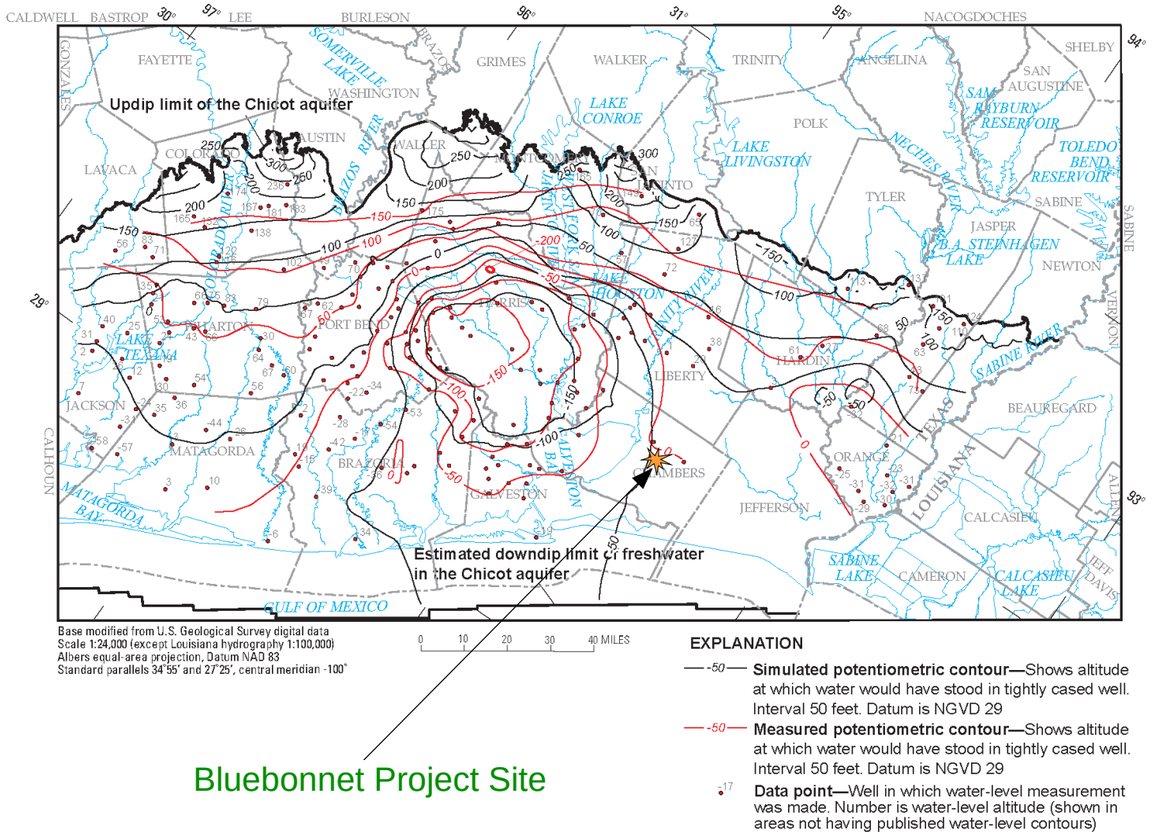


Figure 55. Simulated and measured 2000 potentiometric surfaces of the Chicot aquifer and 2000 water-level measurements from wells screened in the Chicot aquifer (modified from Coplin and Santos, 2000) in the Ground-Water Availability Model area.

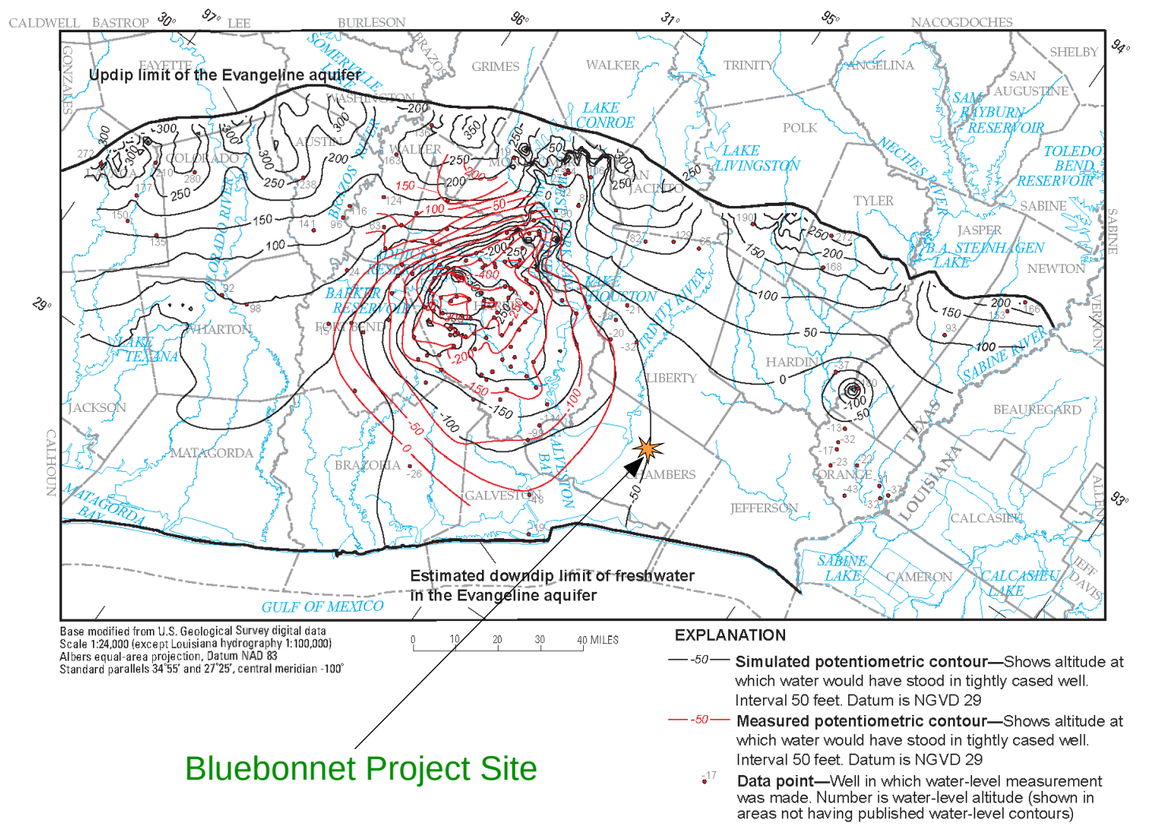


Figure 56. Simulated and measured 2000 potentiometric surfaces of the Evangeline aquifer and 2000 water-level measurements from wells screened in the Evangeline aquifer (modified from Coplin and Santos, 2000) in the Ground-Water Availability Model area.

Figure V-39: Potentiometric Maps for the Chicot and Evangaline Aquifers (from Kasmarek and Robinson, 2003)

Bluebonnet
Sequestration Hub

Houston part of sheet:

Prepared by the Army Map Service (GUDV), Corps of Engineers, U.S. Army, Washington, D.C. Compiled in 1956 from: United States Quadrangles, 1:24,000, U.S. Geological Survey, 1952; Texas, 1:25,000, Army Map Service, 1947-49; United States Quadrangles, 1:31,680, U.S. Geological Survey, 1919-20; USC & GS Charts 1280 and 1287, 1945. Planimetric detail revised by photo-planimetric methods. Control by USGS, CE and USC&GS. Map field checked 1956.

Port Arthur part of sheet:

Prepared by the U. S. Army Map Service (AMS0), Corps of Engineers, Washington, D. C. Compiled in 1955 from: Louisiana, 1:25,000, AMS, Sheet 7243 IV SE, 1943; Texas, 1:25,000, AMS, 1942; Louisiana, 1:50,000, AMS, Sheet 7343 III and III, 1951; USGS large scale compilations, 1952-54; USC&GS Charts 1277, 1956; 1278 and 1279, 1954. Planimetric detail revised by photo-planimetric methods. Horizontal and vertical control by USC&GS, CE and TVA. Map field checked 1956.

VIRGIL E. BARNES, PROJECT DIRECTOR
This revision of the Houston sheet of the Geologic Atlas of Texas relies heavily on recent publications and maps listed in the Index of Geologic Mapping. For credits and sources used for the original 1968 edition of the Houston sheet, the user is referred to that edition of the map. The base for the present edition of the Houston sheet was revised by R. L. Dillon, who also scribed the geologic mapping.

LOCATION MAP

Scale 1:250,000

CONTOUR INTERVAL 50 FEET
WITH SUPPLEMENTARY CONTOURS AT 25 FOOT INTERVALS

TRANSVERSE MERCATOR PROJECTION

1981 MAGNETIC DECLINATION FOR CENTER OF THIS SHEET IS 9°00'E. MEAN ANNUAL CHANGE IS 6.7' WESTERLY

GEOLOGIC ATLAS OF TEXAS, HOUSTON SHEET

PAUL WEAVER MEMORIAL EDITION

REVISED 1982

EXPLANATION

Fill and spoil
Fill, P, material dredged for raising land surface above alluvium and barrier-island deposits and for creating land. Spoil, S, dredged material along waterways

Alluvium — Qal
Clay, silt, and sand, organic matter-abundant locally, includes point-bar, natural levee, stream channel, backswamp, coastal marsh, mud-flat, and narrow beach deposits that are shown by line symbol

Barrier-island deposits — Qbi
Sand, silt, and clay: mostly sand, well-sorted, fine-grained, abundant shells and shell fragments; interfingers with clay and silt in landward direction; includes beach ridge, spit, tidal channel, tidal-delta, and sand dune deposits

Deweyville Formation — Qd, Qd?
Sand, silt, and clay, some gravel; includes point-bar, natural levee, stream channel, and backswamp deposits at a level only slightly above that of the present floodplain; sand coarser than that in alluvium; surface characterized by relict meanders of much larger radius of curvature than those of present streams, some scattered pimple mounds; thickness locally more than 50 feet. High-level Deweyville, Qdl, surfaces are inlain the Beaumont Formation, and high-level Deweyville deposits along Trinity River are intermediate in position between the surface of the Beaumont and the level of most Deweyville deposits

Beaumont Formation — Qbb, Qb, Cb
Beaumont Formation, Qb, with barrier-island and beach deposits, Qbb, mapped separately. Beaumont Formation, Qb, mostly clay, silt, and sand; includes mainly stream channel, point-bar, natural levee, backswamp, and to a lesser extent coastal marsh and mud-flat deposits; covertness of relatively carbonate, iron oxide, and iron-manganese oxides in zone of weathering; surface almost featureless, characterized by relict river channels shown by meander patterns and pimple mounds on meanderbelt ridges, separated by areas of low, relatively smooth, featureless backswamp deposits without pimple mounds; thickness ± 100 feet. The stippled overprint (narrow shown in Index to Geologic Mapping) shows areas that are "Dominantly clay and mud of low permeability, high water-holding capacity, high compressibility, high to very high shrink-swell potential, poor drainage, level to depressed relief, low shear strength, and high plasticity; geologic units include interdistributary muds, abandoned channel-fill muds, and overbank fluvial muds." The unstippled areas are "Dominantly clayey sand and silt of moderate permeability and drainage, low to moderate compressibility and shrink-swell potential, level relief with local mounds and ridges, and high shear strength; geologic units include meanderbelt, levee, crevasse splay, and distributary sands"

Barrier-island and beach deposits, Qbb, *mostly fine-grained sand normally without shell material; surface slightly higher than that of surrounding deposits, characterized by numerous pimple mounds and rounded depressions; probably part of "Deptentic" barrier-island system; thickness less than 20 feet*
Physical properties: "Dominantly sand, high to very high permeability, low water-holding capacity, low compressibility, low shrink-swell potential, good drainage, low ridge and depressed relief, high shear strength, and low plasticity. Geologic units include beach, foreshore, barrier-strandplain-chenier vegetated flats, Pleistocene barrier and strandplain sands"

Lissie Formation — Ql
Upper part, clay, silt, sand, and very minor siliceous gravel of granule and small pebble size, gravel more abundant northeastward, locally calcareous, concretions of siderian carbonate, iron oxide, and iron-manganese oxides common in zone of weathering; fluviatile; surface fairly flat and featureless except for numerous rounded shallow depressions and pimple mounds. Lower part, clay, silt, sand, and minor amount of gravel; gravel slightly coarser than in upper part, nonsiliceous, iron oxide concretions more abundant than in upper part; fluviatile; very gently rolling; thickness ± 200 feet

Willis Formation — Ow
Clay, silt, sand, and minor siliceous gravel of granule to pebble size including some petrified wood; sand coarser than in younger units. Deeply weathered and lateritic, indurated by clay and cemented by iron oxide locally, concretions of iron oxide numerous, nonsiliceous; fluviatile; maximum thickness 75 feet

Tertiary rocks on Hockley salt dome — T
Sandstone, very fine grained, hard, abundant porcellanous to opaline cement, poorly bedded, jointed, grayish white; possibly Catahoula Formation (Stenzel, 1946) (See Index of Geologic Mapping for reference.)

CR
Outcrop of caprock reported on Damon Mound
Not found. Reportedly used for building stone (Bevier, 1925)

U
Fault
U, upthrown; D, downthrown side

10,000-meter Universal Transverse Mercator grid ticks, shown in blue

Partially funded by Texas Department of Water Resources

INDEX OF GEOLOGIC MAPPING

For opinion on age of rocks on Hockley salt dome (area **A**), see Deussen, Alexander, and Lane, L. L. (1925) Hockley salt dome, Harris County, Texas: Bulletin of the American Association of Petroleum Geologists, v. 9, p. 1031-1060; and Stenzel, H. B. (1946) Gypsum resources and mining on the Hockley Dome, Harris County, Texas: University of Texas Publication 4301, p. 207-295. For area **B**, see Fisher, W. L., McGowen, J. H., Brown, L. F., Jr., and Groat, C. G. (1972) Environmental geologic atlas of the Texas Coastal Zone—Galveston-Houston area: The University of Texas at Austin, Bureau of Economic Geology. For area **C**, see Fisher, W. L., Brown, L. F., Jr., McGowen, J. H., and Groat, C. G. (1973) Environmental geologic atlas of the Texas Coastal Zone — Beaumont-Port Arthur area: The University of Texas at Austin, Bureau of Economic Geology. For area **D**, see McGowen, J. H., Brown, L. F., Jr., Evans, T. J., Fisher, W. L., and Groat, C. G. (1976) Environmental geologic atlas of the Texas Coastal Zone — Bay City-Freeport area: The University of Texas at Austin, Bureau of Economic Geology. For area **E**, see St. Clair, A. E., Proctor, C. V., Jr., Fisher, W. L., Kreitler, C. W., and McGowen, J. H. (1975) Land and water resources — Houston-Galveston Area Council: The University of Texas at Austin, Bureau of Economic Geology. For area **F**, see Kier, R. S., Garner, L. E., and Brown, L. F., Jr. (1977) Land resources of Texas: The University of Texas at Austin, Bureau of Economic Geology. For area **G**, see Verbeek, E. R., and Clanton, U. S. (1978) Map showing surface faults in southeastern Houston metropolitan area, Texas: U.S. Geological Survey Open-File Report 78-797. For area **H**, see Verbeek, E. R., Ratzlaff, K. W., and Clanton, U. S. (1979) Faults in parts of north-central and western Houston metropolitan area, Texas: U.S. Geological Survey, Miscellaneous Field Studies, Map MF-1126. For references concerning caprock on Damon Mound, see Veatch, A. C., in Hays, C. W., and Kennedy, William (1903) Oil fields of the Texas-Louisiana Gulf Coastal Plain: U.S. Geological Survey Professional Paper 126, p. 137; and Bevier, G. M. (1925) The Damon Mound oil field, Texas: Bulletin of the American Association of Petroleum Geologists, v. 9, p. 523.

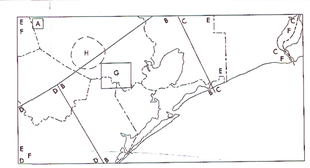


Figure V-36 Geologic Atlas of Texas - Houston Sheet

APPENDICES

Geostock Sandia

APPENDIX V-1

SEISMIC INFORMATION AND LISTING OF EARTHQUAKE DATA

Geostock Sandia

Appendix V-1
Listings of Earthquake Data

Magnitude - is a measure of the strength of an earthquake or strain energy released by it as determined by seismographic observations. This is a logarithmic value originally defined by Charles Richter (1935). An increase of one unit of magnitude (for example, from 4.6 to 5.6) represents a 10-fold increase in wave amplitude on a seismogram or approximately a 30-fold increase in the energy released. In other words, a magnitude 6.7 earthquake releases over 900 times (30 times 30) the energy of a 4.7 earthquake - or it takes about 900 magnitude 4.7 earthquakes to equal the energy released in a single 6.7 earthquake! There is no beginning nor end to this scale. However, rock mechanics seems to preclude earthquakes smaller than about -1 or larger than about 9.5. A magnitude - 1.0 event releases about 900 times less energy than a magnitude 1.0 quake. Except in special circumstances, earthquakes below magnitude 2.5 are not generally felt by humans.

Intensity - is a measure of the effects of an earthquake at a particular place on humans, structures and (or) the land itself. The intensity at a point depends not only upon the strength of the earthquake (magnitude) but also upon the distance from the earthquake to the point and the local geology at that point.

The Richter Magnitude Scale

Seismic waves are the vibrations from earthquakes that travel through the Earth; they are recorded on instruments called seismographs. Seismographs record a zig-zag trace that shows the varying amplitude of ground oscillations beneath the instrument. Sensitive seismographs, which greatly magnify these ground motions, can detect strong earthquakes from sources anywhere in the world. The time, locations, and magnitude of an earthquake can be determined from the data recorded by seismograph stations.

The Richter magnitude scale was developed in 1935 by Charles F. Richter of the California Institute of Technology as a mathematical device to compare the size of earthquakes. The magnitude of an earthquake is determined from the logarithm of the amplitude of waves recorded by seismographs. Adjustments are included for the variation in the distance between the various seismographs and the epicenter of the earthquakes. On the Richter Scale, magnitude is expressed in whole numbers and decimal fractions. For example, a magnitude 5.3 might be computed for a moderate earthquake, and a strong earthquake might be rated as magnitude 6.3. Because of the

logarithmic basis of the scale, each whole number increase in magnitude represents a tenfold increase in measured amplitude; as an estimate of energy, each whole number step in the magnitude scale corresponds to the release of about 31 times more energy than the amount associated with the preceding whole number value.

At first, the Richter Scale could be applied only to the records from instruments of identical manufacture. Now, instruments are carefully calibrated with respect to each other. Thus, magnitude can be computed from the record of any calibrated seismograph.

Earthquakes with magnitude of about 2.0 or less are usually call micro-earthquakes; they are not commonly felt by people and are generally recorded only on local seismographs. Events with magnitudes of about 4.5 or greater - there are several thousand such shocks annually - are strong enough to be recorded by sensitive seismographs all over the world. Great earthquakes, such as the 1964 Good Friday earthquake in Alaska, have magnitudes of 8.0 or higher. On the average, one earthquake of such size occurs somewhere in the world each year. The Richter Scale has no upper limit. Recently, another scale called the moment magnitude scale has been devised for more precise study of great earthquakes. The Richter Scale is not used to express damage. An earthquake in a densely populated area which results in many deaths and considerable damage may have the same magnitude as a shock in a remote area that does nothing more than frighten the wildlife. Large-magnitude earthquakes that occur beneath the oceans may not even be felt by humans.

The Modified Mercalli Intensity Scale

The effect of an earthquake on the Earth's surface is called the intensity. The intensity scale consists of a series of certain key responses such as people awakening, movement of furniture, damage to chimneys, and finally - total destruction. Although numerous *intensity scales* have been developed over the last several hundred years to evaluate the effects of earthquakes, the one currently used in the United States is the Modified Mercalli (MM) Intensity Scale. It was developed in 1931 by the American seismologists Harry Wood and Frank Neumann. This scale, composed of 10 increasing levels of intensity that range from imperceptible shaking to catastrophic destruction, is designated by Roman numerals. It does not have a mathematical basis; instead it is an arbitrary ranking based on observed effects.

The MMI value assigned to a specific site after an earthquake has a more meaningful measure of severity to the nonscientist than the magnitude because intensity refers to the effects experienced at that place. After the occurrence of widely felt earthquakes, the Geological Survey mails

questionnaires to postmasters in the disturbed area requesting the information so that intensity values can be assigned. The results of this postal canvass and information furnished by other sources are used to assign an intensity within the felt area. The maximum observed intensity generally occurs near the epicenter.

The *lower* numbers of the intensity scale generally deal with the manner in which the earthquake is felt by people. The *higher* numbers of the scale are based on observed structural damage. Structural engineers usually contribute information for assigning intensity values of VIII or above. The modified MMI Scale (from USGS) is presented in Figure 1. Figures 2, 3, and 4 present the historical and current seismicity of Texas.

INCREASES

CIIM Intensity	People's Reaction	Furnishings	Built Environment	Natural Environment
I	Not felt			Changes in level and clarity of well water are occasionally associated with great earthquakes at distances beyond which the earthquakes felt by people.
II	Felt by a few.	Delicately suspended objects may swing.		
III	Felt by several; vibration like passing of truck.	Hanging objects may swing appreciably.		
IV	Felt by many; sensation like heavy body striking building.	Dishes rattle.	Walls creak; window rattle.	
V	Felt by nearly all; frightens a few.	Pictures swing out of place; small objects move; a few objects fall from shelves within the community.	A few instances of cracked plaster and cracked windows with the community.	Trees and bushes shaken noticeably.
VI	Frightens many; people move unsteadily.	Many objects fall from shelves.	A few instances of fallen plaster, broken windows, and damaged chimneys within the community.	Some fall of tree limbs and tops, isolated rockfalls and landslides, and isolated liquefaction.
VII	Frightens most; some lose balance.	Heavy furniture overturned.	Damage negligible in buildings of good design and construction, but considerable in some poorly built or badly designed structures; weak chimneys broken at roof line, fall of unbraced parapets.	Tree damage, rockfalls, landslides, and liquefaction are more severe and widespread wiht increasing intensity.
VIII	Many find it difficult to stand.	Very heavy furniture moves conspicuously.	Damage slight in buildings designed to be earthquake resistant, but severe in some poorly built structures. Widespread fall of chimneys and monuments.	
IX	Some forcibly thrown to the ground.		Damage considerable in some buildings designed to be earthquake resistant; buildings shift off foundations if not bolted to them.	
X			Most ordinary masonry structures collapse; damage moderate to severe in many buildings designed to be earthquake resistant.	

Figure 1 - Modified Mercalli Intensity (MMI) Scale (*from USGS, 2022*)

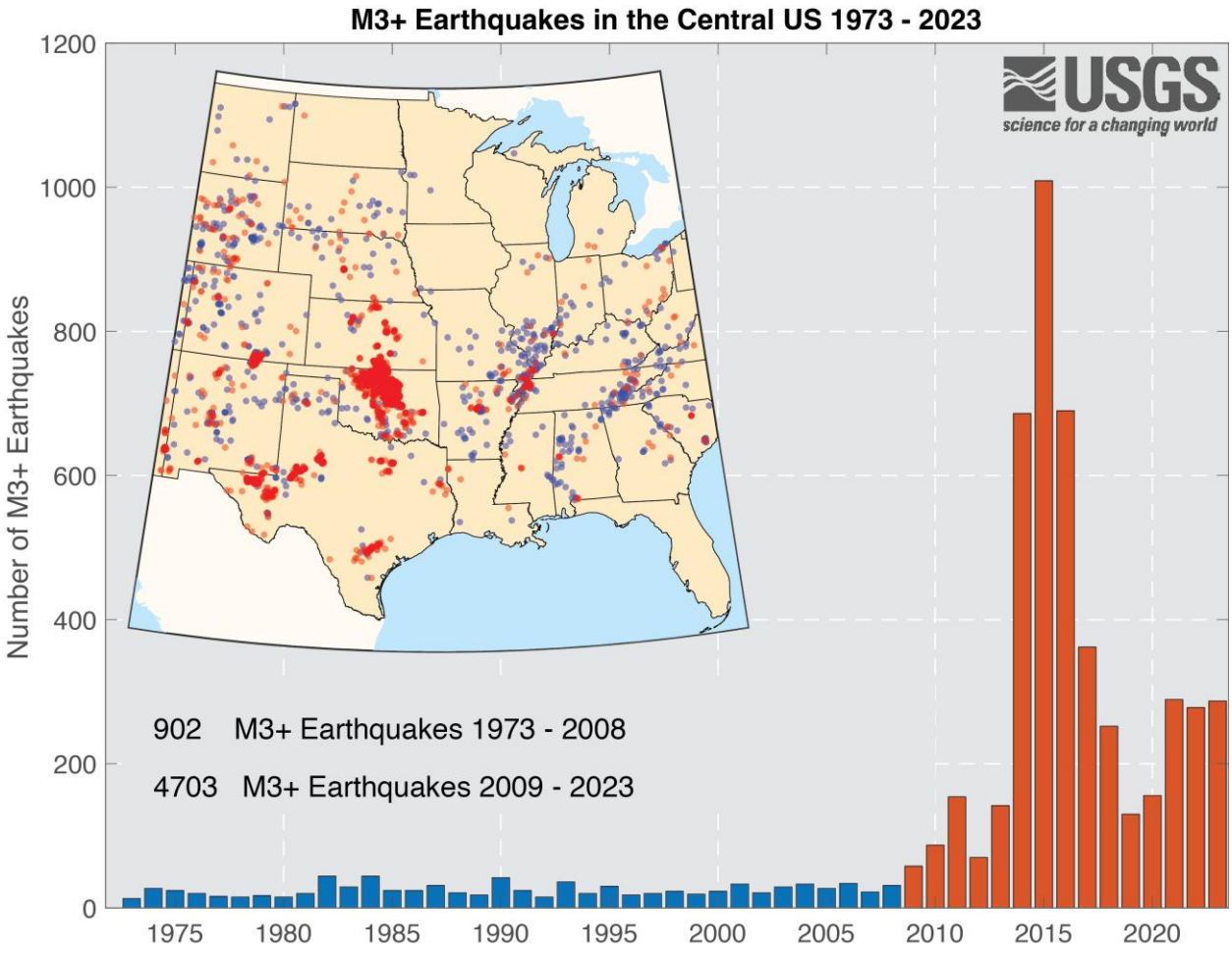
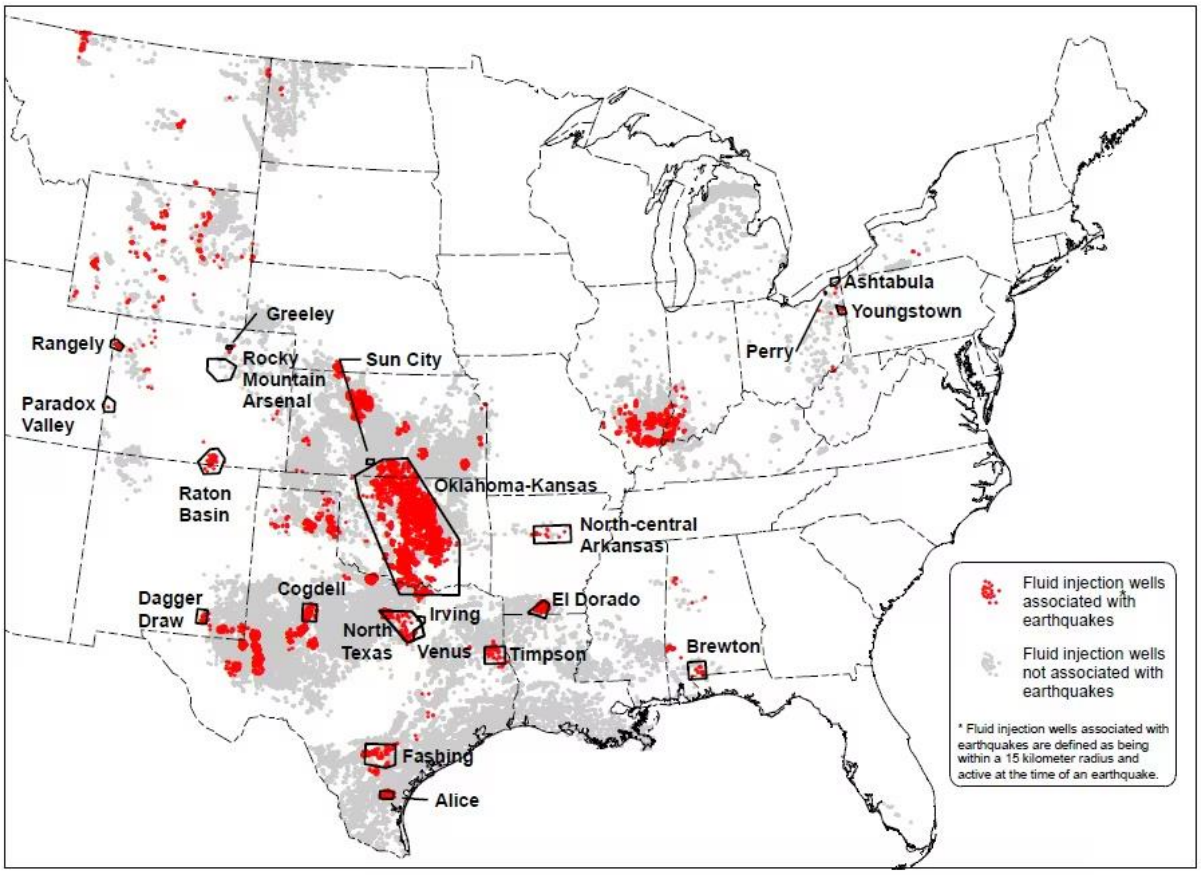


Figure 2 – Seismicity of the Central United States – 1973 through 2023 (from USGS, 2023)



Note: No earthquakes are associated with Class I UIC Injection Wells in the Gulf Coast Region

Figure 3 – Seismicity related to Class II (SWD/Fracking)Injection Wells (USGS release 2016)

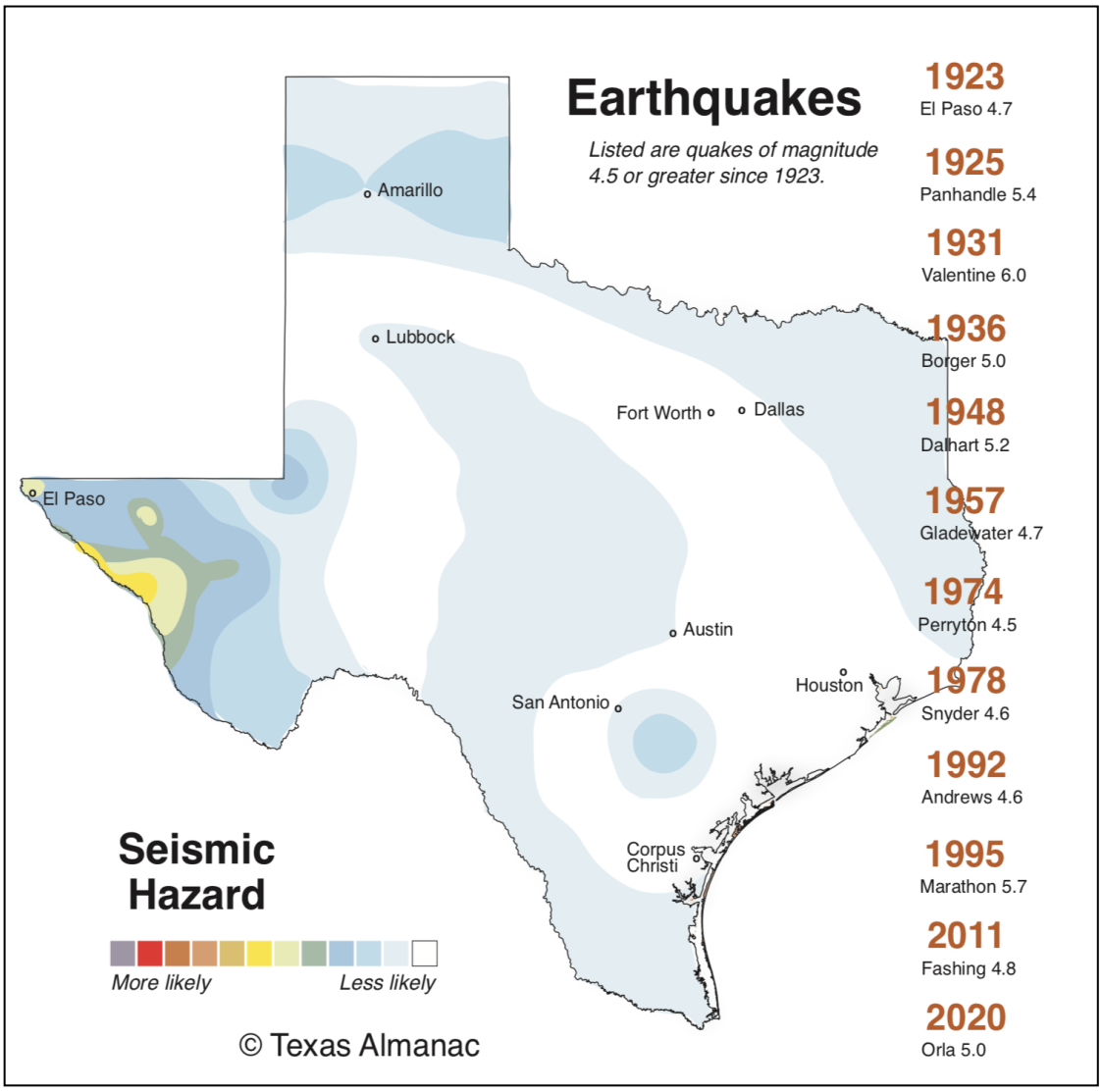
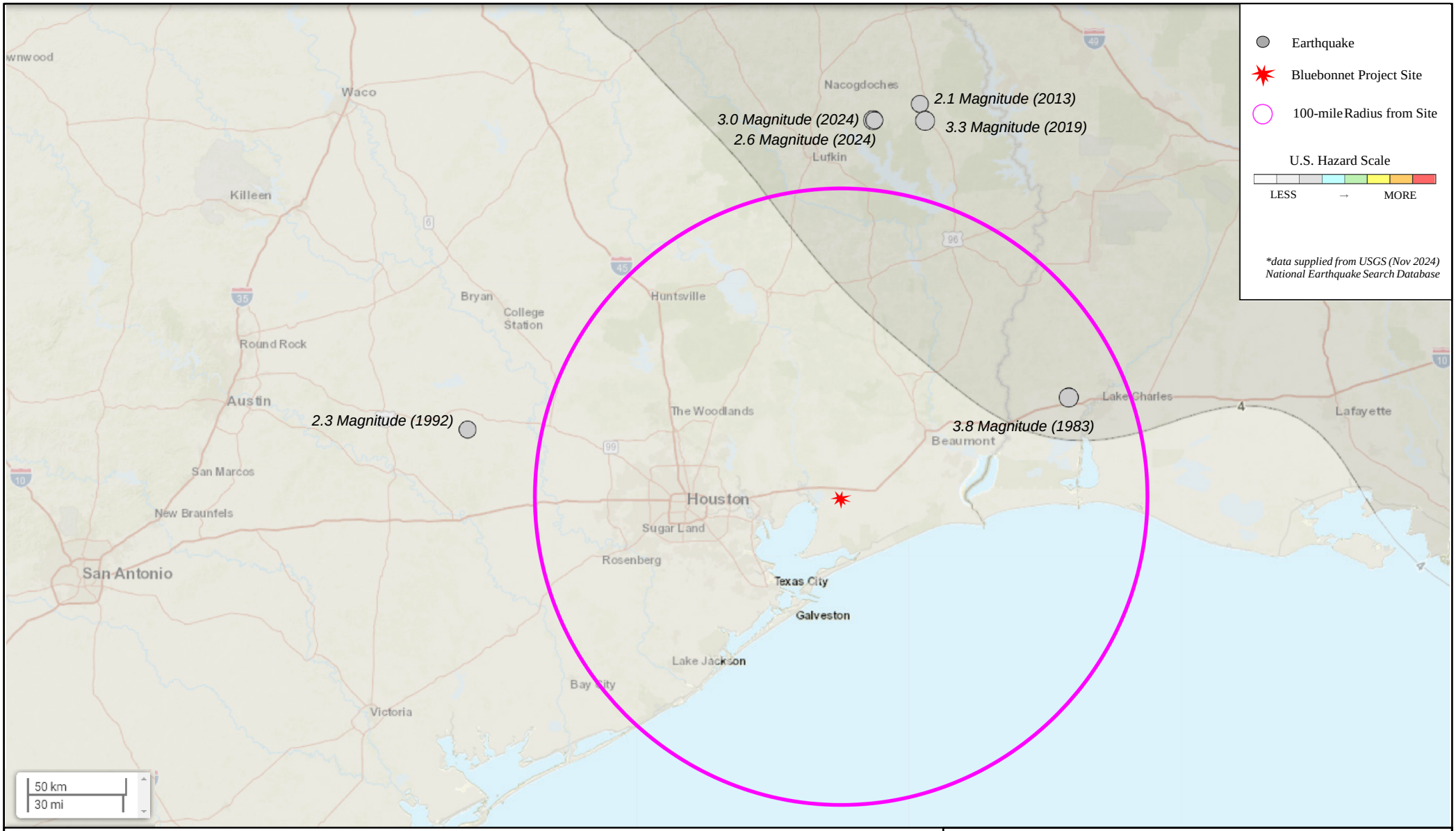


Figure 4 – Large Seismic Events (4.5 or greater) in Texas Since 1923 (Texas Almanac, 2024)

NEIC EARTHQUAKE SEARCH RESULTS WITHIN 200 KM OF THE BLUEBONNET SEQUESTRATION HUB SINCE 1900



Data search updated in November 2024 from the USGS National Earthquake Database

Appendix V-1
Regional extent Seismic Events within 200 km (~125 miles) of the Bluebonnet Site since 1900

PROJECT INFO: Chambers County, Texas		SCALE INFO: See Figure	
DATE: November 2024	PROJECT NAME: 240069PWT	BY: D. Gallagher	SHEET 1 OF 1

Geostock Sandia

Date	Time	Latitude	Longitude	Depth (km)	Magnitude	Place
05/04/2024	2:21:41 AM	31.473	-94.398	6	2.6	5 km WSW of Chireno, Texas
04/02/2024	10:17:27 PM	31.473	-94.404	8	3.0	5 km WSW of Chireno, Texas
01/20/2019	11:32:03 AM	31.4703	-94.1354	5	3.3	7 km SSW of San Augustine, Texas
02/03/2013	6:40:57 AM	31.545	-94.162	5	2.1	5 km WNW of San Augustine, Texas
04/07/1992	12:10:20 PM	30.1	-96.5	0	2.3	12 km SW of Brenham, Texas
10/16/1983	7:40:51 PM	30.243	-93.393	5	3.8	1 km WNW of Sulphur, Louisiana

APPENDIX V-2

SUBMITTED IN SECTION XIII - CONFIDENTIAL

Geostock Sandia

APPENDIX V-3

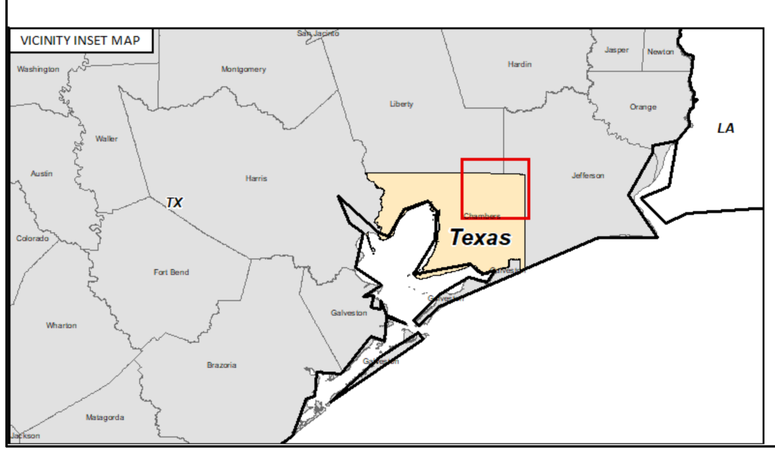
BLANK BASE MAP

Geostock Sandia

Bluebonnet DSW M1

Bluebonnet DSW M2

2.5-MILE AREA OF REVIEW (AOR)



Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

KEY IDENTIFIERS

AP12 : ARTIFICIAL PENETRATION (AP) WELL IDENTIFIER
-5495 : SUBSURFACE PICK PENETRATION (TVDSS)
350 : SUBSURFACE NET SAND / ISOPACH THICKNESS
F/O: HORIZON FAULTED OUT
NL: NO LOG
NDL: NO DIGITAL LOG
NDE: LOG NOT DEEP ENOUGH
NSE: LOG NOT SHALLOW ENOUGH
PQL: POOR QUALITY LOG
PDP: PROBLEM DATA POINT
NDS: NO DEVIATED SURVEY
NODRL: NOT DRILLED

CI: CONTOUR INTERVAL

NOTE: 1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from IFS Tobin, EnverusDI (EnvDI), TXRRC (08/2024)

1POINTFIVE

APPENDIX V-3
BLANK BASE MAP

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia

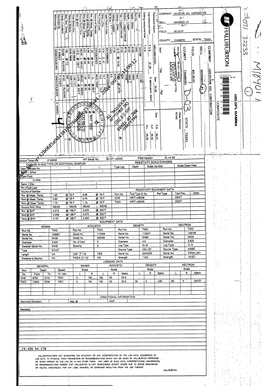
APPENDIX V-4

WELL LOGS USED IN GEOLOGICAL ANALYSIS

Geostock Sandia


Top Fracturing Zone
Top Injection Zone
Top Orange Sand
Top Yellow Sand
Base Injection Zone


37°DF
27°Gr.
(LS)
Location: 675'NSL, 660'WSL of W/2 of NE/4 of Sec.45, in T-8 N.C.Dur. Sec. 45; A-272, E/2 Co. app. (LS: S-26-41: 675'FS & 660'FS of W/2 of NE/4 of Sec.45 Approx. 1700'FW & 1900'FE of Sec. 45 mi.
BASE USDW
TOP CONFINING ZONE
A
TOP INJECTION ZONE
B
TOP ORANGE INTERVAL
TOP YELLOW INTERVAL
BASE INJECTION ZONE
C
D
E
F
6840
37
6803
Hel
Fig Ridge
3
4



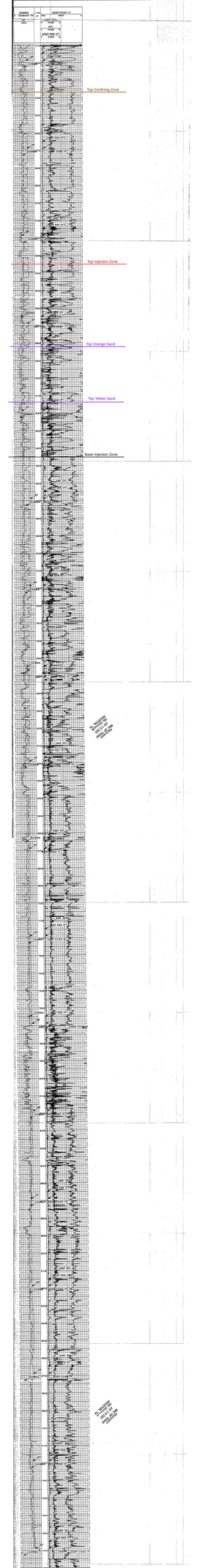
Top Confining Zone

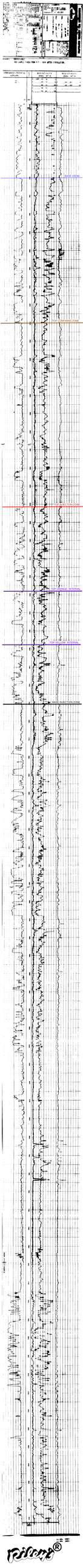
Top Injection Zone

Top Orange Sand

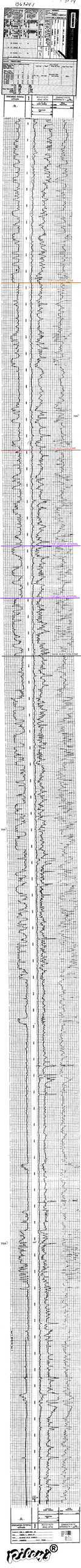
Top Yellow Sand

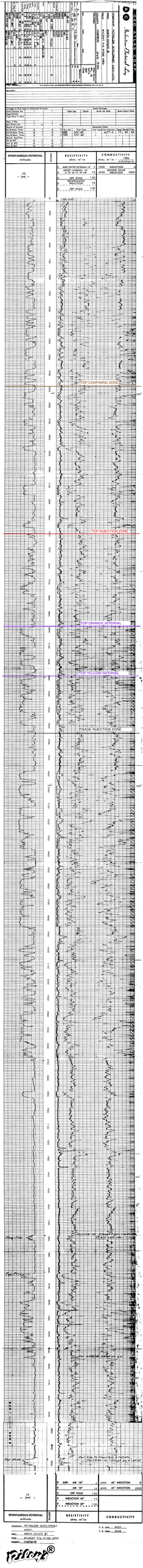
Base Injection Zone

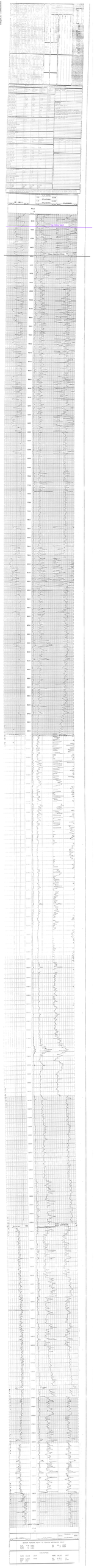


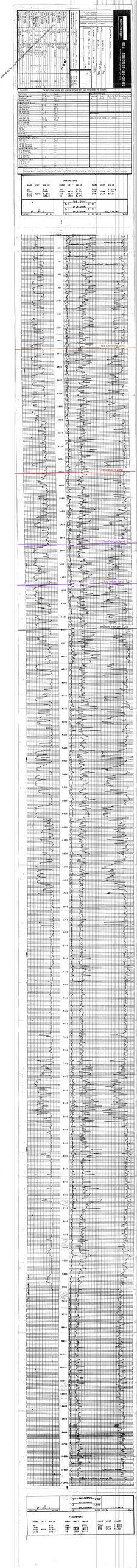



Operator: Exxon Co., USA
Well: Flint #1
Field: Wildcat
County: Chambers
State: Texas
Elevation: 12' (est.)
Permanent Datum: Sea Level
Log Measured From: KB
Drilling Measured From: KB
Date: 14-Mar-1978
Run No.: One
Depth Driller: 11,200'
Depth Logger: 11,198'
Bottom Log Interval: 11,196'
Top Log Interval: 10,400'
Casing Driller: 9 5/8" @ 10,400'
Casing Logger: 10,400'
Bit Size: 8 1/2"
Type Fluid: Lignosulfonate
Density: 10.2 ppg
Viscosity: 42 sec
Fluid Loss: 6.8 cc
Source of Sample: Flowline
Rm @ Meas. Temp: 0.42 @ 148°F
Rmf @ Meas. Temp: 0.35 @ 148°F
Rmc @ Meas. Temp: 0.58 @ 148°F
Source of Rmf/Rmc: Measured
Rm @ BHT: 0.31 @ 172°F
Time Since Circ.: 6 hrs
Max. Rec. Temp.: 172°F
Equip. No. & Loc.: 4412 / Houston
Recorded By: R. Whitfield
Witnessed By: J. Calder
Remarks
Run 1 Base
Top Cretaceous Shale
Top Upper Sand
Top Middle Sand
Top Lower Sand
Base Lower Sand
INDUCTION ELECTRICAL LOG
SPHERICALLY FOCUSED LOG
GAMMA RAY
CALIPER
Schlumberger

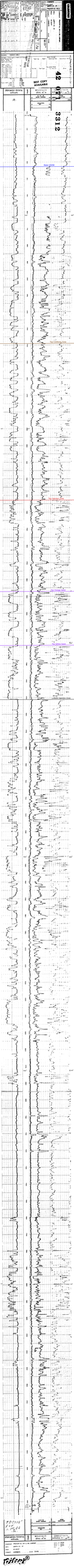

136304-1
Schlumberger
Dual Induction-SFL
Borehole Compensated Sonic Log
Gamma Ray
Caliper
Spontaneous Potential
Resistivity
Bit Size
Depth
Gamma Ray (API)
Caliper (in)
SP (mV)
Deep Induction (ohms)
Medium Induction (ohms)
Shallow Focused (ohms)
Sonic (μsec/ft)
Density (g/cc)
Neutron (%)
Photoelectric Factor
Repeat Section
Main Log
Fossil®

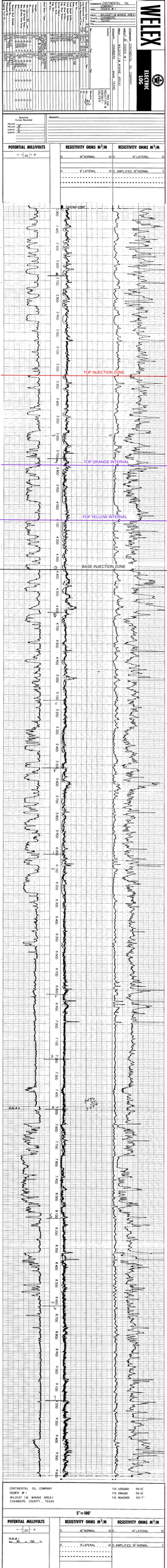

DE
DE GOLYER and MacNAUGHTON
Reservoir Technical Services
COMPANY PETROLEUM DEVELOPMENT (BRUNEI) LTD.
WELL SERIA FIELD - SERIA AREA
FIELD
COUNTY
STATE
LOCATION
Other Services
Permanent Datum
Log Measured From
Drilling Measured From
Elev.: K.B.
D.F.
G.L.
Date
Run No.
Depth-Driller
Depth-Logger
Bottom Logged Interval
Top Logged Interval
Type Fluid in Hole
Salinity, PPM Cl
Density
Viscosity
pH
Fluid Loss
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source of Rmf
Source of Rmc
Rm @ BHT
Time Since Circ.
Max. Rec. Temp. Deg. F.
Equip. Location
Recorded By
Witnessed By
RUN NO.
BIT
FROM
TO
CASING
WT./FT.
GRADE
SET AT
TYPE JOINT
BOREHOLE RECORD
CASING RECORD
REMARKS
Changes in Fluid Type or Additional Samples
Date
Time Circ. Stopped
Time Logger on Bottom
Max Rec. Temp. Deg. F.
Equip. No.
Location
Recorded By
Witnessed By
Run No.
Bit Size
Type Fluid in Hole
Density
Viscosity
Fluid Loss
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source of Rmf
Source of Rmc
Rm @ BHT
Time Since Circ.
Max. Rec. Temp. Deg. F.
Equip.

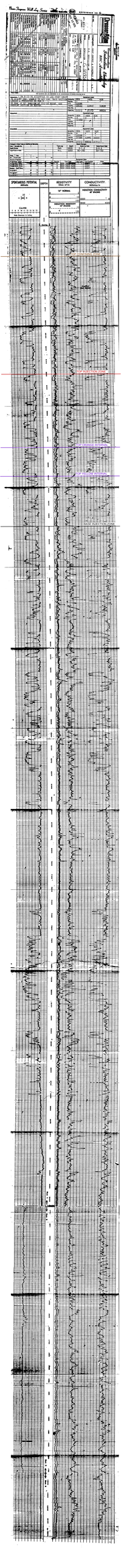



Conductivity Image
Resistivity Image
Resistivity Average
Top Confining Zone
Top Injection Zone
Top Primary Seal
Top Yellow Band
Top Arbuckle Group


Top Confining Zone
Top Injection Zone
Top Orange Sand
Top Yellow Sand
Base Injection Zone


42
3312
WELL COPY
STANDARD
PACKER
PACKER
PACKER


WELEX
ELECTRIC LOG
COMPANY CONTINENTAL OIL
WELL ODDEN #1
FIELD WILDCAT (W. WINNIE AREA)
COUNTY CHAMBERS STATE TEXAS
LOCATION
Other Services
Permanent Datum
Log Measured From
Drilling Measured From
Elev.
Date
Run No.
Depth-Driller
Depth-Logger
Bottom Logged Interval
Top Logged Interval
Type Fluid in Hole
Salinity, PPM Cl
Density
Level
Max. Rec. Temp. Deg. F
Operating Rig Time
Recorded By
Witnessed By
Run No.
Bit No.
From
To
Size
Wgt.
Fluid Loss
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source of Rmf and Rmc
Rm @ BHT
Time Since Circ.
Max. Rec. Temp. Deg. F
Equip. No. & Location
Recorded By
Witnessed By
CASING RECORD
SIZE
WGT.
GRADE
FROM
TO
BOREHOLE RECORD
Bit No.
From
To
Size
Time
Max. Rec. Temp. Deg. F
Equip. No. & Location
Recorded By
Witnessed By
Resistivity Curves Recorded
Normal
Short Normal
Lateral
Lateral
REMARKS
POTENTIAL MILLIVOLTS
RESISTIVITY OHMS M²/M
16" NORMAL
64" NORMAL
5' LATERAL
AMPLIFIED 16" NORMAL
TOP INJECTION ZONE
TOP ORANGE INTERVAL
TOP YELLOW INTERVAL
BASE INJECTION ZONE
RUN #2
CONTINENTAL OIL COMPANY
ODDEN #1
WILDCAT (W. WINNIE AREA)
CHAMBERS COUNTY, TEXAS
T.D. LOGGED 9616'
T.D. DRILLED 9616'
T.D. REACHED 9617'
5"= 100'
POTENTIAL MILLIVOLTS
RESISTIVITY OHMS M²/M
16" NORMAL
64" NORMAL
5' LATERAL
AMPLIFIED 16" NORMAL
RUN #1
Rm =.58 @ 108 °F
Rmf =.46 @ 108 °F
Rmc =.75 @ 108 °F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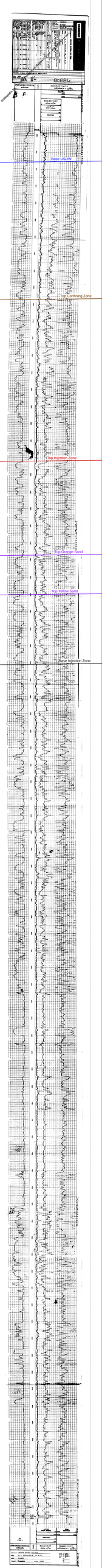
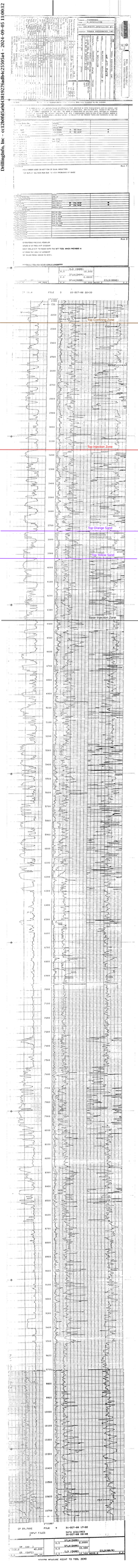
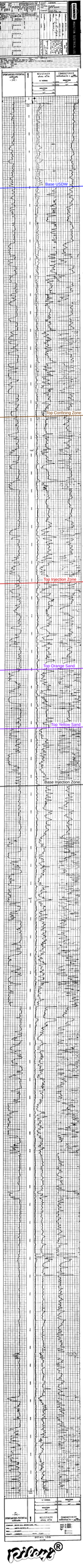
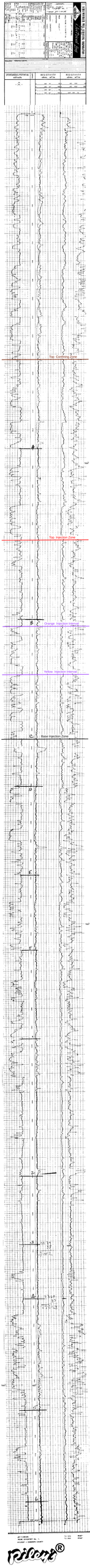
Schlumberger
SPONTANEOUS POTENTIAL
RESISTIVITY
CONDUCTIVITY
DEPTH


Base USDW
Top Confining Zone
Top Injection Zone
Top Orange Sand
Top Yellow Sand
Base Injection Zone

DrillingInfo, Inc - cc12b0fd5a0d438192768ab-fc25505a4 - 2024-09-05 13:00:12




Base USDW
Top Confining Zone
Top Injection Zone
Top Orange Sand
Top Yellow Sand
Base Injection Zone


Top Confining Zone
Top Injection Zone
Orange Injection Interval
Yellow Injection Interval
Base Injection Zone

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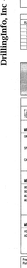

















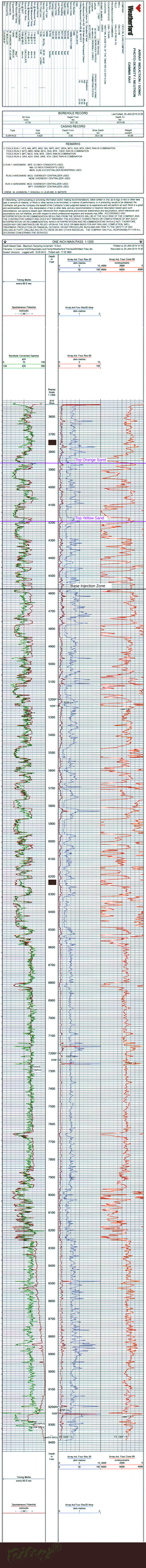
Weatherford
ARRAY INDUCTION / SONIC
PHOTO / GAMMA RAY / LITHO
BOREHOLE RECORD
Last Edited: 25-JAN-2019 23:55
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Depth From
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Depth To
3174.00
CASING RECORD
Type
Size
Depth From
Shoe Depth
Weight
SURFACE
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0.00
307.00
40.00
REMARKS
1 TOOLS RUN 1: HTT, MIN, MTE, MSD, SAJ, MFD, MCV, MDN, MCG, SHA, MTA, CBHC RAN IN COMBINATION
TOOLS RUN 2: MTE, MSD, MDN, MCG, MTA, CBHC RAN IN COMBINATION
TOOLS RUN 3: MFT, MCG, SHA, MTA, CBHC RAN IN COMBINATION
TOOLS RUN 4: GWA, HDN, SWS, RAM, CBHC RAN IN COMBINATION
2) RUN 1 HARDWARE: MTE, ELEMCO STANDOFFS USED
MCG, ELEMCO STANDOFFS USED
MDN, ELEMCO ECCENTRALIZER/CENTRALIZER USED
RUN 2 HARDWARE: MCG, OVERBODY CENTRALIZER USED
MTE, OVERBODY CENTRALIZER USED
RUN 3 HARDWARE: MCG, OVERBODY CENTRALIZER USED
MFT, OVERBODY CENTRALIZER USED
CREW: M. JOHNSON, T. SOULEAU, V. LEVEJAC, D. BATISTE
All interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or tests or other data, type or amount of material, or Work or other services to be furnished, or manner of performance, or in producing results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good workmanlike manner. However, because of the many factors beyond the Contractor's reasonable control affecting the results of such interpretations, any opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION, COMMUNICATION, INFORMATION OR RECOMMENDATION IS MADE AT THE COMPANY'S SOLE RISK AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS CONTRACTOR SHALL HAVE NO LIABILITY OR RESPONSIBILITY FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED IN CONNECTION THEREWITH, TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PERCEIVED INFO-PRELIMINARY RISK TO THE SAFETY OF ANY PERSONNEL OR EQUIPMENT, OR ACCURACY OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.
ONE INCH MAIN PASS 1:1200
Depth Based Data - Maximum Sampling Increment: 10.0cm
Filename: C:\Users\14337\AppData\Local\Temp\Weatherford Trainee\Edit\Main Pass.dis
Screen Versions: Logged with: 16.05 Build: 1
Plotted on 24-JAN-2019 14:16
Recorded on 25-JAN-2019 10:30
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Array Ind. Four Res 20 ohm metres
Array Ind. Four Cond 60 millisiemens/metre
Timing Marks every 60.0 sec
Spontaneous Potential millivolts
Borehole Corrected Gamma API
Array Ind. Four Res 60 ohm metres
Replay Tension Pounds Bow Spring
Top Orange Sand
Top Yellow Sand
Base Injection Zone
Depth Feet
Array Ind. Four Res 20 ohm metres
Array Ind. Four Cond 60 millisiemens/metre
Timing Marks every 60.0 sec
Spontaneous Potential millivolts
Array Ind. Four Res60 Amp ohm metres

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LOG LIBRARY

75576

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WELL	[illegible]				
FIELD	[illegible]				
COUNTY	[illegible]				
STATE	[illegible]				
LOCATION	[illegible]				
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DRILLING MEASURED FROM	[illegible]				

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DEPTH-LOGGER	[illegible]		
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TOP LOG INTERVAL	[illegible]		
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CASING-LOGGER	[illegible]		
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PH	[illegible]	FLUID LOSS	[illegible]
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RMF @ MEAS. TEMP.	[illegible]	@	[illegible]
RMC @ MEAS. TEMP.	[illegible]	@	[illegible]
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TIME CIRC.	[illegible]		
TIME SINCE CIRC.	[illegible]		
MAX. REC. TEMP.	[illegible]		
EQUIP. LOCATION	[illegible]		
RECORDED BY	[illegible]		
WITNESSED BY	[illegible]		

RUN NO.	[illegible]		
BIT NO.	[illegible]		
TYPE	[illegible]		
SIZE	[illegible]		
MFG.	[illegible]		
FROM	[illegible]		
TO	[illegible]		
FEET	[illegible]		
HOURS	[illegible]		
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RM @ BHT	[illegible]		
TIME CIRC.	[illegible]		
TIME SINCE CIRC.	[illegible]		
MAX. REC. TEMP.	[illegible]		
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RECORDED BY	[illegible]		
WITNESSED BY	[illegible]		

REMARKS:

EQUIPMENT NUMBERS:			
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO OUR GENERAL TERMS AND CONDITIONS AS SET FORTH IN OUR CURRENT PRICE SCHEDULE.

FILE 17

CHANGED PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
CSTB	161.000				

R.1 SP 10.000
SP (MILLIVOLTS) 0.0000
SP_CRV 1 SP(MILLIVOLTS) DEPTH (FEET) DEPTH(FEET)

FILE 19

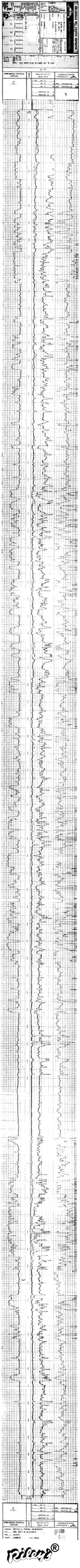
R.1 SP 10.000
SP (MILLIVOLTS) 0.0000
SP_CRV 1 SP(MILLIVOLTS) DEPTH (FEET) DEPTH(FEET)

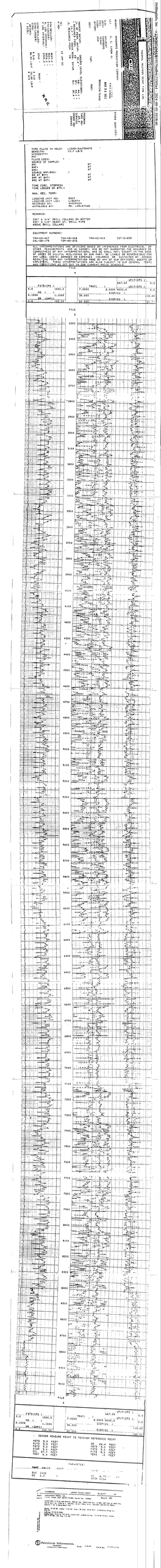
DIVISION HEADING POINT TO TENSION REFERENCE POINT

KB	24.0 FEET	DF	23.0 FEET
GRAT	24.0 FEET	GL	24.0 FEET
DFT	23.0 FEET	DFT	23.0 FEET
GRAT	24.0 FEET	GL	24.0 FEET
CSTB	24.0 FEET	TENS	0 FEET

PARAMETERS

NAME	VALUE	UNIT	NAME	VALUE	UNIT
CSTB	161.000		BS	8.75000	IN
CSF	100.000	DEGF	CTM	94.1000	DEGF
TDEP	1.00000	[illegible]	RMFS	0.43000	[illegible]
TUNI	FEET		RMCS	0.56000	[illegible]
BS	8.0		TYPE	0.00000	




PIPE FLUID IN HOLE:
LIQUID SULFONATE
9.2 LB/G
RESISTIVITY
SOURCE OF SAMPLE:
RM @
RMF @
RMC @
SOURCE RMF/RMC
RM @ BHT
RMF @ BHT
RMC @ BHT
TIME CIRC. STOPPED:
TIME LOGGER ON BTM.
MAX. REC. TEMP.
LOGGING UNIT NO:
LOGGING ENG. LOC:
RECORDED BY:
WITNESSED BY:
9967
CORPUS CHRISTY
MR. LANGSTAFF
REMARKS:
2397' 6 3/4" DRILL COLLARS ON BOTTOM
2397' 5" DRILL PIPE
ABOVE DRILL COLLARS
EQUIPMENT NUMBERS:
TNM-43-668
TNM-42-410
551-G-958
CNL-GB-175
TDH-GB-278
ALL INTERPRETATIONS OR OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WHICH WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION, AND WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO OUR GENERAL TERMS AND CONDITIONS AS SET FORTH IN OUR CURRENT PRICE SCHEDULE.
FILE
3
SP1(CPS)
2.0
1000.0
MD
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1000
GR (GAPI)
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150.00
TRAT
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4.0000
MATRIX
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SPLIT(CPS)
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DISP(CV)
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60.000
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FILE
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CSG 8.0 FEET
TBG 8.0 FEET
CSG 2.0 FEET
TBG 2.0 FEET
GR 49.4 FEET
CCL 8.0 FEET
PIPE 8.0 FEET
PIPE 8.0 FEET
PIPE 8.0 FEET
REMARKS/LOG:
NAME (PRINT)
SIGN
DATE
UPPER TEXAS DIRECT
NEUTRON
Petroleum Information



SCHLUMBERGER ELECTRICAL LOGS

COMPANY [illegible] WELL: [illegible] H. [illegible] # 1

FIELD [illegible] SURVEY: [illegible] Sec 30

COUNTY [illegible] FILING NO.: 606.

PROBLEM [illegible] FORMATION [illegible] PERMANENT

RESULTS [illegible]

Ext. Reading	7016	ft.	Started run	[illegible]	[illegible]
Ext. Reading	1692	ft.	Finished run	[illegible]	[illegible]
Ext. Reading Mounted	6692	ft.	Time well occupied by mode	[illegible]	hr.
Casing Depth	1[illegible]	ft.	Time waiting at well	[illegible]	hr.
Casing Depth	1[illegible]	ft.	Total time occurred by run	[illegible]	hr.
Run on Depth	7[illegible]	ft.	Mileage occurred by run	[illegible]	Mi.

MUD CHARACTERISTICS

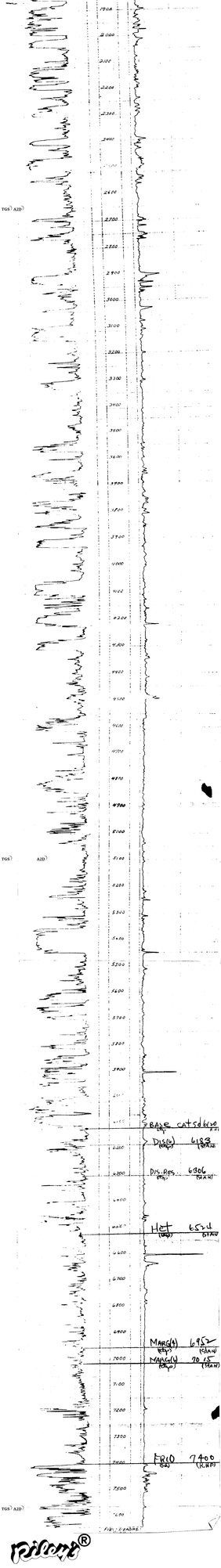
Nature: Natural Viscosity: [illegible] Diameters of hole: from dist. Index: [illegible] from 7270 to bottom: [illegible]

REMARKS

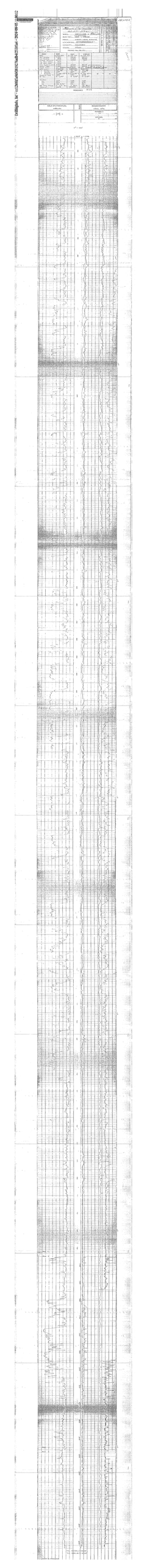
Datum Temperature 1 100 degrees.

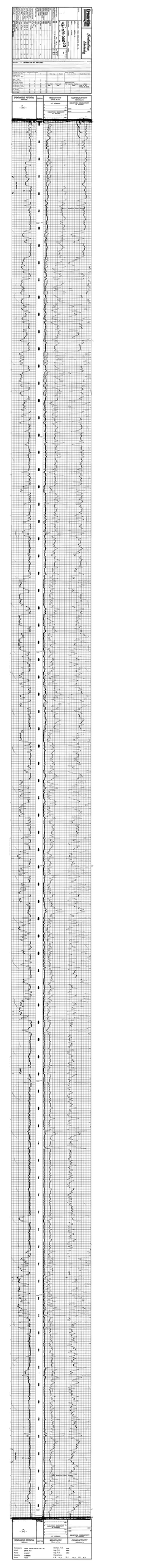
Date January [illegible] Observers: [illegible]

POROSITY LOG - in Blocks | DEPTHS 1 inch = 100' | RESISTIVITY LOG - ohms m/m



Pilot®




Dresser Atlas
Induction Electrical Log
API-05-045-21346
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Well
Field
County
State
Location
Permanent Datum
Log Measured From
Drilling Measured From
Elevation
Date
Run No.
Depth-Driller
Depth-Logger
Bottom Logged Interval
Top Logged Interval
Type Fluid in Hole
Salinity, PPM Cl
Density
Viscosity
Fluid Loss
Source of Sample
Rm @ Meas. Temp.
Rmf @ Meas. Temp.
Rmc @ Meas. Temp.
Source of Rmf and Rmc
Rm @ BHT
Time Since Circulation
Max. Rec. Temp. Deg. F.
Equip. No. and Location
Recorded By
Witnessed By
RUN NO.
BIT
CASING
TYPE FLUID IN HOLE
DENSITY
VISCOSITY
PH
FLUID LOSS
SOURCE OF SAMPLE
RM @ MEAS. TEMP.
RMF @ MEAS. TEMP.
RMC @ MEAS. TEMP.
SOURCE OF RMF AND RMC
RM @ BHT
TIME SINCE CIRCULATION
MAX. REC. TEMP. DEG. F.
EQUIP. NO. AND LOCATION
RECORDED BY
WITNESSED BY
TIME
DATE
DEPTH-DRILLER
DEPTH-LOGGER
BTM. LOG INTERVAL
TOP LOG INTERVAL
CASING-DRILLER
CASING-LOGGER
BIT SIZE
TYPE FLUID IN HOLE
DENSITY
VISCOSITY
PH
FLUID LOSS
SOURCE OF SAMPLE
RM @ MEAS. TEMP.
RMF @ MEAS. TEMP.
RMC @ MEAS. TEMP.
SOURCE OF RMF AND RMC
RM @ BHT
TIME SINCE CIRCULATION
MAX. REC. TEMP. DEG. F.
EQUIP. NO. AND LOCATION
RECORDED BY
WITNESSED BY
FIELD
COUNTY
STATE
LOCATION
SEC
TWP
RGE
PERMANENT DATUM
ELEV.
LOG MEASURED FROM
DRILLING MEASURED FROM
ELEV.: K.B.
D.F.
G.L.
RUN
DATE
TYPE LOG
DEPTH DRILLER
DEPTH LOGGER
BTM. LOG INTERVAL
TOP LOG INTERVAL
CASING DRILLER
CASING LOGGER
BIT SIZE
TYPE FLUID IN HOLE
DENSITY
VISCOSITY
PH
FLUID LOSS
SOURCE OF SAMPLE
RM @ MEAS. TEMP.
RMF @ MEAS. TEMP.
RMC @ MEAS. TEMP.
SOURCE OF RMF AND RMC
RM @ BHT
TIME SINCE CIRCULATION
MAX. REC. TEMP. DEG. F.
EQUIP. NO. AND LOCATION
RECORDED BY
WITNESSED BY
SPONTANEOUS POTENTIAL
MILLIVOLTS
RESISTIVITY
OHMS M²/M
CONDUCTIVITY
MILLIMHOS/M
INDUCTION CONDUCTIVITY
MILLIMHOS/M
0
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160
240
320
400
480
560
640
720
800
880
960
1040
1120
1200
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1360
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1760
1840
1920
2000
2080
2160
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2720
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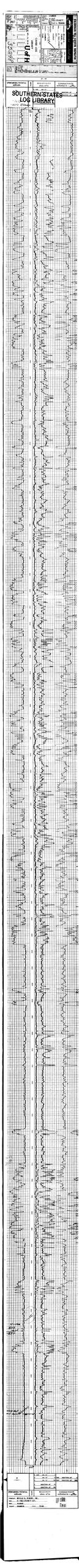
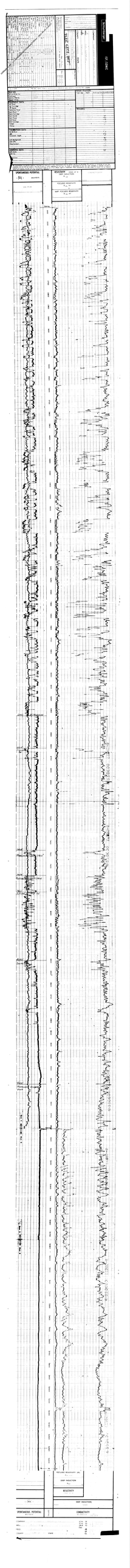
2880
2960
3040
3120

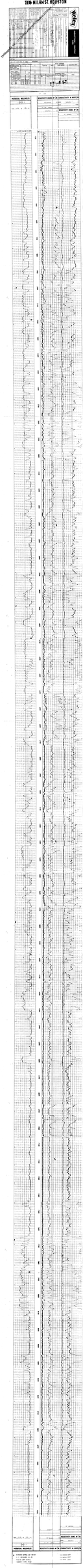
Dresser Atlas

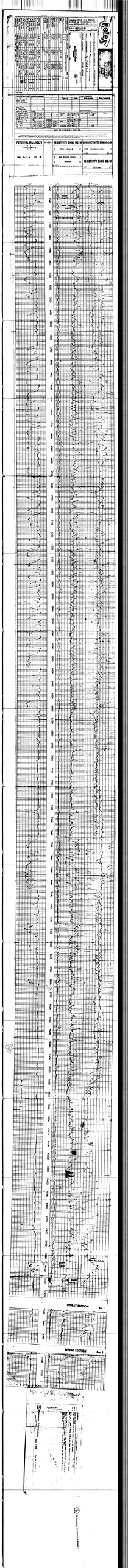
Production Logging


SOUTHERN STATES
LOG LIBRARY


SPONTANEOUS POTENTIAL
RESISTIVITY
SHALLOW RESISTIVITY
DEEP RESISTIVITY
DEEP INDUCTION
CONDUCTIVITY

SOUTHERN STATES
CAMBE LOG LIBRARY
WAREHOUSERS OF INFORMATION
718 MILAM ST. HOUSTON





ENGINEERING CERTIFICATION

Geostock Sandia

VI. ENGINEERING REPORT CERTIFICATION

I, William H. Armstrong, P.E. , Vice President – Engineering
(technical report supervisor) (Title)

I certify under penalty of law that Section VI- Injection Well Engineering Report, and all applicable attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information, recommendations and specifications submitted are, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 2/25/25

Document pages covered by seal include the following:

Pages VI-1 through VI-59
Tables VI-1 though VI-2
Appendices VI-1 thru VI-3
Applicable Figures are individually sealed



State of Texas, Registered Professional Engineer #76312

Texas Engineering Firm F-15391-Geostock Sandia, LLC

SECTION VI

WELL ENGINEERING AND OPERATIONS

Geostock Sandia

BLUEBONNET SEQUESTRATION HUB

UIC CLASS I NONHAZARDOUS INJECTION WELL APPLICATION

SECTION VI – INJECTION WELL ENGINEERING REPORT

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VI. INJECTION WELL ENGINEERING REPORT

Bluebonnet Sequestration Hub, LLC is requesting underground injection control permits for two new Class I non-hazardous injection wells (Bluebonnet DSW M1 & Bluebonnet DSW M2). The wells will be completed into the Upper Miocene Lagarto Formation.

The following sections address the procedures to drill, sample, complete, operate, and test the proposed wells, as well as specifications of the construction materials. Additionally, procedures for plugging and abandoning the wells are also provided. Specification of maximum instantaneous rate of injection; average rate of injection; and the total monthly and annual volumes requested are also included.

VI.A PROPOSED NEW WELL DESIGN AND CONSTRUCTION

This permit application is requesting a permit for two new Class I non-hazardous injection wells (Bluebonnet DSW M1 and Bluebonnet DSW M2) for the Bluebonnet Sequestration Project in Chambers County. It is planned to complete the wells into sands of Injection Interval within the upper Miocene-aged Lagarto Formation at an approximate depth between approximately 3,791 feet and 4,419 BGL feet based upon the Type Log presented in Section V as Figure V-2. Specific Injection Interval depths will be provided once the logging program has been run and reviewed by the project geologist. However, the well which was used to develop the Type Log is less than 1,000 feet from the proposed locations, and the variations in regulatory depths/formations are not expected to have a high degree of change. The new well(s) will be constructed in accordance with TAC §331.62 standards for Class I Injection Wells. Note, unless specified, all depths in the remaining parts of this section are relative to the expected drilling rig kelly bushing (RKB), which is assumed to be 26 feet above ground level.

VI.A.1 Engineering Drawing of the Proposed Well Construction

Proposed completion schematics for the Upper Miocene Lagarto Injection Intervals are included as Figures VI-1 (Bluebonnet DSW M1) and Figure VI-2 (Bluebonnet DSW M2). Planned operations are for the deeper Yellow Sand Injection Interval, with future operations in the shallower Orange Sand Injection Interval. The injection wells are expected to be constructed and completed with the same materials and designs. The schematics include casing specifications and setting depths, cementing data, and completion details. The Proposed Wellhead Schematic for the wells is included as Figures VI-3 and the Well Annulus Monitoring System schematic is presented in Figure VI-4. The wellhead and annulus monitoring system design is the same for both the proposed Injection Well Nos. DSW M1 and DSW M2.

VI.A.2 Proposed Well Depth

The total depth of proposed Bluebonnet DSW M1 and Bluebonnet DSW M2 injection wells is approximately 4,600 feet, which is the base of the Injection Zone. The well(s) will be drilled approximately 100 feet lower into a shale unit, located below the Upper Miocene Injection Interval. This depth will allow for sufficient rathole for open hole logging and testing equipment and the

protection casing. The well will then be plugged back to a depth of 4,600 feet.

VI.A.3 Well Casing and Tubing Specifications

VI.A.3.a Proposed Casing and Tubing Details

Casing

Prior to mobilizing the drilling rig to the site, a 20-inch conductor casing will be set at a depth between 80 feet to 150 feet kelly bushing using an auger drill. The surface hole will be drilled to approximately 2,300 feet, which is below the lowermost Underground Source of Drinking Water (USDW) which is at approximately ~1,500 feet. A 13-3/8-inch surface casing will be set and cemented to surface. Final setting depths and confirmation of the base of the USDW will be evaluated with the open hole logging runs.

A protection hole will be drilled to approximately 4,700 feet, which includes a 100-foot rathole. The 9-5/8-inch protection casing will be set at approximately 4,600 ft (at the base of the Injection Zone) and cemented to surface with a multistage cement program.

Casing specifications for proposed Bluebonnet DSW M1 and Bluebonnet DSW M2 injection wells are presented in Tables VI-1 and VI-2. All components of the surface and protection casings will be manufactured to American Petroleum Specification (API) standards. The casing strings are designed for a minimum of a 100-year life. This life expectancy is based on the excellent historical corrosion resistance provided by carbon steel in a brine environment. Additionally, both casing strings (surface and protection casing) will be fully cemented to surface, which will provide additional isolation of the casing string from external formation fluids along the wellbore path. All casings will be cemented to the surface using pump and plug cementing techniques.

Tubing

The proposed injection wells will be completed with 5-1/2-inch, 20.0 lb/ft, L-80, premium connection gas seal tubing, internally lined. The tubing is designed for a 30-year life. Consideration for tubing selection and design include consideration of depths of the injection interval and injection zone, average and maximum volume of injected fluids, chemical composition of the waste fluid and its potential corrosive effects, temperature and density of

injected fluids, composition of the annulus fluid, and life expectancy of the well. The tubing will extend from the injection packer to the surface. The tubing engagement with the injection packer will include a seal assembly to maintain engagement. Injection tubing specifications for the proposed well are shown in Tables VI-1 and VI-2, and tubular stress calculations are included in Appendix VI-1.

Prior to and during installation, the tubing will be visually inspected to ensure that no defects are present. The connections will be cleaned, and the manufacturer's recommended thread compound will be applied to the pin of each connection before make-up. Each connection will be torqued according to manufacturer's specifications and externally pressure tested to ensure no leaks exist upon makeup.

VI.A.3.b Collapse, Pressure, and Joint Strength

Collapse, pressure, and joint strength specifications for proposed Bluebonnet DSW M1 and Bluebonnet DSW M2 injection wells are presented in Tables VI-1 and VI-2. The values are from the API 5CT standard technical specifications for steel casing and tubing used for wells in the petroleum industry.

VI.A.3.c External and Internal Pressures

The greatest burst, collapse and tension stresses induced over the life of the surface and protection casing occur during its installation.

The burst pressure of the surface casing is governed by the fracture gradient at the surface shoe and the formation kick scenario. The first load, fracture gradient at the shoe with gas gradient above, assumes that the surface casing is full of gas at 0.1 psi/ft with the fracture gradient pressure at the shoe as maximum bottom hole pressure. This scenario assumes that the formation will fracture before the casing ruptures. The Gas Kick load assumes that a kick of 50 bls has occurred, with an intensity of 1 pound per gallon (ppg) no limiting the value of fracture pressure at the shoe. The burst pressure for the surface casing is designed to withstand the combination of the maximum loads.

The collapse pressure of the surface casing is governed by a combination of two loads. The first scenario, lost returns with mud drop, assumes the well has lost circulation and the internal fluid level has drop until the column get equalized with the formation pressure creating a partial evacuation situation with formation pressure in the exterior of the casing, and zero pressure internally from surface to the mud level, and mud gradient from the top of the fluid to the surface casing shoe. The second load scenario is cementing. This scenario assumes that the casing contains a column of mud inside to counteract the external hydrostatic force from the cement slurries. The collapse pressure for the surface casing is designed to withstand the combination of the maximum loads.

The tensile strength for the surface casing is governed by two major loads. The overpull load simulates a potential stuck casing situation where it's required to pull the string to release during running in the whole. The maximum overpull applied for the load case is 100,000 pound per foot (lb/ft) on the bottom of the string. The second load is the green cement load, that simulates the axial forces the casing experience when during cementing, the displacement plug is landed in the float collar and an additional pressure is exerted on top of the plug to test the casing while the cement is still liquid. The tensile strength for the surface casing is designed to withstand the combination of the maximum loads.

The burst pressure of the protective casing is governed by loads condition during installation as well as during the operation of the wells. The main load defining the burst requirement is a injection down casing scenario, that simulates a bull heading activity in the annular between the protective casing and the tubing. The annulus is assumed to be filled with packer fluid from surface to the packer, and this scenario assumes a pressure of 2,000 psi is applied on surface.

The collapse pressure for the protective casing is governed by a full evacuation scenario that assumes formation pressure as external pressure profile and zero pressure inside the casing. This is an extreme scenario that simulates massive loss circulation in a low-pressure reservoir, not likely to occur in the water disposal wells.

The tensile strength for the protective casing is governed by the overpull load that simulates a potential stuck casing situation where it's required to pull the string to release it during running in

the whole. The maximum overpull applied for the load case is 100,000 lb/ft on the bottom of the string.

The greatest rupture stresses induced over the life of the injection tubing occur during injection operations. This scenario assumes that the maximum injection pressure is realized while injecting waste fluids at the maximum permitted specific gravity. The annular fluid is used as a backup.

The collapse pressure of the tubing is governed by the annulus pressure test, assuming a 1,500-psi surface pressure as the maximum pressure to be applied for the test. A column of 8.4 ppg water is assumed in the internal section of the tubing while packer fluid is assumed as external pressure profile.

The tensile strength of the tubing is governed by the overpull with a maximum overpull applied of 100,000 lb/ft on the bottom of the string.

The calculated values are shown in Tables VI-1 and VI -2 and the calculations are included in Appendix VI-1.

VI.A.3.d Safety Factor Calculations

The safety factors for the surface casing, protection casing, and injection tubing are shown in Tables VI-1 and VI-2. Safety factor calculations are included in Appendix VI-1.

VI.A.3.e Proposed Packer Details

For the proposed wells, the injection packer is a 5-1/2-inch by 9-5/8-inch Nickel plated carbon steel AS-1X style fully retrievable packer with an on/off tool and seal bore extension. The proposed injection packer will be set in the 9-5/8-inch protection casing above the top of the perforations, at a depth of approximately 3,620 feet, which is opposite a laterally persistent, thick, impermeable clay/shale. This placement depth is approximately 170 feet above the top of the Upper Miocene Injection Intervals. The packer is designed with a minimum life expectancy of 30 years. Prior to running into the well, the injection packer will be visually inspected to ensure no defects are present.

VI.A.3.f Proposed Tubular Design

Tubular selection and design processes also considered the depths of the lowermost USDW, injection interval and injection zone, the intermittent or continuous injection rate, the average and maximum volume and pressures of injected fluids, annulus pressures, chemical composition of the wastes proposed for injection and their corrosive effects, temperature and density of injected fluids, composition of the annulus fluid, and formation fluids, and other subsurface conditions, and life expectancy of the wells. Additionally, both casing strings (surface and protection casings) will be fully cemented to surface, using pump and plug cementing techniques, which will provide additional isolation of the casing string from external formation fluids along the wellbore.

VI.A.3.g Inspection Procedures

Casing, tubing, and packers will be inspected prior to installation. Procedures will follow the current industry standards to determine thickness and integrity of the materials. Methods will be employed to evaluate internal and external pitting, material gouges and/or cracks, or any deterioration due to corrosion.

Prior to running the casing and tubing in the hole, each string will be visually inspected and drifted to ensure that no defects are present. The connections will be cleaned, and the manufacturer's recommended thread compound will be applied to the pin of each connection before make-up. Prior to running into the well, the injection packer will be visually inspected to ensure no defects are present.

These inspection procedures will eliminate any materials that may have a defect that could potentially reduce the integrity downhole over time.

VI.A.4 Well Completion Type and Proposed Completion Interval

The proposed completion interval for Bluebonnet DSW M1 and Bluebonnet DSW M2 injection wells is designated as the Yellow and Orange Sand Injection Intervals at an approximate depth of 3,791 feet to 4,419 feet. The proposed completions will include tubing and packer, which will be set in the 9-5/8-inch protection casing. The specific depth of the perforations will be determined once the open hole logging program has been run, and a geologist has identified the permeable

(sand zones) for injection. The casing will then be perforated adjacent to permeable sections of the injection intervals.

VI.A.5 Centralizers

Surface Casing

Approximately 35 hinged bow spring centralizers will be installed on the 13-3/8-inch surface casing. The centralizers will be placed as follows:

- 1 Centralizer 10 feet above the float shoe, straddling a stop collar;
- 1 Centralizer 10 feet above the float collar, straddling a stop collar; and
- 1 Centralizer every other collar, up to the surface.

Protection Casing

Approximately 65 hinged bow spring centralizers will be installed on the 9-5/8-inch protection casing. The centralizers will be placed as follows:

- 1 Centralizer 8 feet above the float shoe, straddling a stop collar;
- 1 Centralizer 8 feet above the float collar, straddling a stop collar;
- 1 Centralizer every other collar, to the multistage cement tool at ~3,000 feet;
- 1 Centralizer below and above the multistage cement tool; and
- 1 Centralizer every other collar, from 3,000 feet up to ~250 feet.

VI.A.6 Annular Fluid

The annular fluid designed for this well is 9.5 – 10.0 lb/gal sodium chloride brine combined with KCL brine with corrosion inhibitors, H_2S and O_2 scavengers to protect against corrosion. The annular fluid density will be greater than the maximum permitted injectate density to provide overbalance to the tubing in the event a tubing leak occurs. An annulus monitoring and

pressurization system will maintain the annulus at least 100 psi pressure greater than the injection tubing pressure.

VI.A.7a Proposed Bluebonnet DSW M1 and Bluebonnet DSW M2 injection wells Drilling Program

General Information

Well Name:	Bluebonnet DSW M1	Well Name:	Bluebonnet DSW M2
Location:	29.822455/-94.449610	Location:	29.822235/-94.449620
	Chambers County		Chambers County
Elevation	+/- 22.97 ft (GL)	Elevation	+/- 22.97 ft (GL)

Description

Bluebonnet DSW M1 and Bluebonnet DSW M2 injection wells are planned as a straight hole injection well with a cement and perforation completion into the Yellow Sand Injection Interval. The Orange Sand Injection Interval may be completed as part of future operations. The total plug depth of the well(s) will be approximately 4,700 feet, and the well will be plugged back to 4,600 feet. Conductor casing (20-inch O.D.) will be set to approximately 80 feet to 150 feet into the subsurface. Surface casing (13-3/8-inch O.D.) will be set and cemented in place at approximately 2,300 feet (which is more than 800 feet below the expected lowermost USDW). A 9-5/8-inch O.D. protection casing string consisting of carbon steel casing will be set into the lower shale unit below the base of the Yellow Sand Injection Interval at approximately 4,600 feet.

The well will be completed with perforations in the protect casing across the Yellow Sand Injection Interval, a retrievable seal-bore packer set in the protection casing above perforations, and injection tubing to surface. Figures VI-1 and VI-2 are schematics of the planned well designs for the completion for Bluebonnet DSW M1 and Bluebonnet DSW M-2.

VI.A.7.a Site Preparation

Bluebonnet DSW M1 and Bluebonnet DSW M2 well site(s) are located at two acreages of rural farmland in Chambers County. Company and OSHA safety rules and regulations will be in force during the construction operations. Prior to well construction, the ground surface will be graded

to level. An all-weather location will be installed, with additional reinforcement placed under the rig substructure area. The rig contractor will provide power for the rig and associated equipment. The construction site access will be controlled to prevent entry by unauthorized personnel. Closed loop handling of the wellbore solids and fluids is anticipated during the drilling phases of the work and completion phases of the work. Appropriate personal protective equipment will be worn when handling wellbore solids and/or fluids.

All phases of well construction will be supervised by qualified individuals acting under the responsible charge of a licensed professional engineer, with current registration pursuant to the Texas Engineering Practice Act, who is knowledgeable and experienced in practical drilling engineering and who is familiar with the special conditions and requirements of injection well construction.

VI.A.7.b Drilling Procedure

The drilling program for Bluebonnet DSW M1 and Bluebonnet DSW M2 injection wells consists of a conductor hole, surface hole and protection hole. All depths in the procedure are referenced to the kelly bushing (RKB), which is estimated at 26 feet above ground level. As much as technically practicable and feasible, circulation and pressures will be maintained to drill under laminar flow conditions to minimize hole washouts and formation fracturing.

General Notes:

- *All depths referenced are approximate and are based on the expected log depth (RKB).*
- *Actual depths may vary based on lithology and structuring of local formations*.

Conductor Hole

1. Perform a field inspection of the location to identify any potential hazard during mobilization of the equipment (power lines, obstacles, road conditions, buried lines, etc.).
2. Perform a pre-spud meeting and discuss the drilling procedure, emergency and response plans, and stop-work authority program.
3. Mobilize auger.
4. Auger or drive 26-inch – 30-inch hole to a depth of 80-150 ft.
5. Set a 20-inch conductor on the bottom and pump cement.

6. Move equipment off location and secure the site.

Surface Hole

1. Perform a field inspection of the location to identify any potential hazard during mobilization of the equipment (power lines, obstacles, road conditions, buried lines, etc.).
2. Mobilize the rig to the location.
3. Rig up equipment.
4. Perform rig inspection. Identify and correct any substandard conditions.
5. Perform pre-Section meeting and discuss the drilling procedure, emergency and response plans, and stop-work authority program.
6. Mix and hydrate gel mud (freshwater-based). Ensure that all solid control equipment is installed and operating properly.
7. Pick up 17-1/2 in. directional bottomhole assembly (BHA).
8. Run in hole to base of conductor and drill out.
9. Drill 17-1/2 in. surface hole for surface casing to +/- 2,300 ft using drilling fluids as described in the Drilling Fluids section. Take deviation in real-time.
10. Pump viscous pills and circulate until the well is clean, a minimum of two complete bottoms up.
11. Perform wiper trip to surface to condition the hole. Keep a record of the fill volume and the level of the tanks to identify potential losses or influx.
12. Circulate until the well is clean.
13. Pull out of the hole and rack back drill pipe.
14. Perform logging safety meeting and discuss operational plan and risks.
15. Rig up logging unit and equipment.
16. Run electric logs per program.
17. Rig down logging unit and equipment.

18. Condition the rig floor and prepare to run casing. Circulate and condition fluid in the hole prior to running casing.
19. Perform casing run safety meeting and discuss operational plan and risks.
20. Make up shoe track and run 13-3/8 in. surface casing to TD. Break circulation every 10 joints.
21. Circulate and prepare to cement surface casing.
22. Hold a pre-cement meeting. Validate volumes by caliper and review the slurry test, thickening time, and time planned for the operation. Identify the person to keep track of the pumped volumes, tank levels, and returns.
23. Rig up cementing equipment and test lines at 250 psi and at 5,000 psi. Secure the area while performing high-pressure operations.
24. Pump 40-80 bbls of fresh water as a pre-flush.
25. Mix and pump the cement slurries according to the cementing program. Take two samples of each slurry to check hardness and keep them for QAQC. Take one water sample.
26. Drop the top plug. If a cementing head is used, make sure the plug indicator is functioning correctly. Displace the cement with fresh water. Check returns and measure the tank level before, during, and after the cementing operation.
27. Reduce the displacement rate when 10 bbls before bumping the plug.
28. Rig down cementing equipment.
29. Wait on cement for a minimum of 24 hours to reach 500 psi.
30. Perform pre-wellhead and nipple up safety meeting and discuss the operational plan and risks.
31. Install wellhead A Section.
32. Nipple up the 13-5/8 in. x 5,000 psi BOP stack. Pressure up the BOP to 3,000 psi.
33. Rig up wireline unit and log differential temperature survey and cement bond log.
34. Perform pressure testing safety meeting and discuss operational plan and risks.

Protection Hole

1. Perform pre-section meeting and discuss drilling procedure, emergency and response plans, and stop-work authority program.
2. Change out pits from water-based mud (WBM) to synthetic-based mud (SBM). Ensure that all solid control equipment is installed and operating properly.
3. Pick up 12-1/4 in. BHA.
4. Run in hole to base of surface casing. Pressure test surface casing to 1,000 psi for 30 minutes
5. Displace WBM for SBM and circulate the well.
6. Conduct choke drill prior to drilling out.
7. Drill out 13-3/8 in. surface casing shoe.
8. Drill 10 ft of formation and conduct FIT.
9. Drill 12-1/4 in. hole to TD based on the directional plan. Surveys must be taken at a minimum of every 100 ft. Pump sweep pills to improve hole cleaning based on the hydraulic simulations. If signs of drag or hole-cleaning issues are observed, increase the frequency of pumping the sweep pills. Conventional whole cores to be taken at selected geologic intervals. Refer to Section VI.A. 9.c for details.
10. Pump viscous pills and circulate a minimum of two bottoms up or until the returns of cuttings in the shaker are minimal and prepare to trip out of the hole.
11. Perform a wiper trip to the surface casing shoe to condition the hole.
12. Pull out of the hole and rack back drill pipe and BHA. Keep a record of the fill volume and the level of the tanks to identify potential losses or influx.
13. Perform logging safety meeting and discuss the operational plan and risks.
14. Rig up logging truck and equipment.
15. Execute open hole logging and sampling operations per the program in Section VI.A.9.
16. Rig down logging truck.
17. Perform clean out safety meeting and discuss the operational plan and risks.
18. Pick up 12-1/4 in. cleanout BHA.

19. Run in the hole to TD, circulating and reaming as hole conditions require.
20. Circulate and prepare to trip out of the hole.
21. Perform tripping safety meeting and discuss the operational plan and risks.
22. Conduct flow check.
23. Pull out of the hole. Keep a record of the fill volume and the level of the tanks to identify potential losses or influx.
24. Perform casing run safety meeting and discuss the operational plan and risks.
25. Rig up and install the casing running tool and the casing slips and test the correct function of the tools.
26. Run long string casing per program. Once on bottom, start circulation with a low flow rate and increase it gradually to the target flow rate for the cementing job. Circulate at least two bottoms up or until the well is clean.
27. Hold cementing safety meeting. Validate volumes by caliper and review the slurry test, thickening time, and time planned for the operation. Identify the person to keep track of the pumped volumes, tank levels, and returns.
28. Test cementing lines at 250 psi and at 5,000 psi, each for 5 minutes. Secure the area while executing high-pressure operations. Start first stage of the cementing job.
29. Pump cementing spacers. Mix and pump the cement slurry per program. Take two samples of the slurry for QAQC and two samples of the mixing water.
30. Drop the top plug and displace the cement. Ten bbls before the plug reaches the float collar, reduce the rate. Bump the plug and increase 500 psi over the circulating pressure. Hold the pressure for 5 minutes. Release pressure and check the backflow to the cementing unit.
31. Drop the plug/bomb to open the stage tool according to manufacturer (follow specific procedure by provider and model of the tool). Circulate the annular.
32. Wait on cement from the first stage. Waiting time will be based on slurry design and specific cementing program.

33. Perform second stage of the cementing job. Test cementing lines at 250 psi and at 5,000 psi, each for 5 minutes. Secure the area while executing high-pressure operations.

34. Pump cementing spacers. Mix and pump the cement slurry per program, take two samples of the slurry for QAQC and samples of the mixing water.

35. Drop plug and displace the cement with inhibited brine. Reduce the rate 20 bbl before the plug reaches the float collar. Bump the plug and increase the required pressure by the manufacturer's recommendation over the circulating pressure to close the tool. Release pressure slowly and check the backflow to the cementing unit.

    Note: This is a standard process for stage tool application; however, it is recommended to evaluate the different methods in the market to include annular packers in combination with circulating ports that could improve the seal, reduce the wait on cement time, and optimize time and cost. In the event cement returns are not observed at the surface, a temperature or similar diagnostic survey will be run to determine the top of cement. After the cement top is located, a procedure to grout in the un-cemented annular space will be provided.

36. Rig down cementing equipment.

37. Perform nipple down safety meeting and discuss the operational plan and risks.

38. Lift the BOPs.

39. Install casing slips.

40. Cut casing and install pack off.

41. Continue installation of section B and wellhead.

VI.A.7.c Contingency Plans

In the event that unforeseen events occur, detailed plans to remedy the specific problem will be implemented using best engineering practices and judgment based on facts. The following are general contingency plans to address specific problems.

Lost Circulation

No zones of moderate or severe lost circulation have been identified by review of local offset data. Some fluid losses are anticipated during the drilling, as permeable sands are uncovered, and will be treated as necessary by the addition of sized lost circulation material to the drilling fluids. Low mud weights and solids concentration in the drilling fluid will assist in minimizing losses to the hole. Lost circulation pills will be spotted if losses are excessive. Lost circulation material will be stored on location to allow quick response to any loss conditions.

Borehole Washout

Due to soft, unconsolidated sediments in the surface hole section, excessive borehole washout is possible. Solids handling equipment should be properly sized to ensure the surface hole can be drilled without minimal circulating time incurred for hole cleaning. The drilling fluid should exhibit adequate fluid loss control fluid and viscosity to minimize borehole washout and provide efficient transport of drilled solids to the surface. As much as is technically practicable and feasible, the open hole sections should be drilled under laminar flow conditions to minimize hole washouts.

Over-pressured Zones

Area review has indicated no over-pressured zones in the local subsurface geology. During the drilling of the well, the following will be used to control/contain formation pressure:

- Hydrostatic pressure exerted by drilling/completion fluid
- Blowout prevention (BOP) equipment

Stuck Pipe

The possibility of stuck pipe exists due to the extensive sand layers in the well path. Drilling jars will be used in the drilling of the protection hole to assist in freeing stuck pipe. Fluid loss control of the drilling fluid will be maintained to reduce the possibility of differential sticking of the workstring. In the event of this scenario, some, or all the following procedures may be utilized to free the pipe:

- Circulate a spotting fluid in the well to assist in removal of the stuck pipe;
- Rig up wireline and run a freepoint survey to determine the location of free pipe;
- Back off the section of free pipe using wireline detonation charges;
- Engage the stuck portion of the workstring with an overshot and attempt to jar the pipe free;
- Wash over the stuck pipe and remove it from the hole;
- Sidetrack the hole above the section of stuck pipe.

Agency notification and consent will be obtained before possible plugback and sidetrack operations are implemented.

VI.A.7.d Completion Procedure

1. Perform a field inspection of the location to identify any potential hazard during mobilization of the equipment (power lines, obstacles, road conditions, buried lines, etc.).
2. Mobilize the rig to the location.
3. Rig up equipment.
4. Nipple up the BOP.
5. Test the BOP.
6. Pick up the work string and 8-1/2-inch scrapper bit to clean cement.
7. Run in the hole and tag the stage tool.
8. Circulate with brine 9.5-10.0 ppg.
9. Pressure and test casing to 300 psi for 5 minutes.
10. Drill out the stage tool and clean the casing to the top of the float collar.
11. Circulate brine.
12. Test casing for 30 minutes with 1,500 psi. If the pressure decreases more than 5% in 30 minutes, bleed pressure, check surface lines and surface connections, and repeat the test. If the failure persists, the operator may require assessing the root cause and correcting it.
13. Pull the BHA out of the hole.

14. Perform safety meeting to discuss logging and perforating operations.
15. Rig up logging unit.
16. Run CBL/VDL or USIT as well as Casing Inspection Log.
17. Rig down logging unit.
18. Rig up spooler and prepare rig floor to run upper completion.
19. Run completion assembly per program.
20. Circulate the well with inhibited packer fluid.
21. Set packer as per program and test annulus to 1,000 psi.
22. Install tubing sections, cable connector, and tubing hanger.
23. Rig up logging unit and lubricator.
24. Run temperature log through tubing.
25. Run perforating guns, minimum of 6 shots per foot (spf). Perforation intervals will be defined with final log and correlation.
26. Install backpressure valve.
27. Rig down logging unit and surface equipment.
28. Install injection tree.
29. Rig down equipment.
30. Perform and injectivity test/step rate test and falloff test.
31. Run Radioactive Tracer Survey.

VI.A.7.e Well Fluids Program

Surface Hole

Depth (feet RKB)	Mud Type	Weight (lb./gal)	Viscosity (funnel sec)	Fluid Loss (cc/30 min)
2,300	FW Base	8.4-10.0 ppg	30-38	No control

Note: Lost circulation material (LCM) will be on location to treat for fluid losses in top hole sands. The fluid system will be pre-treated with LCM before encountering any known or suspected loss zones. High-viscosity sweeps will be used to assist hole cleaning.

Protection Hole

Depth (feet RKB)	Mud Type	Weight (lb/gal)	Viscosity (lb/100 ft^2)	Fluid Loss (cc/30 min)
4,600	Syntetic Base Mud	10.5-11.0 ppg	12-20	<5

Note: High-viscosity sweeps will be used as needed to assist hole cleaning.

Completion Fluid

Weighted (~10.0 ppg), inhibited brine with H_2S and O_2 scavenger, Corrosion inhibitor and biocide. Brine will be weighted with NaCl and KCl added for inhibition.

VI.7.7.f Casing Equipment and Jewelry

Surface Casing

13-3/8-inch Float Equipment and Jewelry

1. Float shoe;
2. Float collar, 1 joint above the float shoe;
3. 1 bottom wiper plug;
4. 1 top wiper plug;

Protection Casing

9-5/8-inch Float Equipment and Jewelry

1. Float shoe

2. Float collar, 1 joint above the float shoe
3. Casing Packer
4. Multistage Tool
5. 1 bottom wiper plug
6. 1 top wiper plug

VI.A.8 Proposed Well Cementing Program

The surface and protection casing strings will be cemented using current cementing technology and practices. Cementing standards from the TCEQ Class I Injection Well Construction Guidance Document will be used during the construction of the well. The service company's recommendation on cementing of the surface and protection casing strings using the pump and plug method is included in Appendix VI-2. The cement properties will be tested for compatibility with the injected fluids and formation fluids prior to cementing. In the event that the two-dimensional caliper cannot measure the diameter of the borehole over an interval, the minimum amount of cement needed for the interval that cannot be measured will be the volume calculated to be equivalent to or greater than 150% of the annulus space between the casing and the maximum measurable diameter of the caliper. If the cement level drops at surface, a top fill cement job will be performed.

Surface Casing

The following cementing program is proposed for installation of the surface casing string:

- 13-3/8-inch in 17-1/2-inch borehole at 2,300 feet
- cement to surface
- estimated 100 percent excess over bit size
- actual volume to be calculated from caliper log plus 20 percent excess

	Weight	Yield	Water	Volume
	lb/gal	ft^3/sx	gal/sx	sx
Spacer: +/- 50 bbl of fresh water	8.5	N/A	N/A	N/A
Lead Cement: 1,600 feet of fill [ExtendsCem]	12.5	1.6	8.41	1,389

Tail Cement:	700 feet of fill	15	1.01	3.96	967

[Premium Cement, HALCEM™ System]

Note: volume calculated with 100% excess of theorical hole diameter

Protection Casing

A two-stage cement program will be utilized for the protection casing to aid in preventing downhole formations from being subjected to hydrostatic pressures sufficient to cause formation fracturing. The following cementing program is proposed for installation of the protection casing string:

- 9-5/8-inch casing in 12-1/4-inch hole at 4,600 feet;
- Two-stage cement program; Diverter tool set at +/- 3,000 feet;
- cement to surface;
- estimated 50% excess over bit size in open hole sections only;
- actual volume to be calculated from caliper log plus 20% excess

		Weight	**Yield**	**Water**	**Volume**
		lb/gal	ft^3/sx	gal/sx	sx
STAGE 1:					
Spacer:	+/- Cement Spacer	11.5	N/A	N/A	100 bls
Tail Cement:	1,600 feet of fill	14.5	1.09	4.52	690

STAGE 2:		**Weight**	**Yield**	**Water**	**Volume**
Spacer:	+/- Cement Spacer	11.5	N/A	N/A	100 bls
Lead Cement:	3,000 feet of fill	12.5	1.6	8.41	884

VI.A.9 Well Logging, Coring, and Testing Program

The logging program will cover open hole and cased hole for all drilling stages of the drilling for Bluebonnet DSW M1 and Bluebonnet DSW M2. All logging and tests of the boreholes will be interpreted by a service company or qualified individual as required by 30 TAC §331.62(a)(7)(A).

VI.A.9.a Surface Hole Logging Program

The surface hole will be analyzed using wireline logging techniques, with the following geophysical logs planned upon reaching casing point (+/- 2,300 feet):

- Spontaneous Potential
- Resistivity
- Natural Gamma Ray
- Open Hole Caliper

Note: Additional diagnostic logs may be run at the discretion of the geological consultant.

The following cased hole geophysical logs will be run after cementing the surface casing in place:

- Cement Bond with Variable Density Log
- Differential Temperature Survey

Note: Additional diagnostic logs may be run at the discretion of the geological consultant. An interpretation by a qualified person of the cement bond log will be provided by the service company.

Additionally, the wireline logging engineer will be provided with a simulated or actual free pipe section for the bond tool calibration if required.

VI.A.9.b Protection Hole Logging Program

The protection hole will be analyzed using wireline logging techniques, with the following open hole geophysical logs planned upon reaching casing point (+/- 4,600 feet):

- Dual Induction/Spontaneous Potential
- Resistivity
- Natural Gamma Ray
- Porosity (Density and Neutron and/or Sonic)

- Fracture Finder (Borehole Imaging Survey recommended)
- Open Hole Caliper
- Directional/Inclination Survey

Note: Additional diagnostic logs may be run at the discretion of the geological consultant.

The following cased hole geophysical logs will be run after cementing the protection casing in place:

- Cement Evaluation Log
- Cement Bond with Variable Density Log
- Casing Inspection
- Differential Temperature Survey
- Wellbore Deviation Survey
- Radioactive Tracer Survey

Note: Additional diagnostic logs may be run at the discretion of the geological consultant. An interpretation by a qualified person of the cement bond log will be provided by the service company.

As contingency, the Cement Bond with Variable Density log may be repeated under pressure if a micro annulus is suspected. Additionally, the wireline logging engineer will be provided with a simulated or actual free pipe section for the bond tool calibration if required.

VI.A.9.c Analysis of Injection Zone and Confining Zone

VI.A.9.c.i Proposed Coring Plan

The Injection Zone and Confining Zone will be analyzed using wireline logging and coring techniques, with the following geophysical options:

- Whole Cores
- Rotary sidewall Cores (optional)

- Formation Fluid Samples
- Bottom-hole Pressure - static and falloff pressure determination

The proposed coring plan has been designed to optimally collect data that is sufficient to characterize the permeable (Injection Interval) and impermeable strata (Confining Zone).

Conventional Coring

The lowermost portion of the Confining Zone and the proposed Injection Intervals will be conventionally cored using the approximate depths:

Core Size	Depth	Formation/Lithology
8-1/2" x 4" x 30'	~3,000 feet RKB (+/-)	Confining shale
8-1/2" x 4" x 30'	~3,900 feet RKB (+/-)	Orange Sand Injection Interval
8-1/2" x 4" x 30'	~4,150 feet RKB (+/-)	Yellow Sand Injection Interval

Specific depths will be selected based upon the results from the open hole logging analysis. Other additional intervals of the well may be cored, and the geological consultant will select the actual core points during the drilling of the well. If insufficient formation core is recovered in any core run, the core run may be repeated at the discretion of the geological consultant, or sidewall coring may be conducted to obtain the necessary formation samples. Core depths will be adjusted relative to actual drilling depths encountered.

Sidewall Coring

If conventional coring is unsuccessful, either rotary or percussion sidewall coring may be performed in the Confining Zone and the Injection Zone during the open hole logging of the protection hole. Core depths will be selected by the geological consultant based on the evaluation of the open hole geophysical logs obtained at this time.

Core Analysis

Recovered cores will be analyzed for the following:

- Air Permeability
- Brine Permeability
- Porosity
- Mineralogy
- Waste Compatibility (injection interval only)
- Bulk Density
- Poisson's Ratio
- Formation Compressibility

Additional core analyses may be performed. Specific tests will be selected by the geological consultant based on the evaluation of the whole cores and the open hole geophysical logs obtained at this time.

VI.A.9.c.ii Formation Fluid Sampling

Representative samples of formation fluid in the injection interval will be collected during logging operations with the use of MDT (or equivalent) sampling tool. Analysis of the fluid sample(s) will be performed to determine the properties of the fluids in the completed injection interval. Analysis will include the chemical, physical, and radiological characteristics in accordance with 30 TAC §331.121(a)(2)(H).

VI.A.9.c.iii Compatibility Testing

Compatibility testing between the waste stream and the formation fluids of both the injection zone and confining zone will be conducted to demonstrate that reaction products will not alter the permeability, thickness, or other characteristics of the formations in accordance with 30 TAC §331.121(c), §331.45(1)(G), §331.64(j), and §331.66(c).

VI.A.9.d Well Mechanical Integrity

Mechanical integrity testing for both new well construction and routine annual inspection will be conducted according to the recommended procedures outlined in the latest version of the TCEQ document "Basic Guidelines for Mechanical Integrity Tests and Related Cased Hole Wireline Logging".

Baseline Temperature Survey

A baseline differential temperature survey will be run in the well. The well will be as static as possible. The temperature log is one of the approved logs for detecting fluid movement outside pipe, and a baseline survey will provide an initial curve for future comparisons. The log will include both an absolute temperature curve and a differential temperature curve. The well will be shut-in at least 36 hours to allow for temperature stabilization.

The temperature log will run over the entire interval of cemented casing, logging down from the surface to total depth. A correlation log(s) will be presented in track 1, and the two temperature curves will be presented in tracks 2 and 3. The temperature log will be scaled at or about 20° F (or 10° C degrees) per track. The differential curve will be scaled in a manner appropriate to the logging equipment design but will be sensitive enough to readily indicate anomalies. In general, the procedure will be as follows:

1. Attach a temperature probe and casing collar locator (CCL) to the wireline.
2. After a minimum of 36 hours of well static conditions, begin the temperature survey. The tools will be lowered into well at 30 to 40 feet/minute, recording temperature in wellbore. The temperature survey will be run to the deepest attainable depth (top of solids fill) in the wellbore. The wireline may be flagged, if needed, to assist in depth correlation.
3. Following completion of the survey, the wireline tools will be retrieved from the wellbore.

The baseline differential temperature survey log will be analyzed by the service company, or a qualified person, as required by 30 TAC §331.62(a)(7)(A).

Annulus Pressure Test

A successful Annulus Pressure Test (APT) consists of holding a positive annulus pressure of 100 psig greater than the permitted maximum surface injection pressure (MSIP) for a minimum of 30 minutes, with a loss or buildup of less than 5 percent of the starting annulus pressure. Although testing may be performed while injecting into the well or under no flow conditions, it is anticipated that the well will be static during the testing. A minimum annulus differential pressure of 100 psi will be maintained throughout the test.

Pressures will be recorded on a time-drive recorder for at least 30 minutes in duration and the chart or digital printout of times and pressures will be certified as true and accurate. The pressure scale on the chart will be low enough to readily show a 5 percent change from the starting pressure. In general, the test procedure will be as follows:

1. Connect a high-resolution pressure transducer to the annulus and increase annulus pressure. Conduct APT by holding annular pressure a minimum of 100 psi above the well's maximum permitted surface injection pressure for a minimum of 30 minutes. A minimum annulus differential pressure of 100 psi will be maintained throughout the test.

Note: TCEQ regulations allow +/-5 percent variability over a 30 minute period to demonstrate compliance.

2. At the conclusion of the APT, annular pressure will be lowered to the well's normal, safe differential pressure value and pressure recording equipment will be removed from the well system.

The annulus pressure test will be analyzed by the service company, or a qualified person, as required by 30 TAC §331.62(a)(7)(A).

Radioactive Tracer Survey

A Radioactive Tracer Survey (RTS) will be run using a logging tool with a gamma detector above the ejector port and one or two detectors below the ejector port. The tool will be able to continuously record during tracer fluid ejection. The upper detector will be recorded in track 1 at a scale of 0 to 100 or 150 API units, and the lower detector(s) will be recorded in tracks 2 and 3 at a higher scale, typically 0 to 1,000 API units. The RTS will be conducted in accordance with the latest version of the TCEQ "*Basic Guidelines for Mechanical Integrity Tests and Related Cased Hole Wireline Logging*".

Prior to testing, an initial gamma ray base log will be recorded from at least 100 feet above the injection tubing packer to total depth or plugged-back depth of the well, as follows:

1. At least 100 feet below the lowest perforated interval, or
2. The top of the perforations, or
3. The top of fill or obstructions, whichever is deepest.

A concurrent casing collar locator log for depth correlation will be run on the wireline tool string. Two five (5) minute time drive statistical checks will be run prior to the ejection of tracer fluid. The baseline log and statistical checks will be run to determine background radiation prior to tracer fluid ejection.

A constant injection (moving) survey will be run from above the packer to the perforations to check for leaks between those two points. This survey will consist of ejecting a slug above the packer, verifying the ejection, dropping down through the slug, and then logging up through the slug to above where the slug was first ejected. The tool will be successively dropped down through the slug again, and logging will continue upward to above where the slug was encountered on the previous pass. This process will be repeated a minimum of two times, until the slug flows out into the formation. If necessary, the injection rate may be adjusted to accomplish this test.

A stationary survey will be run approximately 20 feet or less above the top of the screened interval to check for upward fluid migration outside the cemented casing. Flow during the stationary surveys will be at sufficient rates to approximate normal operating conditions anticipated for the

well. This rate will be determined by dividing the total expected volume injected during the initial operating year. The procedure consists of logging on time drive, ejecting a slug, verifying the ejection, and waiting an appropriate amount of time to allow the slug to exit the wellbore and return through channels outside pipe. The time spent at the station will vary but should be at least twice the time estimated to detect the tracer fluid if channeling existed, or for a minimum of 15 minutes, whichever is greater. If tracer fluid is detected channeling outside of the pipe at any time during the stationary survey, then the survey may be stopped, and the tracer fluid's movement will be documented by logging up on depth drive, until the tracer exits the channel.

Other stationary or moving surveys may be required, depending upon well construction, test results, or to investigate known problem conditions. At least two repeatable logs of every tracer survey, moving and stationary, will be run. On completion of the tracer surveys, a final background gamma log will be run for comparison with the initial background log. In general, the test procedure will be as follows:

1. Attach radioactive tracer tools, including casing collar locator (CCL), gamma ray detectors and ejector modules to the wireline. Lower tools in wellbore to deepest attainable depth (top of solids fill). Record the depth of solids fill in the well, if any. Correlate tools on depth with the injection packer and any other cased-hole log(s) run in the well.
2. A baseline gamma log will be run from deepest attainable dept to approximately feet to above at least 100 feet above the packer. Statistical tool checks will be conducted at 10 feet above injection packer and 15 feet above the top perforation in the interval.
3. With the tool set a minimum of 100 feet above the packer, start injecting fluid at approximately 50 gallons per minute (gpm). Eject a slug of tracer material and verify ejection.
4. Lower the tool through the slug and log up through the slug. Repeat slug-tracking sequence, following the slug down the tubing and into the injection zone until the slug is dissipated.

Note: It is desired to achieve a minimum of three or more passes below the injection packer before the radioactive slug exits the perforations. Adjust or reduce injection rate if needed to achieve this objective.

5. Repeat Steps 3 and 4.
6. Position lower detector of RTS tool 15 feet above the top perforation. Initiate and maintain injection at approximately 100 gpm.
7. Eject a slug of tracer material and record on time drive for a minimum of 15 minutes to determine if upward flow around the casing occurs.
8. Repeat Step 7.
9. Cease pumping, lower the tool to the deepest attainable depth, and run a repeat baseline gamma ray log to verify that the radiation level has returned to background.
10. Dump remaining tracer material from the tool and pump remaining test fluid to flush the tracer material from the wellbore.
11. Retrieve the wireline tools from the wellbore and rig down wireline unit.

The radioactive tracer survey will be analyzed by the service company, or a qualified person, as required by 30 TAC §331.62(a)(7)(A).

Well Testing Report Information

A report of results of the mechanical integrity tests will be included in the Well Installation, Drilling, and Completion Report, which is required to be submitted to the TCEQ UIC staff within 90 days of the completion of testing and well construction in accordance with 30 TAC §331.65(b)(1). The mechanical integrity testing report section will contain, at a minimum, the following information:

1. A complete chronology and description of all tests performed, and procedures followed, including reasons for any unusual testing procedures, if applicable.
2. An APT time/pressure table, and a copy of the recorder chart or digital print-out if one was made.
3. Copies of all logs run.
4. Interpretation and discussion of all testing and logging results, including the identity of personnel making the technical interpretations.

5. Certification by the individual preparing the report that all test data are true and correct; and,
6. Documentation of any concurrence received from the Executive Director on the necessity or advisability of using non-standard testing procedures.

VI.A.10 Well Stimulation Program

The stimulation program for Bluebonnet DSW M1 and Bluebonnet DSM M2 consists of an acidization coil tubing clean ups to remove formation skin damage due to invasion of solids during drilling and any perforation damage. The acid treatment will consist of the following acids, with actual volumes to be determined at the time of placement:

- 15% Hydrochloric Acid (HCl)
- 12% HCl + 3% hydrofluoric (HF) Acid

Chemicals will be added to the acid blends to limit clay swelling, reduce emulsions, and inhibit reaction to the completion equipment. The type and quantity of these chemicals will be determined based on formation characteristics determined from core and wireline log evaluation.

Additional acids and diverter fluids may be considered at the time of placement. The acid fluids will be displaced from the wellbore using non-hazardous liquids.

Additional stimulation treatment may be necessary if the injection performance of the well is unacceptable. Stimulation procedures will be submitted for approval prior to any additional stimulation work.

VI.A.11 Ambient Pressure Testing Program

Pressure falloff testing will be conducted upon the completion of the injection well to characterize the baseline formation properties**.** Prior to initiating the reservoir pressure testing program, the bottomhole temperature and fluid static level will be measured and recorded. Reservoir testing to determine the well capacity and injection sand characteristics in accordance with 30 TAC §331.62(a)(8) will be conducted as follows:

1. Attach high-resolution downhole pressure gauges to wireline and lower into completion interval. Record stabilized bottom hole pressure, temperature, and static fluid level.

2. Initiate and maintain stable injection of brine or other non-hazardous fluid at maximum sustainable rate (100 gpm or greater) for approximately 8-12 hours until injection pressure has stabilized.

3. Shut in well and obtain falloff pressure in wellbore. Monitor falloff pressure and analyze data to determine when radial flow is reached in the wellbore (18 or more hours). Conclude test when an adequate radial flow demonstration has been made.

The test will be designed in accordance with the "*USEPA Region 6 UIC Pressure Falloff Testing Guidance* (*Third Revision – August 8, 2002*)".

The results of the testing will be used to analyze the injection formation used to determine the reservoir fluid pressure, fracture pressure, transmissibility, permeability, faulting or other boundaries, dual porosity, skin and other physical and chemical characteristics of the injection zone as required by the application instructions and 30 TAC §331.62(a)(8).

In performing a falloff test analysis, a series of plots and calculations will be prepared to QA/QC the test, to identify flow regimes, and to determine well completion and reservoir parameters. It will also be used to compare formation characteristics, such as transmissivity and skin factor of the near wellbore, for changes over time. Skin effects due to drilling and completion (possible damage from perforations) will be assessed for the well's injectivity and for potential well cleanouts in the future. These tests can also measure drops in pressure due to potential damage/leakage over time.

A diagnostic survey such as velocity shot survey, spinner survey, and/or radioactive tracer survey will be conducted to establish the preferred injection interval as required by 30 TAC §331.62(a)(8) after completion.

VI.A.12 Engineering Drawing of the Proposed Well Construction

A schematic showing the proposed wellhead and annulus monitoring design for Bluebonnet DSW M1 and Bluebonnet DSW M2 are included as Figures V-3 and V-4.

VI.A.13 Waste Compatibility and Corrosion Monitoring

To protect the USDW, injection wells must not allow fluids to escape into unauthorized zones. Any escape of fluids may cause contamination of a USDW, directly or indirectly, by forcing lower quality fluids to move into these zones. If a well protects the USDW by not allowing fluids to escape or migrate, it is said to have mechanical integrity. The well materials must also be compatible with annular fluids, formation fluids, soil, and other elements of the well's environment.

Most injection wells are constructed with metallic materials for structural reasons. Non-metallic materials may be used in specific areas where metals are not adequate. Corrosion of the metallic materials and/or degradation of the non-metallic materials are the chief causes of premature failure in injection wells.

VI.A.13.a Types of Corrosion

Corrosion can be defined as the destruction of metal by chemical or electrochemical reaction with its environment (Larrabee, 1946). At the corroding metal surface, two types of reactions occur simultaneously: anodic reaction, in which metal atoms are dissolved to form positively charged ions and electrons (corrosion); and cathodic reaction, where specific ions in the electrolyte (fluids such as acids, alkalis, and salt solutions) accept the electrons.

Although there are several types of corrosion, they may be grouped into two main forms, general and localized. General corrosion is the uniform or near uniform thinning of metal. The corrosive environment penetrates the passive film over the entire surface area of the metal, and the anodic and cathodic sites on the metal surface switch continuously, resulting in a relatively uniform metal loss. If the rate of general corrosion is tolerable, an adequate life span can be built into the well construction materials by adding a corrosion allowance to the design thickness. If the general corrosion rate is too high, the material should not be used.

Localized corrosion consists of several forms of attack (pitting and crevice corrosion) that can lead to failure of the equipment before the designed corrosion allowance is used up. The corrosive environment penetrates the passive film at only a few points, making them anodic in nature. This causes the rate of corrosion to be greater in some areas than others. Failure may arise from the

development of a leak, from mechanical failure caused by localized thinning, or from crack formation and propagation.

Another form of corrosion that may be important in injection wells is galvanic corrosion. This occurs when two electrically dissimilar metals are in contact with one another in an electrolytic solution. The more active metal will be anodic to the other and will give up metal to the solution.

When non-metallic materials are exposed to a hostile environment, they may degrade. This type of degradation is generally physiochemical rather than electrochemical in nature. The degradation of non-metallic materials may exhibit a variety of forms: blistering, crazing, swelling, softening, and delamination. All degradation leads to the loss of structural properties and possible failure. One method of checking the applicability of non-metallic materials is to remove samples at regular intervals during exposure and to measure the loss of mechanical properties, such as flexural strength. If the loss is limited to an acceptable value, the material is usually considered suitable.

VI.A.13.b Factors Influencing Corrosiveness

The potential for an injection well to experience corrosion depends on the materials of construction, the nature of the hydrologic and geologic environments, and the operating conditions.

Temperature and flow velocities can have a pronounced effect on corrosion. Increasing the temperature usually increases the corrosion rate (generally doubling for each additional 18°F), as does increased flow velocities. For example, concentrated sulfuric acid is not corrosive to carbon steel at ambient temperatures because it is strongly oxidizing, therefore, causing passivation (the formation of a protective film). However, if the temperature is raised or the velocity of flow is increased, concentrated sulfuric acid becomes extremely corrosive to carbon steel since the increased temperatures cause the protective film to dissolve, and the increased velocities cause the protective film to be mechanically removed. Increasing temperature also increases the opportunity for the occurrence of localized corrosion, such as pitting or stress corrosion cracking. Alloys which easily passivate, such as stainless steels and titanium, act in an opposite manner to carbon steel and have better corrosion resistance under aerated (containing dissolved oxygen) or flowing conditions. They are more likely to be attacked when oxygen concentration is low, as in places of fluid stagnation such as joints or cracks.

The presence of aggressive species will alter corrosion behavior. The chloride ions, for example, may easily penetrate the passive film on stainless steel and cause deep localized pitting. Also, the presence of dissolved gases such as oxygen, carbon dioxide, hydrogen sulfide, and methane in fluids increase corrosion rates.

Since the discharge of hydrogen ions takes place in most corrosion reactions, the hydrogen ion concentration (pH) is a useful indicator of corrosiveness for certain alloy systems. Acidic (low pH) solutions are, as a general rule, more corrosive than neutral (pH 7) or alkaline (high pH) solutions. In the case of ordinary iron and steel, the dividing line between rapid corrosion in acid solutions and moderate or slow corrosion in nearly neutral or alkaline solutions occurs at a pH of about 4.5. With atmospheric metals, such as aluminum and zinc, highly alkaline (high pH) solutions may be more corrosive than acid solutions.

The synergistic effect of corrosive mixtures must also be considered. Combinations of chemicals, which by themselves are relatively non-corrosive, may be extremely aggressive towards specific alloys. For example, injection streams containing dilute nitric acid or dilute flowing sodium chloride are usually not corrosive towards stainless steel. However, if the two streams are combined, severe pitting of stainless steel may result.

To summarize, a variety of factors will affect the corrosiveness of an injection well environment. These include the characteristics of the alloy, the presence of aggressive species, the pH, the temperature, and velocity or turbulence of the flowing streams. It is also important to know whether chemical combinations present in the injection stream increase or decrease corrosion.

VI.A.13.c Corrosion Detection and Measurement

Tubing and casing materials should be compatible with the injection operation, as well as the fluids to be injected, and the environment in which the well is constructed. To determine proper construction materials, it may be desirable to test the corrosiveness of the injection fluid in the laboratory. Despite the consideration given to corrosion control during well design, there is often a need to recognize corrosive environments during well construction and to detect and measure corrosion during injection operations. Before initiating a corrosion prevention program, it is necessary to determine if corrosion will occur, the cause of corrosion, and the rate and severity of

corrosion. To determine the effectiveness of a corrosion prevention program, the rate and effects of corrosion should be measured before and after application of preventative measures.

There are five commonly used methods to detect and measure corrosion. The most common is the use of weight loss coupons. By inserting a sample of the material with a known weight into the injection stream for a defined period, corrosion rates may be determined.

Other methods include the use of corrosion loops, which are smaller diameter pipes installed parallel to the injection tubing, which may be valved off and removed for inspection. Electrical resistance probes that measure changes in the resistance of a metal as it corrodes, polarization resistance probes, caliper surveys, and other well logging methods may also be used for corrosion detection and measurement.

VI.A.13.d Corrosion Control

Corrosion can be minimized by the application of several different design considerations and operating techniques. The use of construction materials known to be resistant to the potentially corrosive environment is effective (Driscoll, 1986). The choice of metals is affected by the corrosive environment as well as the physical requirements of the system. Carbon steels are resistant to sulfide cracking, while stainless steel alloys or titanium are more suitable for acidic environments.

Altering the environment can make appreciable differences in the corrosion of metals. Changes in the oxygen concentration, temperature, velocity, and pH of the injection or annular fluids can help reduce corrosion.

The application of nonmetallic corrosion resistant materials for well construction are limited to certain types of plastics. Other nonmetallic materials do not possess the characteristics necessary for injection tubing. The most extensively used nonmetallic tubular goods are constructed from fiberglass reinforced with epoxy resins. The material is highly resistant to corrosive fluids. It also affords good resistance to attack by corrosive acids and alkalis, although it has a relatively poor resistance to attack by organic solvents and dissolved chlorine. PVC and other plastic pipe also offer this corrosion resistant capability but have lower strength and temperature ratings.

Protective coatings that separate the tubing from the corrosive environment, and cathodic protection (connecting a metal lower in the galvanic series electrically to the metal to be protected) are other corrosion prevention measures. Operational measures such as degasification and/or neutralization of the injection stream, or the addition of corrosion inhibitors and bactericides also protect the construction materials from corrosion.

VI.A.13.e Corrosion Monitoring Plan

Corrosion monitoring of the materials of construction will be performed on a quarterly basis to ensure that the wastewater stream remains compatible. Additionally, the wellhead, tubulars, and annulus systems will be continuously monitored for anomalies.

Corrosion coupons of the same material of construction as those used in the injection tubing, packer, and casing will be continuously exposed to the permitted wastewater stream, at the same injection rates, pressures, and wellhead temperatures as the materials of construction in the injection well(s) in accordance with the requirements of 30 TAC §331.64(g). Coupons will be located in a tray inserted into the flowline ahead of the well head(s). The corrosion coupons will be tested on a quarterly frequency (according to ASTM G4-01 standards). This testing will include monitoring for loss of mass, thickness, cracking, pitting, and other signs of apparent corrosion. The corrosion rate of each coupon will be evaluated and calculated according to accepted ASTM G1-90 guidelines.

In the event corrosion rates increase significantly, the corrosion monitoring frequency will be increased to ensure that adequate protection and safeguards are taken against degradation of the materials of construction in the well and above-ground injection facilities.

The monitoring plan will be reviewed prior to injecting any new waste stream that materially affects the constituent concentrations or physical characteristics of the wastewaters.

VI.A.14 Notification of Well Construction

Bluebonnet Sequestration Hub, LLC shall notify the Executive Director at least 24 hours prior to beginning drilling operations. Notification of scheduling of well-site procedures will be submitted to the Executive Director's Underground Injection Control (UIC) program staff of the Radioactive

Materials Division (RMD) at least 30 days prior to commencing drilling of the well. Throughout the course of the well construction, logging, and testing, frequent updates will be provided to the UIC program staff by telephone, telefax, or electronic mail. At least 24 hours' notice, but not more than 48 hours, will be provided before cementing of casing strings, logging, and testing, in order that a representative of the Executive Director may be present to witness such activities.

Within 90 days after the completion of the new well, Bluebonnet Sequestration Hub, LLC will submit a *"Completion Report*" to the Executive Director. The report will include a surveyor's plat showing the exact location and giving the latitude and longitude of the well. The report will also include a certification that a notation on the deed to the facility property or on some other instrument which is normally examined during title search has been made stating the surveyed location of the well, the well permit number, and its permitted waste streams. Bluebonnet Sequestration Hub, LLC will also include the following, prepared, and sealed by a licensed professional engineer or licensed professional geoscientist with current registration under the Texas Engineering Practice Act or Texas Geoscience Practice Act:

1. Actual as-built drilling and completion data on the well;
2. All logging and testing data on the well;
3. A demonstration of mechanical integrity;
4. Anticipated maximum pressure and flow rate at which the permittee will operate;
5. Results of the injection zone and confining zone testing program as required in TAC §331.62 relating to construction standards;
6. Adjusted formation pressure increase calculations, fluid front calculations, and updated cross-sections of the confining and injection zones, based on the data obtained during construction and testing;
7. The actual injection procedure;
8. The compatibility of injected wastes with fluids in the injection zone and minerals in both the injection zone and the confining zone and materials used to construct the well;

9. The calculated area of review and cone of influence based on data obtained during logging and testing of the well and the formation and, where necessary, revisions to the information submitted under TAC §331.121;
10. The status of corrective action required for defective wells in the area of review;
11. A "*Well Data Report*" on forms provided by the Executive Director;
12. Compliance with the construction performance standard in TAC §331.62(5); and
13. Compliance with the cementing requirements in TAC §331.62(6).

Bluebonnet Sequestration Hub LLC will provide written notice to the Executive Director, in a manner specified by the Executive Director that a copy of the permit has been properly filed with the health and pollution control authorities of the county, city, and town where the well is located. Bluebonnet Sequestration Hub, LLC will notify the Executive Director in writing of the anticipated start-up date. Compliance with all pre-operation terms of the permit will be verified prior to beginning injection operations. Prior to beginning injection operations, Bluebonnet Sequestration Hub, LLC will obtain written approval from the Executive Director, according to TAC §331.45.

VI.B EXISTING WELL DESIGN AND CONSTRUCTION

Bluebonnet Sequestration Hub, LLC is requesting permits for the installation of two new Class I nonhazardous injection wells. There are no active Class I wells within the project site or within a 2.5-mile radius Area of Review from both planned geographic locations for Bluebonnet DSW M1 and Bluebonnet DSW M2.

VI.C WELL OPERATION, MONITORING AND MAINTENANCE

VI.C.1 Maximum Instantaneous Rate of Injection

Bluebonnet Sequestration Hub, LLC is requesting that the maximum instantaneous rate of injection of 1,200 gpm for Yellow Sand Injection Interval and 975 gpm for the Orange Sand Injection Interval for the Bluebonnet DSW M1 and Bluebonnet DSW M2 Injection Wells.

Bluebonnet Sequestration Hub, LLC further requests that the maximum instantaneous rates be also set as the maximum cumulative injection rate for the Yellow and Orange Sand Injection Intervals. Modeling, presented in Section VII, is in support of these rates as a maximum cumulative rate per Injection Interval.

INJECTION WELLS	INJECTION INTERVAL	INSTANTANEOUS RATE (GPM)
Bluebonnet DSW M1 Bluebonnet DSW M2	Yellow Sand	1,200
Bluebonnet DSW M1 Bluebonnet DSW M2	Orange Sand	975

VI.C.2 Average Rate of Injection Per Month, Total Monthly, and Annual Volumes

The following presents the expected average rates and volumes, and the maximum rates and volumes. The modeling in Section VII for plume and pressure used maximum rates and volumes for the projections.

Yellow Sand Injection Interval

Bluebonnet Sequestration Hub, LLC anticipates that average daily flow from the Injection Wells into the Yellow Sand Injection Interval will be approximately 1,080,000 gallons per day (750 gpm). This equates to an average cumulative monthly volume of 33,480,000 gallons (31 days per month) and an annual average cumulative volume of 394,200,000 gallons (365 days per year).

TIME DURATION	AVERAGE INJECTION VOLUME (GALLONS)*
Average Cumulative Volume Per Minute	750
Average Cumulative Volume Per Day	1,080,000
Average Cumulative Volume Per Month*	33,480,000
Average Cumulative Volume Per Year*	394,200,000

** Assumes 31-day month and 365-day year for Yellow Sand Injection Interval*

Volumes are calculated based upon a max cumulative rate for the Yellow Sand Injection Interval and are not dependent on which well is injecting. The volume average and limits are based upon the formation.

TIME DURATION	MAXIMUM INJECTION INTERVAL VOLUME (GALLONS)
Maximum Volume Per Minute	1,200
Maximum Volume Per Day	1,728,000
Maximum Volume Per Month*	53,568,000
Maximum Volume Per Year*	630,720,000

**Assumes 31-day month and 365-day year*

In support of these requests Bluebonnet Sequestration Hub, LLC has provided detailed modeling in Section VII using the maximum requested rate of 1,200 gpm injection rate for the Yellow Sand Injection Interval cumulative.

Orange Sand Injection Interval

Bluebonnet Sequestration Hub, LLC anticipates that average daily flow from the Injection Wells into the Orange Sand Injection Interval will be approximately 1,080,000 gallons per day (750 gpm). This equates to an average cumulative monthly volume of 33,480,000 gallons (31 days per month) and an annual average cumulative volume of 394,200,000 gallons (365 days per year).

TIME DURATION	AVERAGE INJECTION VOLUME (GALLONS)*
Average Cumulative Volume Per Minute	750
Average Cumulative Volume Per Day	1,080,000
Average Cumulative Volume Per Month*	33,480,000
Average Cumulative Volume Per Year*	394,200,000

Volumes are calculated based upon a max cumulative rate for the Orange Sand Injection Interval and are not dependent on which well is injecting. The volume average and limits are based upon the formation.

TIME DURATION	MAXIMUM INJECTION INTERVAL VOLUME (GALLONS)
Maximum Volume Per Minute	975
Maximum Volume Per Day	1,404,000
Maximum Volume Per Month*	43,524,000
Maximum Volume Per Year*	512,460,000

**Assumes 31-day month and 365-day year*

In support of these requests Bluebonnet Sequestration Hub, LLC has provided detailed modeling in Section VII the maximum requested rate of 975 gpm injection rate for the Orange Sand Injection Interval cumulative.

VI.C.3 Average and Maximum Daily Injection Rate and Anticipated Well Life Volume

The injection wells are designed for at least a 30-year life and therefore the injection is modeled for a 30-year future injection term for the Yellow and Orange Sand Injection Intervals independently.

Bluebonnet Sequestration expects the average injection volumes as follows:

INJECTION INTERVAL	AVERAGE RATE (GPM)	AVERAGE ANNUAL VOLUME (GALLONS)	AVERAGE 10-YEAR VOLUME (GALLONS)	AVERAGE 30-YEAR WELL LIFE VOLUME (GALLONS)
Yellow Sand	750	394,200,000	3,942,000,000	11,826,000,000
Orange Sand	750	394,200,000	3,942,000,000	11,826,000,000

Bluebonnet Sequestration requests to set the permitted maximum injection volumes, cumulative per the injection interval, as follows:

INJECTION INTERVAL	MAX RATE (GPM)	MAX ANNUAL VOLUME (GALLONS)	MAX 10-YEAR VOLUME (GALLONS)	MAX 30-YEAR WELL LIFE VOLUME (GALLONS)
Yellow Sand	1,200	630,720,000	6,307,200,000	18,912,600,000
Orange Sand	975	512,460,000	5,124,600,000	15,373,800,000

The pattern in which the injection wells will be used is dependent on the rates of produced formation water (source) that will generate waste to be disposed of in the UIC System. The injection wells are expected (and designed) to operate on a continuous basis (24-hours) and each well can independently handle the maximum modeled flow rates. Preference will be to run both wells continuously, but flow will be limited by a cumulative maximum rate (volume) per each Injection Interval. If both wells are operating in the same Injection Interval, the maximum rate will be split between the wells.

VI.C.4 Average and Maximum Surface Injection Pressure

Average surface injection pressure is expected to be in the range of below the maximum requested rates when injecting waste at average rates. Bluebonnet Sequestration Hub, LLC requests the following maximum allowable surface injection pressure (MASIP) permitted for the injection wells:

Well(s)	Injection Interval	Maximum Requested Surface Injection Pressure
Bluebonnet DWS M1	Yellow Sand	978 psig
Bluebonnet DWS M2	Yellow Sand	978 psig
Bluebonnet DWS M1	Orange Sand	864 psig
Bluebonnet DWS M2	Orange Sand	864 psig

Calculation of the MASIP is contained in Section VII.A.5 of the application.

VI.C.5 Operation and Injection Procedures

Bluebonnet Sequestration Hub, LLC will operate the well(s) in compliance with provisions specified or referenced in the final injection permits, and in accordance with the operating requirements of 30 TAC §331.63 & §331.66(c). Bluebonnet Sequestration Hu,b LLC will operate the injection wells such that none of the permitted operating parameters are exceeded and appropriate safeguards will be set in the operating logic at levels below permit conditions. Conservative MASIP has been defined in Section VII.A.5.1, which ensures injection operations will not exceed the fracture pressure. No injection operations will occur between the outermost casing and the USDW per 30 TAC §331.63(d). Operating the wells in this fashion will prevent the movement of fluids that could result in the pollution of a USDW and will prevent leaks from any of the subject injection wells into unauthorized zones.

The annulus pressure will be maintained at least 100 psi greater than the injection tubing pressure to prevent leaks from the well into unauthorized zones and to detect well malfunctions, unless the TCEQ determines that such a requirement might harm the integrity of the well.

Bluebonnet Sequestration Hub, LLC will continually monitor operational parameters of the wells and the monthly average and maximum instantaneous rates of injection, and annual and monthly volumes of injected fluids will not exceed limits specified by the TCEQ. Permittee name will ensure that all gauges, pressure sensing, and recording devices are tested and calibrated quarterly, or to manufacturers specifications, whichever is shorter. The waste stream injected into the wells is nonhazardous. The chemical or physical characteristic of the injected fluids will be maintained within specified permit limits (see Section IX) for the protection of the injection well, associated facilities, the Injection Zone, and to ensure proper operation of the facility. The waste streams to

be injected are not expected to have adverse reactions with the formations, such as generating gases. Bluebonnet Sequestration Hub, LLC will have a program developed so that the personnel that operate and maintain the injection wells are trained in how to do so safely and within regulatory and facility requirements. The construction and operational procedures of the injection wells are designed to prevent potential pressure imbalances that could cause a backflow or blowout of the well.

Bluebonnet Sequestration Hub, LLC will always maintain the mechanical integrity of the injection wells that the well is in active service. Should the mechanical integrity of the injection well be compromised, Bluebonnet Sequestration Hub, LLC will notify TCEQ before commencing any workover operation. The notification will be in writing and will include plans for the proposed work. Bluebonnet Sequestration Hub, LLC will not commence any workover procedures until approval has been issued by the TCEQ. Should it be necessary to remove either well from service for longer than two years, Bluebonnet Sequestration Hub, LLC will notify the TCEQ in writing 30 days prior to resuming operation of the well(s) in accordance with 30 TAC §331.63(m) and will perform a mechanical integrity test and bottomhole pressure falloff test prior to reestablishing injection into the idled well. Additionally, pressure control equipment will be installed and maintained during workovers in which the tubing is removed.

VI.C.6 Monitoring Plans

Bluebonnet Sequestration Hub, LLC will continue to operate the wells in compliance with provisions specified or referenced in the final injection permits [30 TAC 331.121(a)(2)(M)]. The wells and surface facilities will be maintained in good working order and painted, where appropriate. All-weather roads will be maintained to allow access to each injection well and associated facilities and maintained in good condition. Each well is clearly identified by a posted sign containing the company name, company well number, and commission permit number (lettering is at least 1-inch high).

VI.C.6.a Pressure Gauges

Pressure gauges/transmitters will be installed at the wellhead, on the injection tubing and on the annulus between the injection tubing and long-string casing. Analog annulus pressure and

injection pressure gauges will be installed at the wellheads to allow visual monitoring of operating conditions. The gauges will be inspected daily and maintained in proper operating condition at all times (30 TAC §331.64(c)).

All gauges, pressure sensing devices, and recording devices will be tested and calibrated at least quarterly, or as specified by the manufacturer, whichever is shorter (30 TAC §331.63(g)). Test and calibration records will be maintained at the facility.

VI.C.6.b Continuous Recording Devices, Automatic Alarm and Notification

Continuous recording devices will be used to record at a minimum: a) injection tubing pressures; b) injection flow rates; c) injection fluid temperatures; d) injection volumes; e) tubing – long-string casing annulus pressure; f) tubing – long-string casing annulus volume. The instruments will be maintained in proper operating condition at all times (30 TAC §331.64(d)).

All gauges, pressure sensing devices, and recording devices are tested and calibrated at least quarterly, or as specified by the manufacturer (30 TAC §331.63(g)), whichever is shorter. Test and calibration records will be maintained at the facility. All instruments will be housed in weatherproof enclosures, where appropriate. Additionally, alarms and interlocks will be provided to alert operators to high flow rates, low annulus pressure, and low level in the annulus fluid tanks.

Automatic alarm and automatic shutoff systems will be designed and will be installed to sound in the event that pressures, flow rates, or other parameters designated by the Executive Director exceed a range or gradient specified in the injection permit. If an alarm or shutdown is triggered, Bluebonnet Sequestration Hub, LLC will immediately investigate and, as expeditiously as possible, identify the cause of the alarm or shutoff. Section 30 TAC §331.65(b)(5) requires 24-hour notification of the TCEQ UIC Regulatory department to be notified of any significant change in monitoring parameters, or of any other observation, which could reasonably be attributed to a leak or other failure of the well equipment or injection zone integrity.

In the event that an alarm sounds, facility personnel notify a trained operator who investigates and takes action to correct the problem (30 TAC §331.64(d)(2)). If, upon investigation, it is determined that the well is lacking mechanical integrity, or if continued monitoring otherwise indicates that the well may be lacking mechanical integrity, Bluebonnet Sequestration Hub, LLC will: (1) cease injection of waste fluids (unless authorized by the Executive Director (TCEQ) to continue or resume injection); (2) take the steps necessary to determine the presence or absence of a leak; and (3) notify the TCEQ within 24 hours after the alarm or shutdown (30 TAC §331.64(d)(3)).

Bluebonnet Sequestration Hub, LLC will maintain complete and accurate records of all monitoring required by the permit, including: all periodic well tests; all shut-in periods; and times that emergency measures were used for handling injection fluid. Additionally, information on other conditions that might reasonably affect the operation of the injection wells is maintained. Bluebonnet Sequestration Hub, LLC will retain all monitoring and reporting records at the facility site for a period of at least three years from the date of the record or sample. Bluebonnet Sequestration Hub, LLC will also retain, for a period of five years following abandonment of the injection wells, records of all information resulting from any monitoring activities or other records required by the permit. Bluebonnet Sequestration Hub, LLC will make available to TCEQ all records, upon request, that are required to be kept by the permit.

VI.C.6.c Waste Monitoring System

Bluebonnet Sequestration Hub, LLC will analyze the injected waste following the applicable guidelines (see Section IX). Bluebonnet Sequestration Hub, LLC will conduct continuous and periodic monitoring of parameters specified or required by the permit, and the chemical and physical characteristics of the injected fluids are maintained within specified permit limits as proposed under Section IX of this application (30 TAC §331.64(b)(3)). In addition, Bluebonnet Sequestration Hub, LLC will properly operate and maintain all facilities and systems of treatment and control which are installed and/or used to achieve compliance with the conditions of the permit. Bluebonnet Sequestration Hub, LLC will routinely analyze injected wastes according to the Waste Analysis Plan and the applicable TCEQ requirements.

VI.C.6.d Annual Mechanical Integrity Testing

Bluebonnet Sequestration Hub, LLC will perform annual integrity tests and 5-year differential temperature surveys on Bluebonnet DWS M1 and Bluebonnet DWS M2 to meet the requirements of the TCEQ in accordance with the 30 TAC §331.64 (e) standard. The following steps will be performed for every test:

1. A casing inspection, casing evaluation, or other log required by the Executive Director to determine the condition of the casing, will be run as provided by the terms of the permit.

2. An approved temperature, noise, or other approved log will be run at least once every 5 years to test for movement of fluids along the borehole.

3. Annually test the integrity of the bottomhole cement by means of an approved radioactive tracer (RAT) survey. A RAT survey may be performed after workovers that have the potential to damage the cement within the Injection Zone.

4. The tubing-casing annulus will be tested to levels detailed in individual MIT procedures approved by the Executive Director, for a minimum of 30 minutes, with an allowable bleed-off of no more than 5 percent.

5. A casing inspection log will be run after workovers when the tubing has been pulled and/or every five years as needed.

6. Mechanical integrity will be demonstrated following any major operation that involves removal of the injection tubing, recompletions, or unseating of the packer unless the TCEQ waives the requirement due to well construction or other factors which limit the test's reliability or based upon the satisfactory results of a casing inspection log run within the previous five years.

VI.C.6.e Corrosion Monitoring

Corrosion monitoring of the materials of construction will be performed on a quarterly basis to ensure that the wastewater stream remains compatible. The wellhead, tubulars, and annulus systems will be continuously monitored for anomalies. Corrosion monitoring will be conducted in accordance with the requirements of 30 TAC §331.64(g).

Corrosion coupons will be comprised of similar materials to those used in construction of the injection wells. Coupons will be used to monitor corrosion of injection tubing, packer, and casing materials at similar at injection rates, pressures, and temperatures as the materials of construction in the injection well(s) in accordance with the requirements of 30 TAC §331.64(g). Coupons will be located in a tray inserted into the flowline ahead of the well head(s). The corrosion coupons will be tested on a quarterly frequency (according to ASTM G4-01 standards). This testing will include monitoring for loss of mass, thickness, cracking, pitting, and other signs of apparent corrosion. The corrosion rate of each coupon will be evaluated and calculated according to accepted ASTM G1-90 guidelines.

In the event that corrosion rates increase significantly, the corrosion monitoring frequency will be increased to ensure that adequate protection and safeguards are taken against degradation of the materials of construction in the well and above-ground injection facilities. The monitoring plan will be reviewed prior to injecting any new waste stream that materially affects the constituent concentrations or physical characteristics of the wastewaters.

VI.C.6.f Annual Ambient Monitoring

Ambient pressure monitoring is performed yearly in accordance with 30 TAC§331.64(h)(2). Testing procedures and data analysis follow USEPA Region 6 *UIC Pressure Falloff Testing Guideline – Third Revision* (*August 8, 2002*). Ambient pressure monitoring typically includes an injection (pressure buildup) test, a pressure fall-off test, a static bottomhole pressure measurement and a determination of the static fluid gradient. Injection rates are kept at a maximum rate that can be held constant for a period of time to reach a substantial increase of pressure to analyze the radial flow period. The injectivity and falloff portions of the test are designed to reach radial flow and to sustain a time frame sufficient for analysis of the radial flow period. The analysis will also

evaluate the formation responses and determine the current transmissibility and permeability. This data will be compared against past historical tests to monitor reservoir changes and conditions.

Bluebonnet DWS M1 and Bluebonnet DWS M2 will be completed into a single injection interval. Testing will consist of an injection/falloff test.

VI.C.7 Wellhead and Facilities

The wellheads of Bluebonnet DWS M1 and Bluebonnet DWS M2 and associated piping and equipment will be regularly painted and maintained in good working order without leaks in accordance with 30 TAC §331.66(b)(3). The wellheads will be cleaned to prevent the onset of rust and corrosion of the exposed parts.

VI.C.8 Well Pad and Enclosure

The base of the wellhead(s) will be enclosed by a diked, impermeable pad containing a sump to protect the ground surface from spills and releases. All liquids collected in the sump will be pumped back to the wastewater storage tank for injection into the well.

VI.C.9 Access Roads

All-weather roads within the facility land acreage will provide access to Bluebonnet DWS M1 and Bluebonnet DWS M2. The roads will be maintained in good condition to allow access to each injection well and associated facilities in accordance with 30 TAC §331.66(b)(2).

VI.C.10 Signs

Signs will be posted for the proposed wells once they have been completed at their corresponding locations. This sign shows the name of the company, company well number, and TCEQ permit number. The sign and identifications are in the English language, clearly legible and composed of numbers and letters at least 1-inch high per 30 TAC§331.66(b)(1).

VI.C.11 Contingency Plans

Automatic alarm and automatic shutoff systems are designed and installed to sound in the event that pressures, flow rates, or other parameters designated by the Executive Director exceed a range

or gradient specified in the injection permit. If an automatic alarm is triggered, a trained operator shall immediately investigate and identify as expeditiously as possible the cause of the alarm and shut down the proposed well, if necessary, to prevent possible migration of waste into a delegated USDW or freshwater aquifers.

If, upon investigation, Bluebonnet Sequestration Hub, LLC believes that a well has lost mechanical integrity, the operator will comply with applicable requirements of 30 TAC §331.44 and 30 TAC §305.152.

The following steps outline a systematic plan which will be followed if a well failure has occurred, and it *appears* that a well lacks mechanical integrity. Bluebonnet Sequestration Hub, LLC will:

1. Stop injection to well until authorized by TCEQ to continue,
2. Take necessary steps to determine the presence or absence of a leak,
3. Notify TCEQ within 24 hours of the alarm or shut down

If a loss of mechanical integrity is discovered, Bluebonnet Sequestration Hub, LLC will:

1. Stop injection to well,
2. Take necessary and reasonable steps to determine whether there may have been a release of injected constituents into any unauthorized zone,
3. Notify TCEQ within 24 hours after the loss of mechanical integrity is discovered,
4. Notify the TCEQ of when injection may be expected to resume.
5. Restore and demonstrate mechanical integrity to the satisfaction of TCEQ

If Bluebonnet Sequestration Hub, LLC has evidence that there may have been a release of injectate into an unauthorized zone, the following steps will be employed:

1. Stop injection to well immediately,
2. Notify TCEQ within 24 hours of obtaining evidence of the release,
3. Take the steps necessary to characterize the release,
4. Comply with a remediation plan approved by TCEQ,

5. Implement the remediation plan,

6. Place a notice in a newspaper of general circulation if the release was into a USDW serving as a public water supply,

7. Bluebonnet Sequestration Hub, LLC will obtain authorization from TCEQ prior to beginning any well work over.

It is expected that Bluebonnet Sequestration Hub, LLC will operate the wells at rates below their total capacities. There will be sufficient capacity in each of the operating wells to handle the daily average injection volumes. In the event of a well failure, the full flow of the formation water waste stream will be directed to the other well. If the combined well and waste storage capacity are unable to meet wastewater generation rates, Bluebonnet Sequestration Hub, LLC will cease the production of water for disposal.

Bluebonnet Sequestration Hub, LLC emergency plan covers preparation and response to natural disasters such as storms (*i.e.*, hurricanes, heavy rainfall). The emergency plan includes ceasing production of water for disposal.

VI.D WELL CLOSURE AND POST-CLOSURE CARE PLANS

Bluebonnet Sequestration Hub, LLC is providing the required financial assurance information for closure and post-closure care in Attachment I of this permit application document. Well closure procedures and post-closure care plans are detailed in the following subsections. Closure schematics for the Bluebonnet DWS M1 and Bluebonnet DWS M2included as Figures VI-6 and VI-7

VI.D.1 Injection Well Closure Plan

The injection wells will be plugged and abandoned following the requirements of applicable regulations. Prior to closing any of the wells, Bluebonnet Sequestration Hub, LLC will observe and record the pressure decay for a time specified by the Executive Director. In addition, appropriate mechanical integrity testing shall be conducted to ensure the integrity of that portion of the long string casing and cement that will be left in the ground after closure to ensure that no fluids move into or between USDWs.

Prior to plugging, the wells will be in a state of static equilibrium with the mud or fluid weight equalized top to bottom, either by circulating plugging mud or kill fluid in the well at least once or by a comparable method prescribed by the Executive Director.

Notice of intent to plug and abandon the subject disposal well will be given at least 60 working days prior to closure of that well. A closure report certifying that the well or wells were closed in accordance with applicable requirements will be submitted to the proper agencies within 30 days of plugging each well. The report will include records of any newly constructed or discovered wells within the Area of Review. When plugging and abandonment is complete, Bluebonnet Sequestration Hub, LLC will submit certification to the Executive Director (by a licensed, professional engineer with current registration pursuant to the Texas Engineering Practice Act, who is knowledgeable and experienced in practical drilling engineering and who is familiar with the special conditions and requirements of injection well construction) that the injection well has been closed in accordance with 30 TAC §331.46.

Bluebonnet Sequestration Hub ,LLC will accomplish plugging of the proposed injection wells by setting balanced plugs. Bluebonnet Sequestration Hub, LLC shall notify TCEQ of intent to plug at least 60 days prior to closure. The following detailed information will be provided:

1. Type and number of plugs;
2. Placement of each plug, including the elevation of both the top and bottom of the plug;
3. Type, grade, and quantity of the plugging material and additives to be used;
4. Method used to place plugs in hole;
5. Procedure used to plug and abandon the well;
6. Any information on newly constructed or discovered wells, or additional well data, within the Area of Review.

Bluebonnet Sequestration Hub, LLC will accomplish plugging of the wells by the following program.

Bluebonnet DWS M1 and Bluebonnet DWS M2 Plugging Plan

1. At least 60 day before commencing plugging and abandonment of a well, the TCEQ, in Austin, Texas, will be notified of an estimated start time for plugging operations.
2. Conduct a bottomhole pressure falloff test. Permittee shall observe and record the pressure decay for a time specified by the Executive Director of the TCEQ. Compare test results to predicted values.
3. Conduct Mechanical Integrity Test (Annulus Pressure Test and Radioactive Tracer Survey) to verify integrity of casing and completion interval.
4. Flush tubing with a minimum of two wellbore volumes of brine, sufficiently weighted to overbalance formation pressures.
5. Move in workover rig and remove wellhead and install well control equipment on wellhead.
6. Retrieve injection tubing and injection packer from the well.

7. Conduct a casing scraper run in the 9-5/8-inch casing. Run casing inspection and cement bond logs to verify integrity of casing and cement bond. Note: If logs indicate potential for inter-formational fluid migration, modify closure plan accordingly to eliminate such fluid movement.

8. Set a 9-5/8-inch permanent bridge plug (cement retainer) at 3,600 feet (26 feet above the top of the injection zone). Run workstring tubing and sting into cement retainer. Rig up cementing equipment, and pump 50 barrels of spacer followed by 75 barrels of Premium cement mixed at 16.4 ppg. Displace the cement so that 50 barrels of cement is squeezed below the cement retainer.

9. Pull out of the retainer and reverse circulate until clean. Pump the remaining 25 barrels of cement to spot on top of the bridge plug. Pull the workstring up 500 feet above the calculated top of cement slowly, so that a uniform cement column extends from the cement retainer to +/- 3,400 feet.

10. After waiting a sufficient amount of time for the cement to harden, locate the top of the cement plug, and load and/or pressure test the cement plug to ensure its competency.

11. Displace the brine in the wellbore with drilling mud at a minimum of 9.5 lb/gal density and sufficient viscosity to support the plugging cement.

12. Retrieve workstring tubing to surface and pick up a 9-5/8-inch cast iron bridge plug. Run and set the bridge plug at 2,500 feet (200 feet below 13-3/8-inch surface casing shoe at 2,300 feet). Rig up cementing equipment, and pump 40 barrels of spacer followed by 40 barrels of Premium cement mixed at 16.4 ppg. Displace the cement and pull the workstring up 500 feet above the calculated top of cement slowly, so that a uniform cement column extends from +/- 2,500 feet to +/- 2,000 feet in the 9-5/8-inch casing.

13. After waiting a sufficient amount of time for the cement to harden, locate the top of the cement plug, and load and/or pressure test the cement plug to ensure its competency.

14. Pull up to 100 ft. and rig up cementing equipment. Pump 10 barrels of spacer followed by 8 barrels of Premium cement mixed at 16.4 ppg. Displace the cement and pull the workstring up out of the well slowly so that a uniform cement column extends from +/- 100 ft. to surface in the 9-5/8-inch casing.

15. Remove wellhead, cut off casing three feet below ground surface, and weld steel plate on top.

16. Erect a permanent marker on the well with the TCEQ permit number, date of plugging, years of operation, injected volumes, and company name identified on the marker.

17. Within 30 days completion of closure, the permittee shall file with the Executive Director a closure report on forms provided by the commission as is required under 30 TAC §331.46(n). The report shall be certified by an independent licensed engineer or geoscientist that the plugging and abandonment was accomplished by the submitted plan. This report shall consist of a statement that the well was closed in accordance with the closure plan previously submitted and approved by the Executive Director. Where the actual closure differed from the plan previously submitted, a written statement shall be submitted specifying the difference between the pervious plan and actual closure.

18. In accordance with the requirements of 30 TAC §331.46(m), within 60 days after approval of each plugging report by the Executive Director, Bluebonnet Sequestration Hub, LLC will record a notation on the deed to the facility properties or an equivalent instrument that is normally examined during title search that will, in perpetuity, provide information about historic waste disposal via deep well injection. Information will include: 1) a statement to the fact that the land has been used to manage hazardous waste; 2) the name(s) of the state agency and/or local authority with which the plat has been filed; 3) the type and volume of waste injected, the injection interval(s), and the time period over which injection occurred.

VI.D.2 Estimated Plugging Cost

The following estimated plugging amounts were calculated for the injection wells using current (year end 2024) prices (see Appendix VI-3):

Injection Well	Estimated Plugging Amount*
Bluebonnet DWS M1	$274,379
Bluebonnet DWS M2	$274,379

The estimate was prepared assuming the balance method to spot cement plugs. A detailed worksheet for each well is contained in Appendix VI-3 and is based on the plugging operations

being performed by a third-party with no operable onsite equipment and a 20% contingency. Permittee name will provide evidence of financial assurance for Bluebonnet DWS M1 and Bluebonnet DWS M2 (Proposed), which will be submitted at least 60 days prior to commencement of drilling operations for the new wells. A total assurance amount of $548,758 (which includes 20% contingency) is presented in Attachment I. All other relevant financial assurance mechanisms shall be in effect before commencement of drilling operations.

VI.D.3 Post Closure Plan

The section is not applicable to permit application for the proposed wells. The wells will be permitted for the injection of non-hazardous waste.

VI.D.4 Post Closure Care

The section is not applicable to permit application for the proposed wells. The wells will be permitted for the injection of non-hazardous waste.

REFERENCES

Driscoll, F. G., 1986, Groundwater and Wells: 2nd ed., Johnson Division, St. Paul, Minnesota, p. 658-665.

Environmental Protection Agency, 1987, Technical Assistance Document: Corrosion, Its Detection and Control in Plant Wells: EPA 570/9-87-002, Washington, D. C.

Larrabee, C. P., 1946, Effect of Composition and Environment on Corrosion of Iron and Steel: Corrosion of Metals, p. 30-50.

TABLES

Geostock Sandia

TABLE VI-1

CASING AND TUBING DIMENSIONS AND PARAMETERS
PROPOSED BLUEBONNET DSW M1

PROPERTY	UNITS	CONDUCTOR	SURFACE	PROTECTION	TUBING
Size	inches	20	13 3/8	9 5/8	5 1/2
Depth	feet	80-150	2,300	4,600	3,610
Nominal Weight	lbs/ft	52.78	61	53.5	20.0
Grade	----	API 5LB X42	K-55	L-80	L-80
Thread	----	Line Pipe	BTC	Premium	Premium
Wall Thickness	inches	0.250	0.430	0.545	0.361
Collapse Rating (without tension)	psi	--	1,540	6,620	8,830
Burst Rating	psi	--	3,090	7,930	9,190
Tensile Rating (Pipe Body)	lbs x 1,000	--	962	1,244	466
Tensile Rating (Pipe Connection)	lbs x 1,000	--	1,169	1,047	416
Burst Safety Factor	----	N/A	1.9	4.2	10.5
Collapse Safety Factor	----	N/A	2.6	5.7	7.7
Tension Safety Factor (Pipe Body)	----	N/A	8.1	6.1	6.5
Tension Safety Factor (Pipe Connection)	----	N/A	9.8	5.1	5.8

Note: all depths are referenced to RKB.
Sources: API Bulletin 5C2, October 1999

TABLE VI-2

CASING AND TUBING DIMENSIONS AND PARAMETERS
PROPOSED BLUEBONNET DSW M2

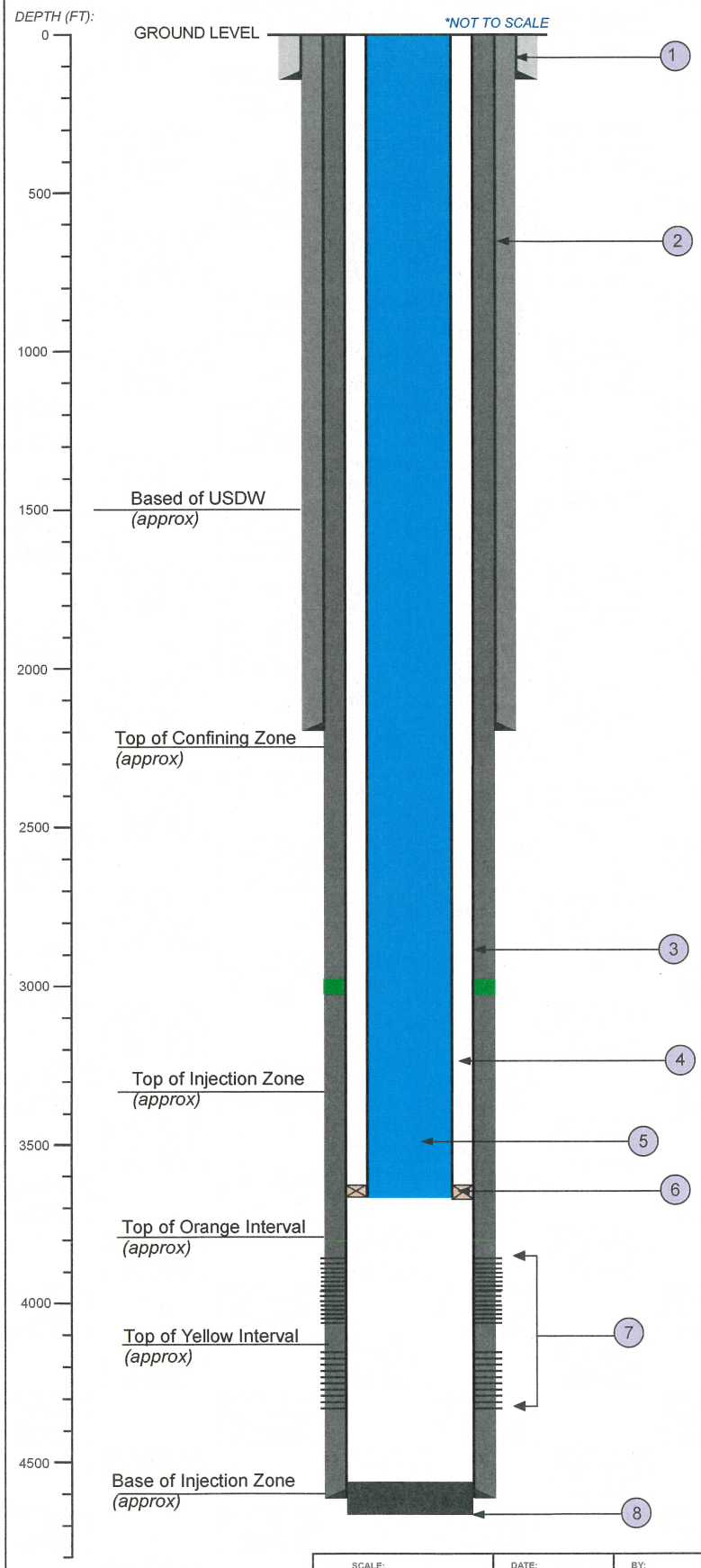
PROPERTY	UNITS	CONDUCTOR	SURFACE	PROTECTION	TUBING
Size	inches	20	13 3/8	9 5/8	5 1/2
Depth	feet	80-150	2,300	4,600	3,610
Nominal Weight	lbs/ft	52.78	61	53.5	20.0
Grade	----	API 5LB X42	K-55	L-80	L-80
Thread	----	Line Pipe	BTC	Premium	Premium
Wall Thickness	inches	0.250	0.430	0.545	0.361
Collapse Rating (without tension)	psi	--	1,540	6,620	8,830
Burst Rating	psi	--	3,090	7,930	9,190
Tensile Rating (Pipe Body)	lbs x 1,000	--	962	1,244	466
Tensile Rating (Pipe Connection)	lbs x 1,000	--	1,169	1,047	416
Burst Safety Factor	----	N/A	1.9	4.2	10.5
Collapse Safety Factor	----	N/A	2.6	5.7	7.7
Tension Safety Factor (Pipe Body)	----	N/A	8.1	6.1	6.5
Tension Safety Factor (Pipe Connection)	----	N/A	9.8	5.1	5.8

Note: all depths are referenced to RKB.
Sources: API Bulletin 5C2, October 1999

FIGURES

Geostock Sandia

WELL STATUS: PROPOSED



CLIENT: 1POINTFIVE

CLIENT INFORMATION: BLUEBONNET SEQUESTRATION LLC
CHAMBERS COUNTY, TEXAS

KB = 23' (GL)
ALL DEPTHS **KB (~26 FT)**

PROPOSED COMPLETION DETAIL

1. 20" Conductor Casing (0.25" wall), driven/auger to ~80'-150' in a 26-30" hole: 52.78 ppf. Cement + additives: 787 sx, yield 0.77 ft^3/sx.

2. 13-3/8" Surface Casing set at ~2,300', set in 17-1/2" hole: 61 lb/ft, K-55, BTC; Cemented to Surface:
   - Lead Slurry: Class A/C Cement + additives. 0-1,600', 1,389 sx, yield 1.6 ft^3/sx, 12.5 ppg.
   - Tail Slurry: Class A/C Cement + additives. 1,600'-2,300', 967 sx, yield 1.01 ft^3/sx, 15.0 ppg.

3. 9-5/8" Protection Casing set at 4,600', set in 12-1/4" hole: 53.5 lb/ft L-80, Premium Connection; Cemented to surface in two stages through stage tool set at ~3,000':
   - Stage 1: 690 sx of 14.5 ppg (yield 1.09 ft^3/sx) of Class A/C cement + additives from 0'-3,000'.
   - Stage 2: 884 sx of 12.5 ppg (yield 1.6 ft^3/sx) of Class A/C cement + additives from 3,000'-4,600'.

4. Annular Fluid: 9.5-10.0 lb/gal sodium chloride brine with KCL brine with corrosion inhibitors and H_2S and O_2 scavangers.

5. 5-1/2" Injection Tubing to ~3,610': 20 lb/ft, L-80, Premium Connection, Internal Liner

6. Injection Packer set at ~3,620': 5-1/2" X 9-5/8" with 6-5/8" fullbore retrievable, nickel plated packer. Packer elastomer HNBR. Packer fluid 9.8 ppg inhibited brine

7. Proposed Perforations:
   Orange Sand: ~3,791' to 4,054' (below ground level)
   Yellow Sand: ~4,109' to 4,419' (below ground level)
   Specific perforations to be selected after drilling and executing the logging program. Yellow Sand will be the initial Target. Future planned perforations for Orange Sand

8. Total Depth ~ 4,700' (Rathole to accommodate logging program). Plug Back Depth ~ 4,600'

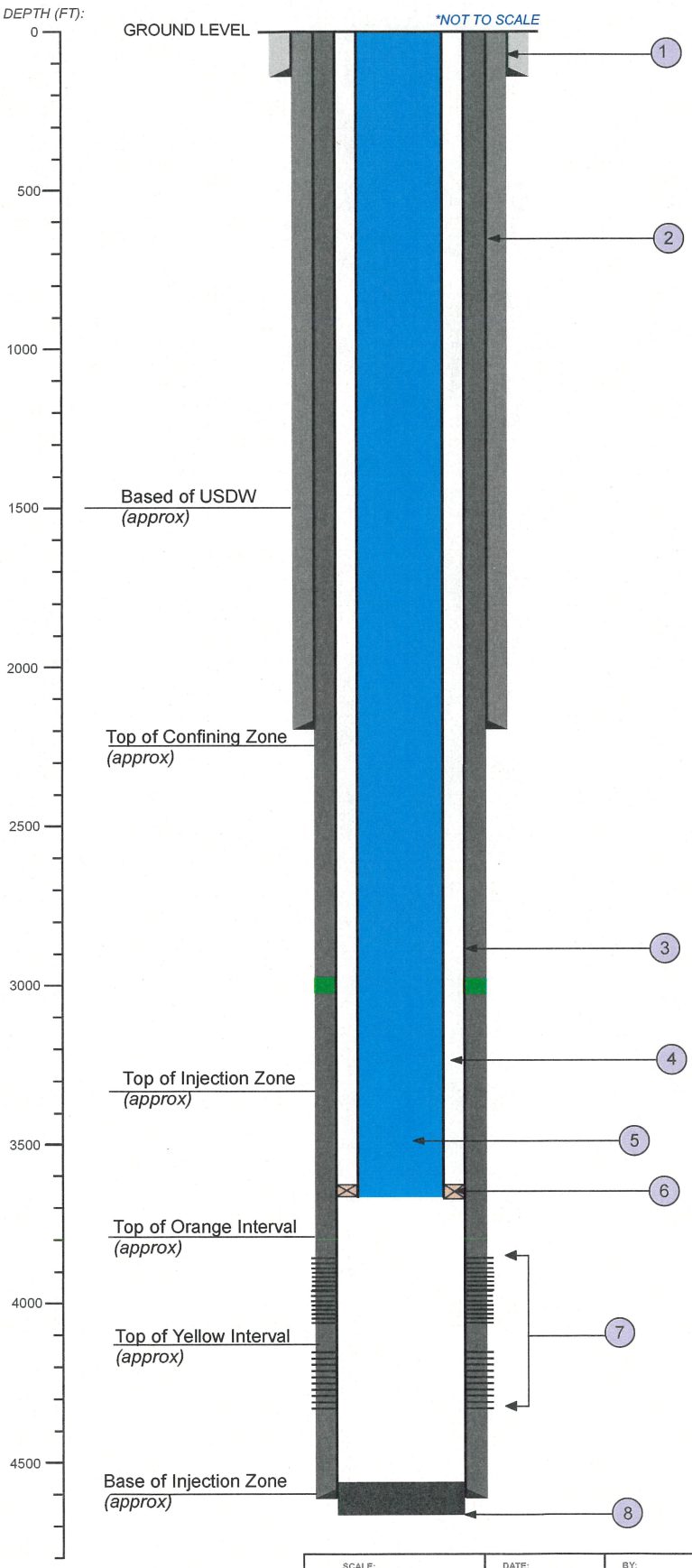
STATE OF TEXAS
W.H. ARMSTRONG, JR.
76312
LICENSED PROFESSIONAL ENGINEER

SCALE:	DATE:	BY:	APPROVED BY:
NOT TO SCALE	12/01/2024	D. Gallagher	B. Armstrong

Figure VI-1: Bluebonnet DSW M1 Proposed Completion Schematic

Geostock Sandia
TBPE Reg. No.: F-15391
Geostock Sandia, LLC
10930 W. Sam Houston Pkwy, Suite 100
Houston, TX USA 77064
Main: 346.314.4347
Fax: 832.478.5172
Web: www.geostocksandia.com

WELL STATUS: PROPOSED



CLIENT: 1POINTFIVE

CLIENT INFORMATION: BLUEBONNET SEQUESTRATION LLC
CHAMBERS COUNTY, TEXAS

KB = 23' (GL)
ALL DEPTHS **KB (~26 FT)**

PROPOSED COMPLETION DETAIL

1. 20" Conductor Casing (0.25" wall), driven/auger to ~80'-150' in a 26-30" hole: 52.78 ppf. Cement + additives: 787 sx, yield 0.77 ft^3/sx.

2. 13-3/8" Surface Casing set at ~2,300', set in 17-1/2" hole: 61 lb/ft, K-55, BTC; Cemented to Surface:
   - Lead Slurry: Class A/C Cement + additives. 0-1,600', 1,389 sx, yield 1.6 ft^3/sx, 12.5 ppg.
   - Tail Slurry: Class A/C Cement + additives. 1,600'-2,300', 967 sx, yield 1.01 ft^3/sx, 15.0 ppg.

3. 9-5/8" Protection Casing set at 4,600', set in 12-1/4" hole: 53.5 lb/ft L-80, Premium Connection; Cemented to surface in two stages through stage tool set at ~3,000':
   - Stage 1: 690 sx of 14.5 ppg (yield 1.09 ft^3/sx) of Class A/C cement + additives from 0'-3,000'.
   - Stage 2: 884 sx of 12.5 ppg (yield 1.6 ft^3/sx) of Class A/C cement + additives from 3,000'-4,600'.

4. Annular Fluid: 9.5-10.0 lb/gal sodium chloride brine with KCL brine with corrosion inhibitors and H_2S and O_2 scavangers.

5. 5-1/2" Injection Tubing to ~3,610': 20 lb/ft, L-80, Premium Connection, Internal Liner

6. Injection Packer set at ~3,620': 5-1/2" X 9-5/8" with 6-5/8" fullbore retrievable, nickel plated packer. Packer elastomer HNBR. Packer fluid 9.8 ppg inhibited brine

7. Proposed Perforations:
   Orange Sand: ~3,791' to 4,054' (below ground level)
   Yellow Sand: ~4,109' to 4,419' (below ground level)
   Specific perforations to be selected after drilling and executing the logging program. Yellow Sand will be the initial Target. Future planned perforations for Orange Sand

8. Total Depth ~ 4,700' (Rathole to accommodate logging program). Plug Back Depth ~ 4,600'

STATE OF TEXAS
W.H. ARMSTRONG, JR.
76312
LICENSED
PROFESSIONAL ENGINEER

SCALE:	DATE:	BY:	APPROVED BY:
NOT TO SCALE	12/01/2024	D. Gallagher	B. Armstrong

Figure VI-2: Bluebonnet DSW M2 Proposed Completion Schematic

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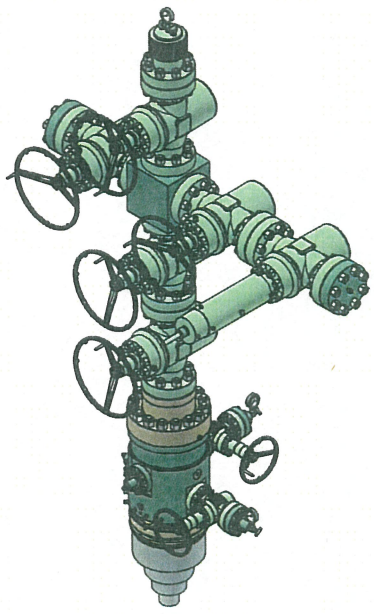
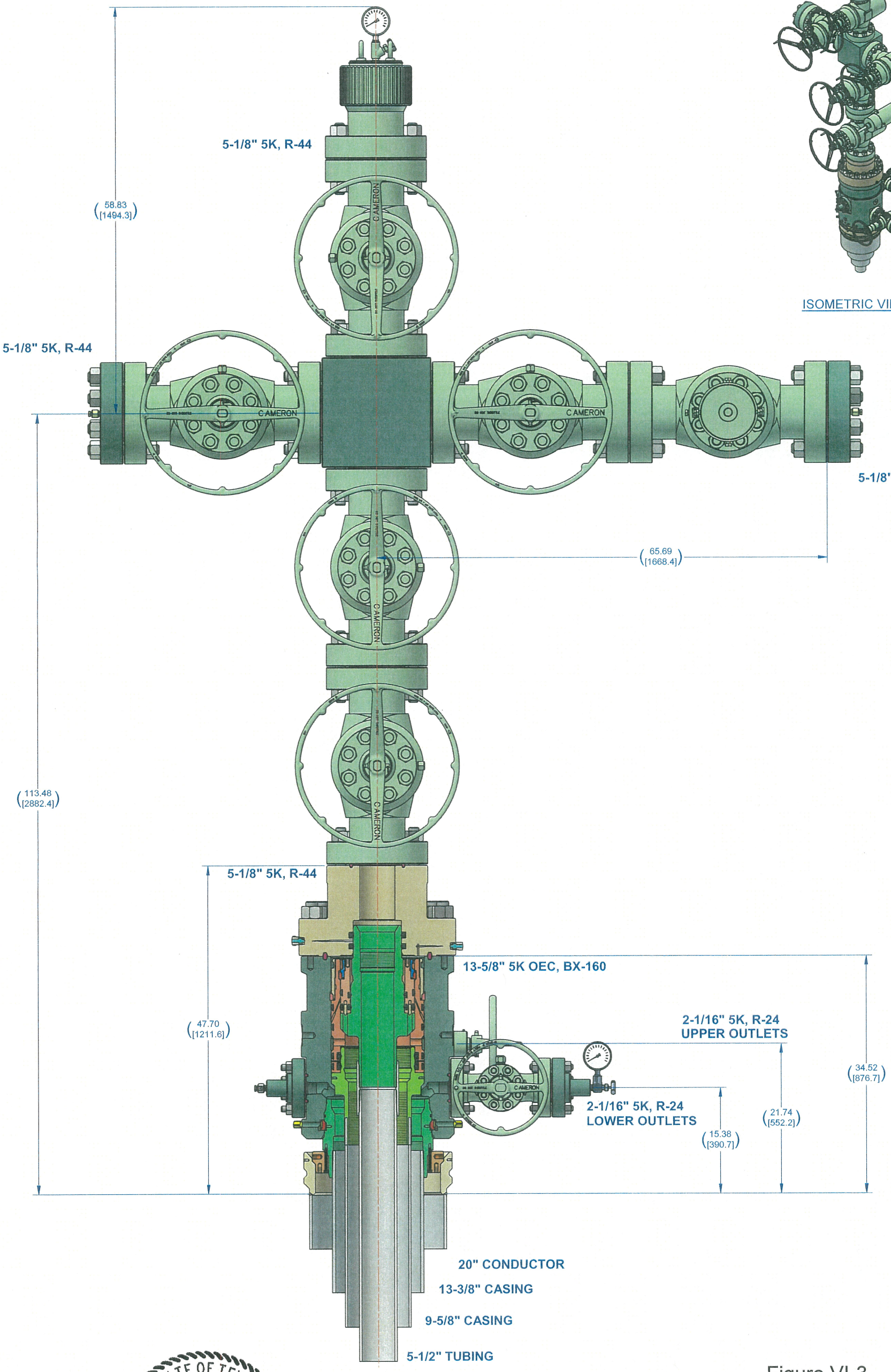
Fax: 832.478.5172
Web: www.geostocksandia.com



ISOMETRIC VIEW



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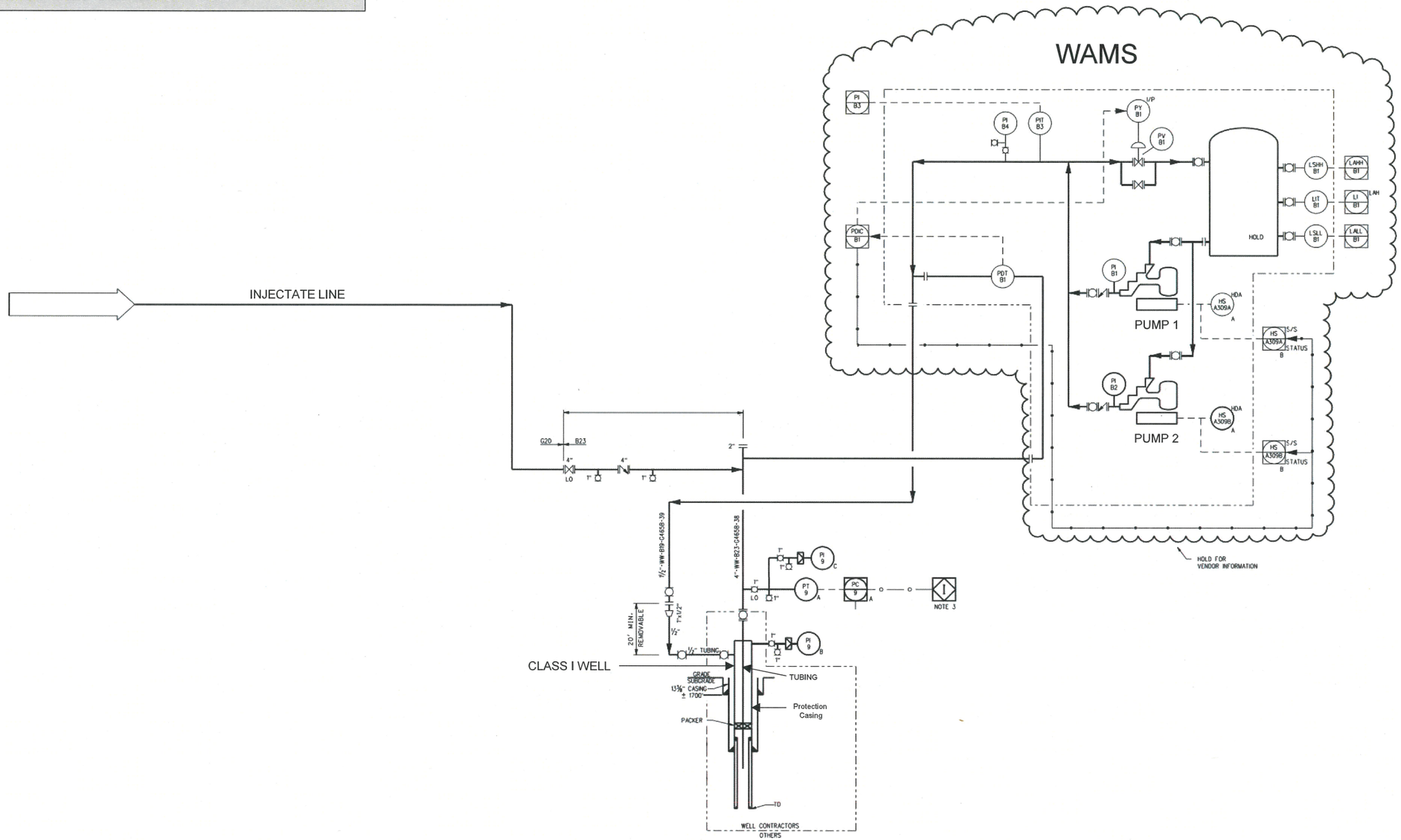
W.H. ARMSTRONG, JR.
76312
LICENSED PROFESSIONAL ENGINEER

Figure VI-3
Proposed Wellhead Schematic
DSW M1 & DSW M2

GKS Project No. 240069PWT - January 2025					
SURFACE TREATMENT			I		
	DRAWN BY:	DATE 24 Oct 24			
MATERIAL & HEAT TREAT	CHECKED BY:	DATE 24 Oct 24			
	APPROVED BY:	DATE 24 Oct 24			
ESTIMATED WEIGHT:	INITIAL USE B/M:		SHEET 1 OF 2	SD-054562-01-66	REV: 05

INVENTOR - D

TYPICAL WAMS P&ID



CLASS I WELL

STATE OF TEXAS
W.H. ARMSTRONG, JR.
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LICENSED
PROFESSIONAL ENGINEER

1PointFive - Bluebonnet Sequestration Hub
(Chambers Co. TX, USA)

1POINTFIVE

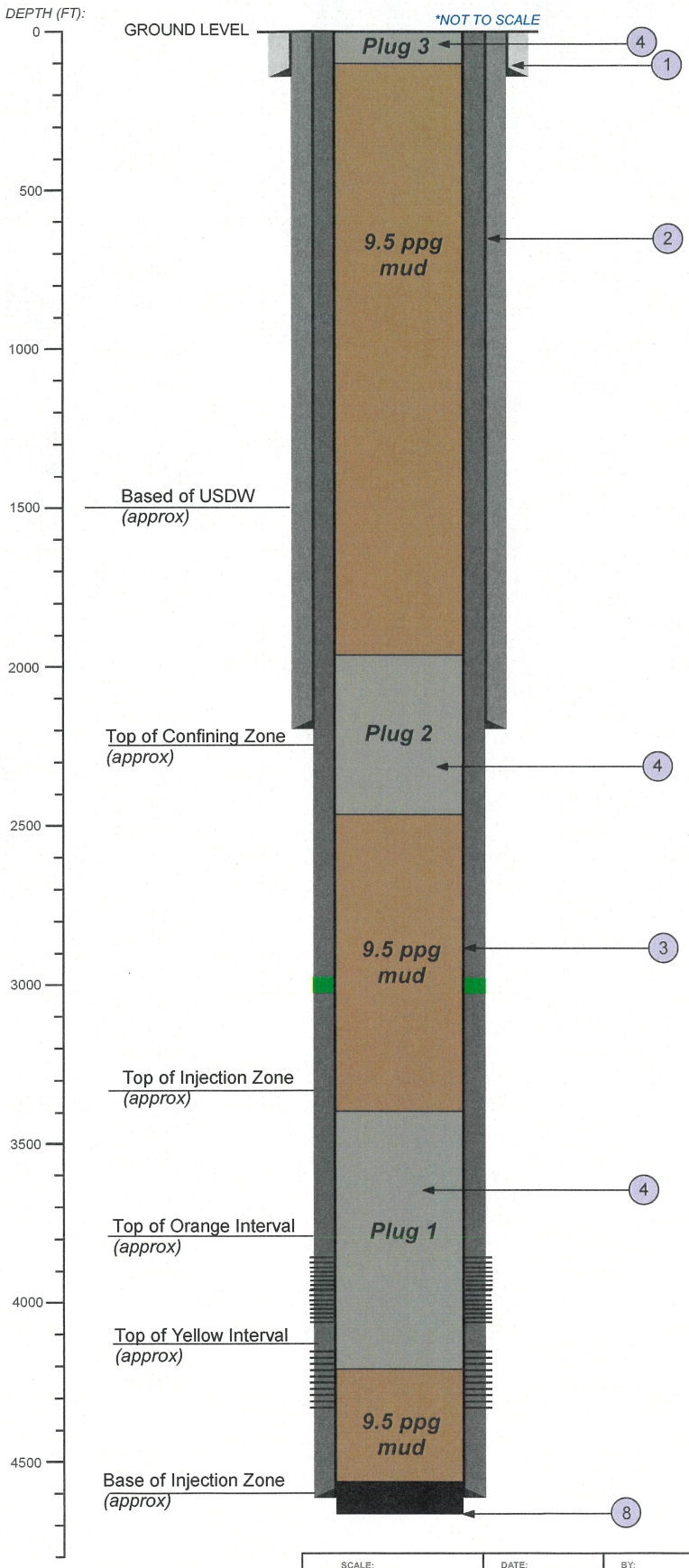
FIGURE VI-4
Well Annulus Monitoring System

CHAMBERS COUNTY, TEXAS

PROJECT INFO: 1POINTFIVE – BLUEBONNET PROJECT (CHAMBERS COUNTY TEXAS)		SCALE INFO: (IF APPLICABLE)	
DATE: January 2025	PROJECT NAME: 240069PWT	BY: GKS CHECK BY: OXY	SHEET 1 OF 1

Geostock Sandia

WELL STATUS: PROPOSED



CLIENT: 1POINTFIVE

CLIENT INFORMATION: BLUEBONNET SEQUESTRATION LLC
CHAMBERS COUNTY, TEXAS

KB = 23' (GL)
ALL DEPTHS **KB (~26 FT)**

PROPOSED PLUGGING DETAIL

1. 20" Conductor Casing (0.25" wall), driven/auger to ~80'-150' in a 26-30" hole: 52.78 ppf. Cement + additives: 787 sx, yield 0.77 ft^3/sx.

2. 13-3/8" Surface Casing set at ~2,300', set in 17-1/2" hole: 61 lb/ft, K-55, BTC; Cemented to Surface:
   - Lead Slurry: Class A/C Cement + additives. 0-1,600', 1,389 sx, yield 1.6 ft^3/sx, 12.5 ppg.
   - Tail Slurry: Class A/C Cement + additives. 1,600'-2,300', 967 sx, yield 1.01 ft^3/sx, 15.0 ppg.

3. 9-5/8" Protection Casing set at 4,600', set in 12-1/4" hole: 53.5 lb/ft L-80, Premium Connection; Cemented to surface in two stages through stage tool set at ~3,000':
   - Stage 1: 690 sx of 14.5 ppg (yield 1.09 ft^3/sx) of Class A/C cement + additives from 0'-3,000'.
   - Stage 2: 884 sx of 12.5 ppg (yield 1.6 ft^3/sx) of Class A/C cement + additives from 3,000'-4,600'.

4. Cement Plugs:
   - Plug 1: 3,400' to 4,300'; 421 ft^3 premium cement at 16.4 lb/gl with cement retainer at 3,600'.
   - Plug 2: 2,000' to 2,500'; 255 ft^3 premium cement at 16.4 lb/gl with cast iron bridge plug at 2,500'.
   - Plug 3: Surface to 100'; 45 ft^3 premium cement at 16.4 lb/gl.

5. Plugged with 9.5 ppg Mud

6. Total Depth ~ 4,700' (Rathole to accommodate logging program). Plug Back Depth ~ 4,600'

STATE OF TEXAS
W.H. ARMSTRONG, JR.
76312
LICENSED PROFESSIONAL ENGINEER

SCALE:	DATE:	BY:	APPROVED BY:
NOT TO SCALE	12/01/2024	D. Gallagher	B. Armstrong

Figure VI-5: Bluebonnet DSW M1
Proposed Plugging Schematic

Geostock Sandia
TBPE Reg. No.: F-15391
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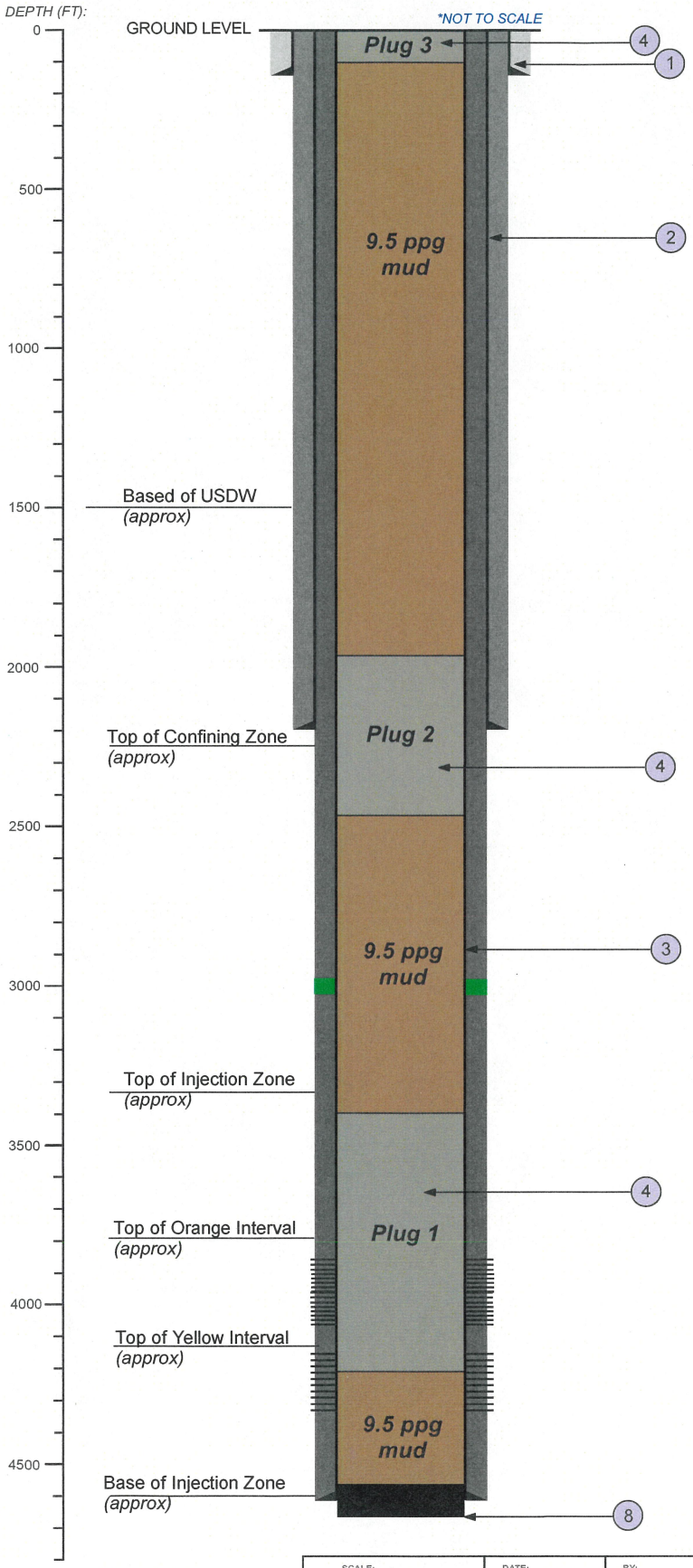
Fax: 832.478.5172
Web: www.geostocksandia.com

WELL STATUS: PROPOSED



CLIENT: 1POINTFIVE

CLIENT INFORMATION: BLUEBONNET SEQUESTRATION LLC
CHAMBERS COUNTY, TEXAS

KB = 23' (GL)
ALL DEPTHS KB (~26 FT)

PROPOSED PLUGGING DETAIL

1. 20" Conductor Casing (0.25" wall), driven/auger to ~80'-150' in a 26-30" hole: 52.78 ppf. Cement + additives: 787 sx, yield 0.77 ft^3/sx.

2. 13-3/8" Surface Casing set at ~2,300', set in 17-1/2" hole: 61 lb/ft, K-55, BTC; Cemented to Surface:
   - Lead Slurry: Class A/C Cement + additives. 0-1,600', 1,389 sx, yield 1.6 ft^3/sx, 12.5 ppg.
   - Tail Slurry: Class A/C Cement + additives. 1,600'-2,300', 967 sx, yield 1.01 ft^3/sx, 15.0 ppg.

3. 9-5/8" Protection Casing set at 4,600', set in 12-1/4" hole: 53.5 lb/ft L-80, Premium Connection; Cemented to surface in two stages through stage tool set at ~3,000':
   - Stage 1: 690 sx of 14.5 ppg (yield 1.09 ft^3/sx) of Class A/C cement + additives from 0'-3,000'.
   - Stage 2: 884 sx of 12.5 ppg (yield 1.6 ft^3/sx) of Class A/C cement + additives from 3,000'-4,600'.

4. Cement Plugs:
   - Plug 1: 3,400' to 4,300'; 421 ft^3 premium cement at 16.4 lb/gl with cement retainer at 3,600'.
   - Plug 2: 2,000' to 2,500'; 255 ft^3 premium cement at 16.4 lb/gl with cast iron bridge plug at 2,500'.
   - Plug 3: Surface to 100'; 45 ft^3 premium cement at 16.4 lb/gl.

5. Plugged with 9.5 ppg Mud

6. Total Depth ~ 4,700' (Rathole to accommodate logging program). Plug Back Depth ~ 4,600'



SCALE:	DATE:	BY:	APPROVED BY:
NOT TO SCALE	12/01/2024	D. Gallagher	B. Armstrong

Figure VI-6: Bluebonnet DSW M2
Proposed Plugging Schematic

Geostock Sandia
TBPE Reg. No.: F-15391
Geostock Sandia, LLC
10930 W. Sam Houston Pkwy, Suite 100
Houston, TX USA 77064
Main: 346.314.4347
Fax: 832.478.5172
Web: www.geostocksandia.com

APPENDICES

Geostock Sandia

APPENDIX VI-1

TUBULAR STRESS CALCULATIONS

Geostock Sandia

APPENDIX VI-1

Tubular Stress Calculations

Bluebonnet Sequestration Hub

Bluebonnet DSW M1 and M2 Injection Wells

Surface Casing

The greatest burst, collapse and tension stresses induced over the life of the surface casing occur during its installation.

A. Burst: The burst pressure of the casing is governed by conditions present at the casing shoe and at surface. The shoe scenario assumes that the formation will fracture before the casing ruptures, while the surface scenario assumes that a kick has occurred, and the casing contains only gas. The greater of the two anticipated pressures will dictate the required burst strength of the casing.

$$P_{shoe} = [(FG + SF) \times 0.052 \times D_{csg}] - (MW \times 0.052 \times D_{csg})$$

and

$$P_{surf} = P\left(G_g \times D_{csg}\right)_{int}$$

where,

P_{shoe}	=	Maximum anticipated shoe pressure, psi
P_{surf}	=	Maximum anticipated surface pressure, psi
P_{int}	=	Internal shoe pressure, psi
FG	=	Estimated fracture pressure at shoe, lb/gal
SF	=	Burst loading safety factor, (1.5 lb/gal)
D_{csg}	=	Casing setting depth, feet
MW	=	Mud Weight of drilling fluid, lb/gal
0.052	=	Conversion factor, psi-gal/ft-lb
G_g	=	Gas gradient, (0.115 psi/ft)

$$P_{shoe} = (14.2 + 1.5) \times 0.052 \times 2300 - (10 \times 0.052 \times 2300)$$
$$P_{shoe} = 682 \text{ psi}$$

$$P_{surf} = (14.2 + 1.5) \times 0.052 \times 2300 - (0.115 \times 2300)$$
$$P_{surf} = 1{,}613 \text{ psi}$$

The burst pressure rating of the 13-3/8-inch O.D., 61 lb/ft, Grade K-55 surface casing is 3,090 psi, which results in a safety factor of 1.9 (3090/1613).

B. Collapse: The collapse pressure of the casing is governed by conditions present at the shoe during cementing of the casing. This scenario assumes that the casing is full of freshwater.

$$P_{shoe} = (MW_{lead} \times 0.052 \times D_{lead}) + (MW_{tail} \times 0.052 \times H_{tail}) - (8.33 \times 0.052 \times D_{csg})$$

where,

P_{shoe}	=	Maximum anticipated external shoe pressure, psi
MW_{lead}	=	Mud Weight of lead cement, lb/gal
D_{lead}	=	Depth of Lead Cement, feet
H_{tail}	=	Height of tail slurry, feet
0.052	=	Conversion factor, psi-gal/ft-lb
D_{csg}	=	Depth of Surface Casing, feet

$$P_{shoe} = (15 \times 0.052 \times 700) + (12.5 \times 0.052 \times 1600) - (8.33 \times 0.052 \times 2300)$$
$$P_{shoe} = 589.7 \text{ psi}$$

The collapse pressure rating of the 13-3/8-inch O.D., 61 lb/ft, Grade K-55 surface casing is 1,540 psi, which results in a safety factor of 2.6 (1540/590).

C. Tension: The tensile strength of the casing is governed by the unit tubular weight and buoyancy effects.

$$W_{\max} = W_{csg} \times D_{csg} - MW \times A_{csg} \times 0.052 \times D_{csg}$$

where,

W_{max}	=	Maximum tensile weight at worst case, lbs
W_{csg}	=	Unit casing weight, lb/ft
D_{csg}	=	Casing setting depth, feet
MW	=	Mud Weight of drilling fluid, lb/gal
A_{csg}	=	Cross-sectional area of casing (17.49 sq. in.)
0.052	=	Conversion factor, psi-gal/ft-lb

$$W_{max} = 61\ x\ 2300 - 10\ x\ 17.49\ x\ 0.052\ x\ 2300$$
$$W_{max} = 119{,}382 \text{ lbs}$$

The tensile rating of the 13-3/8-inch O.D., 61 lb/ft, Grade K-55 surface casing is 962,000 lbs, which results in a safety factor of 8.1 (962,000/119,382).

The tensile rating of the Buttress connection on the 13-3/8-inch O.D., 61 lb/ft, Grade K-55 surface casing is 1,169,000 lbs, which results in a safety factor of 9.8 (1,169,000/119,382).

Protection Casing

The greatest burst, collapse and tension stresses induced over the life of the protection casing occur during its installation. For design calculations, the casing shoe setting depth was used.

A. Burst: The greatest rupture stresses induced over the life of the protection casing occur during the casing pressure test after cementing of the casing string. This scenario assumes that the fluid in the casing is a inhibited brine of 10 ppg.

$$P_{max} = P_{\max an} + (0.052\ x\ MW\ x\ D) - 0.433\ x\ D$$

where,

P_{max}	=	Maximum internal pressure, psi
$P_{max\ csg}$	=	Maximum casing pressure, psi
0.052	=	Conversion factor
MW	=	Mud weight of the fluid in the casing, ppg
D	=	Depth of casing, feet GL

$$P_{max} = 1500 + (0.052\ x\ 10\ x\ 4600) - 0.433\ x\ 4600$$
$$P_{max} = 1{,}900 \text{ psi}$$

The burst pressure rating of the 9-5/8-inch O.D., 53.5 lb/ft, Grade L-80 protection casing is 7,930 psi, which results in a design safety factor of 4.2 (7930/1900).

B. Collapse: The collapse pressure of the casing is governed by conditions present at the shoe during cementing of the casing. This scenario assumes that the casing is full of freshwater.

$$P_{shoe} = (MW_{lead} \times 0.052 \times D_{lead}) + (MW_{tail} \times 0.052 \times H_{tail}) - (8.33 \times 0.052 \times D_{csg})$$

where,

P_{dv}	=	Maximum anticipated pressure at the DV tool, psi
MW_{lead}	=	Mud Weight of lead cement, lb/gal
D_{lead}	=	Depth of Lead Cement, feet
MW_{tail}	=	Mud Weight of tail cement lb/gal
H_{tail}	=	Height of tail slurry, feet
MW	=	Mud Weight of drilling fluid, lb/gal
D_{dv}	=	DV tool setting depth, feet
0.052	=	Conversion factor, psi-gal/ft-lb

$$P_{shoe} = (14.5 \times 0.052 \times 1600) + (12.5 \times 0.052 \times 3000) - (8.33 \times 0.052 \times 4600)$$

$$P_{shoe} = 1{,}164 \text{ psi}$$

The collapse pressure rating of the 9-5/8-inch O.D., 53.5 lb/ft, Grade L-80 protection casing is 6,620 psi, which results in a design safety factor of 5.7 (6620/1164).

C. **Tension:** The tensile strength of the casing is governed by the unit tubular weight and buoyancy effects.

$$W_{\max} = W_{csg} \times D_{csg} - MW \times A_{csg} \times 0.052 \times D_{csg}$$

where,

W_{max}	=	Maximum tensile weight at worst case, lbs
W_{csg1}	=	Unit weight of casing 1, lb/ft
L_{csg1}	=	Casing 1 length, feet
W_{csg2}	=	Unit weight of casing 2, lb/ft
L_{csg2}	=	Casing 2 length, feet
MW	=	Mud Weight of drilling fluid, lb/gal
A_{csg}	=	Cross-sectional area of casing (15.55 sq. in.)
D_{csg}	=	Casing setting depth, feet
0.052	=	Conversion factor, psi-gal/ft-lb

$W_{max} = (53.5 \times 4600) - (11 \times 15.55 \times .052 \times 4600)$

W_{max} = 205,185 lbs

The tensile rating of the 9-5/8-inch O.D., 53.5 lb/ft, Grade L-80 protection casing is 1,244,000 lbs, which results in a safety factor of 6.1 (1,244,000/205,185).

The tensile rating of the LTC connection on the 9-5/8-inch O.D., 53.5 lb/ft, Grade L-80 protection casing is 1,047,000 lbs, which results in a safety factor of 5.1 (1,047,000/205,185).

Injection Tubing

A. Burst: The greatest rupture stresses induced over the life of the injection tubing occur during injection operations. This scenario assumes that the maximum injection pressure is realized while injecting waste fluids at the maximum permitted specific gravity. The depth reference is taken at the packer. The annular fluid is used as a backup.

$$P_{max} = P_{maxinj} + \left(0.052\ x\ MW_{injfl}\ x\ D\right) - \left(0.052\ x\ MW_{afl}\ x\ D\right)$$

where,

P_{max}	=	Maximum internal pressure, psi
$P_{max\ inj}$	=	Maximum injection pressure, psi
SG_{injfl}	=	Maximum density of injection fluid
D	=	Depth of tubing, feet
0.433	=	Pressure gradient, psi/ft
SG_{afl}	=	Density of annular fluid

$$P_{max} = 978 + (0.052 \times 9.2 \times 3610) - (0.052 \times 9.8 \times 3610)$$
$$P_{max} = 879 \text{ psi}$$

The burst pressure rating of the 5-1/2-inch O.D., 20 lb/ft, Grade L-80 tubing is 9,190 psi, which results in a design safety factor of 10.5 (9190/879).

B. Collapse: The maximum loading condition for collapse pressure of the injection tubing is governed by conditions present during annular pressure testing of the well. This scenario assumes that the waste fluid inside the tubing is at its minimum specific gravity. The depth reference is taken at the packer. The annulus pressure test pressure is assumed to be *at least* 100 psi over maximum surface injection pressure of 978 psi.

$$P_{max} = P_{maxan} + (MW_{afl} \times 0.052 \times D) - (MW_{inflI} \times 0.433 \times D)$$

where,

P_{max}	=	Maximum external pressure, psi
P_{maxan}	=	Maximum annular pressure = 1,100 psi
MW_{inj}	=	Minimum density of injection fluid, ppg
D	=	Depth of tubing, feet
0.433	=	Pressure gradient, psi/ft
MW_{afl}	=	Density of annular fluid, ppg

$$P_{max} = 1{,}100 + (9.8 \times 0.052 \times 3610) - (8.33 \times 0.052 \times 3610)$$

P_{max}= 1,147 psi

The collapse pressure rating of the 5-1/2-inch O.D., 20 lb/ft, Grade L-80 tubing is 8,830 psi, which results in a design safety factor of 7.7 (8830/1147).

C. Tension: The tensile strength of the injection tubing is governed by the unit tubular weight, with effects from buoyancy neglected.

$$W_{\max} = W_{ta} \times D$$

where,

W_{max}	=	Maximum tensile weight at worst case, lbs
W_{ta}	=	Unit weight of injection tubing, lb/ft
D	=	Depth of tubing, feet

$$W_{max} = 20 \times 3610$$
$$W_{max} = 72{,}200 \text{ lbs}$$

The tensile rating of the 5-1/2-inch O.D., 20 lb/ft, Grade L-80 tubing body is 466,000 lbs, which results in a design safety factor of 6.5 (466,000/72,200).

The tensile rating of the LTC connection on the 5-1/2-inch O.D., 20 lb/ft, Grade L-80 is 416,000 lbs, which results in a safety factor of 5.8 (416,000/72,200).

APPENDIX VI-2

SERVICE COMPANY'S RECOMMENDATION

Geostock Sandia

HALLIBURTON

Gulf of Mexico, Broussard

Lab Results- Surface Casing Lead / Production Casing Stage 2

Job Information

Job Type	Surface Casing
Date	12/MAY/2023
Bulk Plant	Morgan City, La, USA

Cement Information - Lead Design

Conc	UOM	Cement/Additive	Description
30 - 50	%	> Prairie State Poz	Fly Ash
40 - 60	%	> Texas LeHigh A	API Class A Portland Cement
100	% BWOC	Cement Blend	
8.41	gal/sack	Fresh Water	
0.1 - 0.5	% BWOC	SA-1015 (PB)	Suspending Aid

Cement Properties

Slurry Density	12.5	lbm/gal
Slurry Yield	1.6	ft3/sack
Water Requirement	8.41	gal/sack

Pending Approval

These are draft results and have not been approved for final use.

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Gulf of Mexico, Broussard

Lab Results- Surface Casing Tail

Job Information

Job Type	Surface Casing
Date	24/SEP/2024
Bulk Plant	Morgan City, La, USA

Cement Information - Lead Design

Conc	UOM	Cement/Additive	Description
30 - 50	%	> Prairie State Poz	Fly Ash
40 - 60	%	> Texas LeHigh A	API Class A Portland Cement
100	% BWOC	Cement Blend	
3.96	gal/sack	Fresh Water	
1 - 3	lb/sk	NaCl (Sodium Chloride) Salt	

Cement Properties

Slurry Density	15	lbm/gal
Slurry Yield	1.01	ft3/sack
Water Requirement	3.96	gal/sack

Pending Approval

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Gulf of Mexico, Broussard

Lab Results- Production Casing Stage 1

Job Information

Job Type	Production Casing
Date	09/NOV/2019
Bulk Plant	Morgan City, La, USA

Cement Information - Primary Design

Conc	UOM	Cement/Additive	Description
30 - 50	%	> Prairie State Poz	Fly Ash
40 - 60	%	> Texas LeHigh A	API Class A Portland Cement
100	% BWOC	Cement Blend	
4.52	gal/sack	Fresh Water	
0.05 - 0.2	% BWOC	SA-1015 (PB)	Suspending Aid
0.1 - 0.4	% BWOC	HALAD-344	Fluid Loss Additive

Cement Properties

Slurry Density	14.5	lbm/gal
Slurry Yield	1.09	ft3/sack
Water Requirement	4.52	gal/sack

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APPENDIX VI-3

DETAILED PLUG AND ABANDONMENT COSTS

Geostock Sandia

Bluebonnet DSW M1 Plug & Abandonment Costs		
Service	**Estimated Quantity**	**Total**
Workover Rig	6 days @ $6,800/day	$40,800
Rig Mobilization/Demobilization	2 @ $5,000/day	$10,000
Rental Equipment	6 days @ $1,500/day	$9,000
Miscellaneous Trucking	4 loads @ $1,500/load	$6,000
10 lb/gal brine	300 bbl @ $7/bbl delivered	$2,100
Premium Cement, 652 sacks	1 @ $17,600	$17,600
Cementing Crew & Equipment	1 @ $10,000	$10,000
Logging (Casing Inspection)	1 @ $12,000	$12,000
Logging Services (MIT)	1 @ $15,000	$15,000
Pumping Services (MIT)	1 @ $15,000	$15,000
Tubing Removal Services	1 @ $8,000	$8,000
Cement Retainer Services	2 @ $5,000	$10,000
Handling Fee on 3rd Party Expenses	15%	$23,325
Field Supervision Expenses	8 days @ $2,500/day	$20,000
Engineering & Consulting Services	Job	$29,824
	Subtotal	$228,649
Project Contingency	20%	$45,730
	Project Total	**$274,379**

Bluebonnet DSW M2 Plug & Abandonment Costs		
Service	**Estimated Quantity**	**Total**
Workover Rig	6 days @ $6,800/day	$40,800
Rig Mobilization/Demobilization	2 @ $5,000/day	$10,000
Rental Equipment	6 days @ $1,500/day	$9,000
Miscellaneous Trucking	4 loads @ $1,500/load	$6,000
10 lb/gal brine	300 bbl @ $7/bbl delivered	$2,100
Premium Cement, 652 sacks	1 @ $17,600	$17,600
Cementing Crew & Equipment	1 @ $10,000	$10,000
Logging (Casing Inspection)	1 @ $12,000	$12,000
Logging Services (MIT)	1 @ $15,000	$15,000
Pumping Services (MIT)	1 @ $15,000	$15,000
Tubing Removal Services	1 @ $8,000	$8,000
Cement Retainer Services	2 @ $5,000	$10,000
Handling Fee on 3rd Party Expenses	15%	$23,325
Field Supervision Expenses	8 days @ $2,500/day	$20,000
Engineering & Consulting Services	Job	$29,824
	Subtotal	$228,649
Project Contingency	20%	$45,730
	Project Total	**$274,379**

RESERVOIR MECHANICS CERTIFICATION

Geostock Sandia

VII. RESERVOIR MECHANICS CERTIFICATION

I, Daniel J. Collins , Vice President - Geosciences

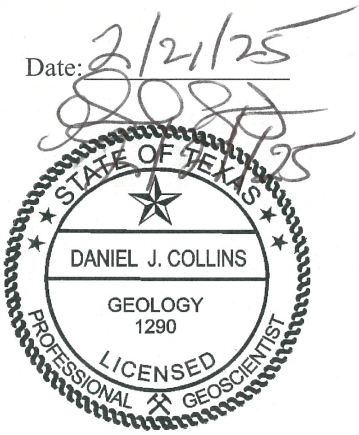
(technical report supervisor) (Title)

I certify under penalty of law that Section VII, and all applicable attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information, recommendations and specifications submitted are, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 2/21/25

Document pages covered by seal include the following:

Pages VII-1 through VII-43
Tables VII-1 though VII-13
Appendices VII-1 through VII-4
Applicable Figures are individually sealed



State of Texas, Registered Professional Geologist #1290

Texas Engineering Firm F-15391-Geostock Sandia, LLC

SECTION VII

RESERVOIR MECHANICS

Geostock Sandia

BLUEBONNET SEQUESTRATION HUB

UIC CLASS I PERMIT APPLICATION FOR NEW WELLS

SECTION VII – RESERVOIR MECHANICS

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VII. RESERVOIR MECHANICS

An analysis of the local and regional geology (see Section V - Geology) near the Bluebonnet Sequestration Hub is used as the basis for a suite of subsurface flow and pressure models (*DuPont Basic Plume Model, DuPont Multilayer Pressure Model, DuPont Multilayer Vertical Permeation Model*). Injection well locations, the 2.5-mile radius Area of Review, and locations of nearby offset wells are shown in Figure VII-1. These models are run to evaluate the effects of historical and future disposal on the local subsurface environment under the conditions requested in this Texas Commission on Environmental Quality (TCEQ) Permit Application for two new nonhazardous Class I injection wells. A detailed description of each of the models can be found in the appendices to this Section (Appendices VII-1 through VII-3).

The Bluebonnet Sequestration Hub (Bluebonnet Hub) Injection Zone for the proposed two new wells includes portions of the Miocene-aged Lagarto Formation (Evangeline aquifer) from a below ground depth of 3,319 feet to 4,599 feet, referenced to the open hole well log for the AP No 11 - Goldston Oil Company Doornbos No. 1 well (API No. 4207132233). The proposed Bluebonnet Hub Injection Intervals are designated as the “Orange Sand”, extending from 3,791 feet below ground level to 4,054 feet below ground level and the “Yellow Sand”, extending from 4,109 feet below ground level to 4,419 feet below ground level (Figure VII-2).

To be conservative, modeling considers a future injection term from the start of 2025 through year-end 2056, with injection operating at maximum injection rates. An additional 30-year post-closure period is modeled following active injection to evaluate pressure recovery in the Injection Zone.

VII.A. Reservoir Mechanics of the Injection Reservoir

Prior to modeling, an understanding of the regional and local subsurface geology is essential to accurately assess the injection formations. Based upon interpretation and evaluation of cores, borehole geophysical logs, and published literature sources, a comprehensive picture of the subsurface geology has been developed from previous geologic material compiled. Input parameters required by the DuPont flow and containment model include the following:

- Injection Interval layer thickness,
- permeability of the Injection Interval,
- porosity of the Injection Interval,
- compressibility of the Injection Interval, and formation fluids,
- fluid viscosity and density,
- original formation pressure,
- layer dispersion characteristics,
- formation characteristics,
- boundary conditions and
- waste disposal history.

Table VII-1 compiles the specific input parameters used in the model for Bluebonnet Hub. Figure VII-2 presents a “type-log” of the subsurface geology for the Injection Intervals using the original electric log of the AP No 11 - Goldston Oil Company Doornbos No. 1 well (API No. 4207132233), which is located approximately 862 ft west-southwest of the proposed location of the injection wells. The following sections describe and justify the input parameters used in the models detailing present-day and predicted future modeling results.

VII.A.1 Injection Zone Stratigraphy and Lithology

The Bluebonnet Hub lies on the Texas Coastal Plain of Southeast Texas, approximately 19 miles inland from the Gulf of Mexico in Chambers County, Texas. The structure of the area is characterized by a thick sequence of regionally south-southeast, gently dipping sediments. Local structuring near AP No 11 - Goldston Oil Company Doornbos No. 1 well (API No. 4207132233) has been modified due to nearby geologic features (see Section V). The subsurface consists of Tertiary-aged sands and shales deposited in a series of stacked progradational wedges that dip and thicken toward the Gulf of Mexico. This is a remnant of the ancestral Gulf of Mexico Geosyncline, which typically is composed of very thick sections of interbedded sands and shales. These sediments were deposited in fluvial and deltaic environments, with individual units reworked into strand plains and isolated barrier bars. This depositional orientation was conductive to creating a setting where very thick, continuous sand sheets and laterally extensive confining shale-prone layers became prevalent. The persistent and relatively continuous nature of the subsurface geometry allows the use of mathematical models to represent the subsurface geology of the injection zone and confining layers beneath the Bluebonnet Hub.

Chambers County is located in the defined Gulf Coast Salt basin of Texas and Louisiana (Beckman and Williamson, 1990). Across the larger area (20 to 50 miles), deep salt beds have been deformed in response to sediment loading and relative rock density effects to form several anticlinal and synclinal geologic structures that ultimately led to the creation of diapiric salt domes. The closest of which are Hankamer, located approximately 8 miles northwest in across northern Chambers and southern Liberty County, Fanette, located approximately 13 miles northeast in Jefferson County, Moss Bluff, located approximately 16.5 miles west-northwest in Liberty County, Big Hill, located approximately 14 miles east in Jefferson County, and High Island, approximately 17.5 miles south-southeast in Chambers County. More locally, the Bluebonnet Hub is located in a plunging synclinal area located northeast of Anahuac Field and southwest of Winnie, North-Stowell fields. This local syncline is oriented downdip (northwest to southeast) across the Area of Review, towards Fig Ridge and Fig Ridge North Fields, located southeast of the Area of Review (see Section V).

The individual formations and designated regulatory sections such as the Bluebonnet Hub Injection Zone, the Bluebonnet Hub Confining Zone, the Bluebonnet Hub Injection Interval and the individual injection sands are shown on Figure VII-2. Section V.B.3, Definitions and Descriptions of Units, provides additional description of the physical geological and defined regulatory units present beneath the Bluebonnet Hub.

Beneath the Bluebonnet Hub Injection Zone is a lower confining zone shale (Burkeville Confining System) that extends to below a depth of 5,000 feet below ground level. This thick, regional clay/shale formation provides confinement below the Bluebonnet Hub Injection Zone.

VII.A.2 Characteristics of the Injection Interval

Local stratigraphy is illustrated on a type-log (Figure VII-2) using the AP No 11 - Goldston Oil Company Doornbos No. 1 well (API No. 4207132233) located approximately 862 feet west-southwest of the proposed injection wells. The log extends to a depth of 10,800 feet rig kelly bushing, which is more than sufficient to penetrate the Confining and Injection Zones, which are presented on the figure. The top of the Confining Zone is picked at a depth of 2,339 feet below ground depth (2,370 feet rig kelly bushing). The top of the Injection Zone is picked at a depth of 3,319 feet below ground level (3,350 feet rig kelly bushing) and the base Injection Zone is picked at a depth of 4,599 feet below ground level (4,630 feet rig kelly bushing).

Relevant subsurface strata beneath the Bluebonnet Hub are composed of sands, silts and shales of Pleistocene, Pliocene, Miocene ages down to a depth of approximately 4,599 ft below ground level. The two designated Injection Intervals for the Bluebonnet Hub injection wells are contained within the Miocene age Lagarto Formation:

1) “Orange Sand” - encountered at approximately 3,791 feet below ground level (3,822 feet rig kelly bushing), and

2) “Yellow” Sand – encountered at approximately 4,109 feet below ground level (4,140 feet rig kelly bushing).

Strata of the upper Lagarto from approximately 3,319 feet below ground level (3,350 feet rig kelly bushing) to the top of the “Orange” Sand at approximately 3,791 feet below ground level (3,822

feet rig kelly bushing) in the AP No 11 - Goldston Oil Company Doornbos No. 1 well (API No. 4207132233) is the Containment Interval within the Injection Zone. The Containment Interval will confine injected wastewater to the underlying sandstones. The sandstones in the overlying strata, located above the Confining Zone, provide protection for near-surface aquifers and sources of drinking water by acting as buffer aquifers that would allow for bleed-off of pressure and containment of injected wastewaters should the Confining Zone be breached. Above the Confining Zone are the Goliad, Willis, Lissie, and Beaumont Formations, listed in ascending order. This stratigraphic section consists of interbedded sandstones, siltstones, and shales that cannot be differentiated into distinct formations using well log characteristics in the area.

The lithology of the sedimentary units that are present at the surface and subsurface of the site are typical of units present elsewhere in southeast Texas (20-to-50-mile area of the site). In the immediate vicinity of the Bluebonnet Hub, limited penetrations of sediments older than Eocene age have been drilled by exploratory wells for oil and gas. These older Tertiary units are generally characterized by sands, silts, clays, and shales deposited in deep water marine environments.

VII.A.2.1 Layer Thickness

The DuPont Basic Plume Model, Multilayer Pressure Model, and the Vertical Permeation Model perform two-dimensional computations for horizontal and vertical distribution of pressure and plume boundaries. They are used primarily to predict plume size, formation pressure buildup, and vertical permeation (seepage) that results from the pressure increase in the injection interval. Appropriate conservative values for thicknesses of each layer were determined based on geophysical well logs and net sand isopach maps (see Section V – Geology) over the region surrounding the Bluebonnet Storage Hub and the Area of Review. Sand thickness is somewhat biased towards the physical completion of the proposed injection wells.

The model is set up as alternating layers of relatively non-permeable zones (clay/shales), as odd-numbered layers, and permeable zones (sands), as even-numbered layers. An even number of layers is required by the model and the first layer (shallowest) is a non-permeable layer, while the final layer (deepest) is a permeable sandstone (“Yellow” Sand). Area well logs were reviewed to determine porosity and permeably zones within the proposed Injection Zone.

The net sand isopach map (50% spontaneous potential deflection) for the "Orange" Sand is presented as Figure V-26 in the Geology Report (Section V). The thickest part of the sand is developed at the proposed Bluebonnet Storage Hub injection site and extends southward to the Area of Review boundary. The net sand isopach map (50% spontaneous potential deflection) for the "Yellow" Sand is presented as Figure V-27 in the Geology Report (Section V). The thickest part of the sand is also developed at the proposed Bluebonnet Storage Hub injection site and extends diagonally (southwest to northeast) across the Area of Review. Values of 170 feet and 190 feet are used in the modeling for the "Orange" Sand and the "Yellow" Sand; respectively.

Bluebonnet Storage Hub anticipates that the "Yellow" Sand will be the initial completion interval for the proposed injection wells and that the "Orange" Sand will be a backup interval.

VII.A.2.2 Transmissibility and Permeability

Permeability is defined as the capacity of a porous media to transmit fluids (Amyx et al., 1960). The combination of the interval thickness, interval permeability, and interval fluid viscosity forms the key parameter "transmissibility". Transmissibility (kh/μ) is defined as permeability times thickness divided by the native brine viscosity. Transmissibility in an interval is directly measured during production/recovery or injection/falloff pressure transient testing. Transmissibility is a key model parameter in determining the pressure buildup during injection operations. Since it is the combination of the permeability times thickness divided by viscosity, it is not necessary to know viscosity, permeability and thickness independently to calculate pressure buildup in the computer modeling, only the combined parameters defining "transmissibility" value is important.

Transient testing of the AP No. 2 - Encanto No. 1 well (API 4207132664), which is located approximately 8,400 ft north of the proposed injection wells, in a Miocene-aged sand at a depth below 5,600 feet below ground, resulting in a calculated permeability of four darcies. For comparison. transient testing in sands of the Oakville Formation at the Lucite International Beaumont Site (approximately 29 miles northeast), located in Nederland (Jefferson County), indicates sand permeabilities 2 to 4 times the value determined from the AP No. 2 - Encanto No. 1 (API 4207132664) well for sands at an approximate depth of 4,000 feet below ground level (Lucite International, 2014). These tests confirm the presence of highly permeable sands in the Miocene.

Core data from Miocene and Oligocene strata from the AP No. 2 - Encanto No. 1 (API 4207132664) well, the Lucite International Beaumont Site (Lucite International, 2014), the BASF Beaumont Site (BASF Corporation, 2022), approximately 26 miles northeast, and the Kuraray LaPorte Site (E.I. du Pont de Nemours & Co., 2012), approximately 36 miles west-southwest) are presented in Figure VII-3. These data indicate high permeabilities in the Miocene strata, ranging from 500 millidarcies to in excess of 13 darcies, confirming the high permeabilities in the Miocene Injection Sands.

VII.A.2.2.1 Clay/Shale Permeability

A vertical permeability value of 1.0×10^{-15} darcies is used for the clay/shale layers in the *DuPont Multilayer Pressure Model* to ensure that the shales are essentially impermeable in the pressure model runs. The assigned very low permeability will prevent pressure “bleed-off” out of the modeled “Orange” and “Yellow” Injection sands, which is conservative based on “leaky aquitard theory” (Hantush, 1960). Leaky aquitard theory refers to the concept in hydrogeology where an aquitard, a layer of rock with low permeability that usually restricts water flow, allows some water to pass through it, essentially "leaking" between different aquifer layers, creating a "leaky aquifer" system; this means water can move vertically between aquifers due to pressure differences, even though the aquitard is not highly permeable.

Note that for the *DuPont Vertical Permeation Model*, permeability of the clay/shales in the model are adjusted upwards and set to a conservative upper bound value, consistent with data collated by Porter and Newsom (1986), creating a "leaky aquifer" system. Injection will elevate the pressure within the injection reservoirs both during injection, and for a period of time afterwards. This elevated pressure provides the driving force for the vertical movement of injected effluent and formation fluid into the overlying aquiclude bounding an injection reservoir. While injection is occurring, fluid entering the base of the overlying aquitard compresses some of the native brine immediately above it. This compression raises the pressure within the lower portion of the aquitard and expands the aquitard pores. The combined effects of native brine compression and aquitard pore expansion provide the necessary space to store the entering fluid. As time progresses, the portion of the aquiclude affected by brine compression and pore expansion grows. The upper bound permeabilities from Porter and Newsom (1986) will maximize the prediction of vertical

permeation of injectate and formation brine into the overlying clay/shale layers above the "Orange" and "Yellow" Injection sands in the model.

A conventional core, taken in the Miocene and Anahuac shales, was obtained during drilling of the Dow Beaumont Works Plant Well No. 3 (WDW188), located approximately 29 miles northeast in Nederland (Jefferson County). Petrophysical and mineralogical analysis of samples from the core showed the composition to be approximately 61 percent total clay (predominantly mixed layer illite/smectite, with minor amounts of kaolinite and chlorite) and 30 percent quartz, with minor amounts of calcite, feldspar, and pyrite (E.I. du Pont de Nemours & Co., 1990). Measured vertical permeabilities (to brine) measured from two conventional core sections from the Anahuac Formation were 1.8×10^{-9} darcies and 8×10^{-8} darcies (E.I. du Pont de Nemours & Co., 1990) (Table VII-2).

VII.A.2.3 Porosity

Porosity is defined as the ratio of void space in a given volume of rock to the total bulk volume of rock and is expressed as a percentage (Amyx et al., 1960). The more porous a rock is the more fluid can be present in a given rock volume at a given time. Data (permeability and porosity) from cores and density porosity logs near the Bluebonnet Sequestration Hub are reviewed to determine a conservative input value of porosity for the modeling. Additional site-specific data will be collected and evaluated with the drilling and testing of the proposed Injection Wells as presented in Section VI.

Core data from Miocene and Oligocene strata from the AP No. 2 - Encanto No. 1 (API 4207132664) well, the Lucite International Beaumont Site (Lucite International, 2014), the BASF Beaumont Site (BASF Corporation, 2022), and the Kuraray LaPorte Site (E.I. du Pont de Nemours & Co., 2012), approximately 36 miles west-southwest) are presented in Figure VII-3. This data indicates high porosities in the Miocene, ranging from 27% to in excess of 36%, confirming the high porosities in the injection sands. Open hole geophysical well log porosities fall within a similar range as the core data.

As detailed in Section VII.A.2.5.1 Sand Layer Compressibility, the majority of the porosity logs over the Bluebonnet Hub Injection Zone are acoustic sonic logs. Using the raw sonic log data

inputs from the open hole log across the Injection Zone are on the order of 130 microseconds/foot. Using standard matrix and fluid travel time, these sonic travel times imply calculated porosities of 55% and greater, which is obviously not correct. These slow travel times in the unconsolidated Injection Zone sands are mainly due to loosely packed sand grains. In comparison, the core data and density log porosities in nearby wells indicate porosities in the 30 to 36% range, showing that these sands are highly unconsolidated.

A "triple combo" log (including density and neutron porosity) was run in the Fairways Expl. & Prod., LLC Gallo #1A well (API 4207132475) located just south of the Area of Review. The top of the "Orange" Sand is located at approximately 3,896 feet log depth and the base of the "Yellow" Sand is located at an approximate depth of 4,512 feet log depth. The porous intervals between these depths consist of the "Orange" and "Yellow" Sands. Density porosity always exceeds 30% and often exceeds 36% in the sands, confirming the high-porosity layers in the Injection Zone.

Collectively, the core and porosity log data confirm sand interval porosities above 30 percent, with maximum porosity values approaching 36%. The interconnected pore volume that contributes to fluid flow in a reservoir is termed the "effective porosity". Effective porosity excludes isolated pores and the pore volume occupied by water adsorbed on clay minerals or other grains. Use of effective porosity over total porosity is conservative in both pressure buildup (storativity – phi*c_t*h) and plume size (phi*h). Therefore, the presence of immoveable water and dead-end pores is considered both the modeling of pressure buildup and plume expansion. Its potential effect is conservatively estimated in the modeling by reducing the individual reservoir porosity by a factor of approximately 20 percent (*i.e.*, sand porosity*0.8 = effective sand porosity).

VII.A.2.3.1 Clay/Shale Porosity

The shale or aquiclude layer porosities were determined from correlations developed for Gulf Coast shales as presented in Porter and Newsom (1987). In performing modeling calculations to predict an upper bound to the vertical distance of formation fluid and effluent permeation due to pressure buildup, it is conservative to employ a lower bound value to the aquiclude layer porosity, as the extent of model predicted permeation is inversely proportional to the assigned aquiclude layer porosity. The "effective" shale porosity, which discounts the bound water within the clay structure as well as water contained in dead-end pores, represents an appropriate choice of a

porosity value for such a calculation. At the depths of interest, an effective clay/shale layer porosity in the range of 10 to 12 percent is assigned in the modeling (Porter and Newsom, 1987).

VII.A.2.4 Temperature

The formation temperature gradient beneath the Bluebonnet Hub is determined from the offset legacy wells used to construct the geologic maps in Section V. A plot of the maximum temperatures recorded during open-hole logging operations from the nearby oil and gas wells is created for this project (Figure VII-4).

Bottom hole temperatures measured during logging operations are thermally disturbed by the drilling process. The borehole radius and fluid invasion (mud filtrate) both influence the temperature measured at the borehole and attenuates over time (Poulsen et al., 2012). These temperatures are affected by the time duration from the end of circulation and the time the logging tool reaches the drilled bottom of the well. As such, they are likely to represent cooler than actual temperatures, as the mud column has not had sufficient time to reach temperature equilibrium prior to logging operations.

The maximum logging temperature data (approximately 180 data points) are presented on Figure VII-4. These data are fitted to a linear trend that extends through the hotter temperatures, with an origin located at the mean annual surface temperature in Winnie, Texas, of 69.4 ^{o}F. The trend fits to the hotter temperature data from the mean annual temperature as the origin and indicates a temperature gradient of approximately 1.40 ^{o}F /100 feet beneath the site. Using the data, the estimated subsurface temperature at a depth of 6,000 feet below ground level is approximately 153.4 ^{o}F as shown in the example calculation.

$$\text{Temperature} = (6{,}000/100) \times 1.40 + 69.4 = 153.4\ ^{o}\text{F}$$

VII.A.2.5 Compressibility and Storativity

In an aquifer, the hydrostatic head creates a pressure on a formation. This pressure affects the arrangement of the mineral grains, as well as the density of the native pore waters (Fetter, 1988). If the pressure in a formation increases, such as due to injection, or drops, such as due to fluid withdrawal, the skeletal matrix will expand or contract, respectively (Fetter, 1988). This elasticity

in the skeletal matrix is known as compressibility (Fetter, 1988). Compressibility is a material property that describes the change in volume induced in the material by an applied stress. The native formation fluid volume will also expand or contract because of pressure changes in a formation. Therefore, in fluid flow through porous materials, it is necessary to define two compressibility terms, one "c_f" for the mineral framework and a second for the fluid "c_w".

Petroleum engineering generally handles three-phases being present within a formation. Therefore, total compressibility when there are three fluid phases is defined as:

$$c_t = c_f + S_o c_o + S_w c_w + S_g c_g$$

where:

c_t	=	total compressibility (psi^{-1})
c_f	=	formation compressibility(psi^{-1})
S_o	=	oil saturation (fraction)
c_o	=	oil compressibility (psi^{-1})
S_w	=	water saturation (fraction)
c_w	=	water compressibility (psi^{-1})
S_g	=	gas saturation (fraction)
c_g	=	gas compressibility (psi^{-1})

For a water-filled reservoir, such as at the Bluebonnet Hub in which S_w equals 1, this simplifies to:

$$c_t = c_f + c_w$$

VII.A.2.5.1 Sand Layer Compressibility

In well lithified, consolidated formations (*i.e.*, "hard rock"), such as the Early Cretaceous-aged Paluxy sandstone of East Texas, formation compressibility can be thought of as a modification of porosity that occurs when formation pore pressure changes:

$$c_f = \left({}^{1}/_{\emptyset}\right)\left({}^{\partial\emptyset}/_{\partial p}\right)$$

The change in porosity is a result of the elasticity of the solid structure of the rock. Correlations for these types of rock materials are presented in Hall (1953) and Van der Kamp (1959). Values of formation compressibility (c_f) are generally found to fall between values of 1 x 10^{-6} psi^{-1} and 10 x 10^{-6} psi^{-1} for lithified, consolidated formations (Hall, 1953; Van der Kamp, 1959; Earlougher, 1977, Newman, 1973).

However, for unconsolidated and friable formations, such as the shallow Miocene-aged formations present along the Gulf Coast, the concept and magnitude of formation compressibility (and geomechanical behavior) is quite different (Wattenbarger, 1999; Chan et al., 2004; Milovac, 2009; Jongerius, 2016). Examples of unconsolidated oil and gas reservoirs are well known in the North Sea, the Gulf of Mexico, offshore Angola, and offshore Brazil (Nguyen et al., 2014). In these unconsolidated reservoir formations, the formation distorts, or creeps, as the pore pressure changes. Therefore, unconsolidated reservoirs behave very differently than do lithified, consolidated reservoirs (Nguyen et al., 2014; Jongerius, 2016). Evidence of this deformation behavior in unconsolidated sediments is well documented and evidenced from subsidence of the ground surface as hydrocarbons are produced over prolonged periods of time in some fields, including: Spindletop (Texas), Wilmington (California), and Ekofisk (North Sea). A closer geographic example is provided by subsidence that occurred in the nearby Goose Creek Oil Field, located in Harris County. In 1918, the Gaillard peninsula, located near the center of the Goose Creek Oil Field, began to subside by several feet due to the extraction of oil, water, gas, and sand from beneath the subsurface (Pratt and Johnson, 1926). Land surface subsidence in the Houston-Galveston area, due to associated depressuring, dewatering, and compaction from large volume ground water withdrawals from the Chicot aquifer (Holocene and Pleistocene aged sediments), Evangeline aquifer (Pliocene and Miocene aged sediments), and Jasper aquifer (Miocene aged sediments), has measured as much as 13 feet from the early 1900s to the present day (Kasmerek et al., 2010; Kasmerek and Ramage, 2017).

For unconsolidated formations, compressibility is defined as the change in pore volume, not just porosity (Wattenbarger, 1999):

$$c_f = \left({}^{1}/_{V_\emptyset}\right)\left({}^{\partial V_\emptyset}/_{\partial p}\right)$$

Values for formation compressibility (c_f) in these unconsolidated sediments generally fall in a range between 20 x 10^{-6} psi^{-1} to more than 100 x 10^{-6} psi^{-1} (Wattenbarger, 1999; Newman, 1973). Newman (1973) found that in unconsolidated sands, pore-volume compressibility tends to increase with porosity, with measured values in excess of 90 x 10^{-6} psi^{-1} for unconsolidated sands with porosity greater than 30 percent (Wattenbarger, 1999; Yale et al., 1993). Ali (1997) measured compressibility for several unconsolidated sand samples (offshore Gulf of Mexico) in a laboratory setting. Compressibility values for Sample 4 were found to range from a value of 12.6 x 10^{-6} psi^{-1} to 30.3 x 10^{-6} psi^{-1} (Ali, 1997). Average compressibility for the Study No. 4 samples is 23.5 x 10^{-6} psi^{-1} (Ali, 1997). Doornhof et al. (2004) indicate that unconsolidated sand compressibility values for Matagorda Island Block 623 Field range from 4.0 x 10^{-6} psi^{-1} in the well cemented portions of the field to 17.0 x 10^{-6} psi^{-1} in the unconsolidated portions of the field. These reported values in the unconsolidated sands are much greater than compressibility measured in well-cemented, consolidated rocks.

Yale et al. (1993) provide a set of "type curves" for determining initial formation compressibility values in unconsolidated sediments (and other lithology types), as presented in their Figure 6 and their Table 2. The "type curves" are based on least-squares-fit through high quality laboratory data from core samples. These least-squares-fit correlations are based on a general equation of the following form:

$$c_f = A(\sigma - B)^C + D$$

where:

c_f	=	formation compressibility (psi^{-1})
A	=	constant depending on rock type (-2.805 x 10^{-5} for unconsolidated sands)
B	=	constant depending on rock type (300 for unconsolidated sands)
C	=	constant depending on rock type (0.1395 for unconsolidated sands)
D	=	constant depending on rock type (1.183 x 10^{-4} for unconsolidated sands)
σ	=	effective stress

with:

$$\sigma = K_1\sigma_z - K_2 p_i + K_3(p_i - p)$$

where:

σ	=	effective stress
σ_z	=	overburden stress
K_1	=	constant depending on rock type
K_2	=	constant depending on rock type
K_3	=	constant depending on rock type
p_i	=	original reservoir pressure (psi)
p	=	present reservoir pressure (psi)

Note, in estimating formation compressibility at initial conditions in the current modeling, the value for "p" is assumed to be 0. To be conservative in the prediction of pressure buildup, values for unconsolidated sand are used in the Yale et al. (1993) equation. Unconsolidated sand values are appropriate as nearby wells with sonic travel time logs, including APs 16, 17, 29, 36, and 38. These wells all show long interval transit times of 130 to 150 micro-seconds/ft across the "Orange" and "Yellow" Injection sands.

The calculation of sonic derived porosity, can be done from the time average Wyllie (Wyllie et al., 1956) equation, which is expressed the following way:

$$\phi_s = \frac{\Delta t_{log} - \Delta t_{ma}}{\Delta t_{fl} - \Delta t_{ma}}$$

Using the raw data inputs from the open hole log (130 microseconds/foot) and standard matrix and fluid travel time, this implies a calculated porosity of 55% and greater, which is obviously not correct. In unconsolidated sands, the sonic log does not accurately reflect the true porosity mainly due to loosely packed sand grains. In comparison, the core data and density log porosities in nearby wells indicate porosities in the 30 to 36% range, showing that these sands are highly unconsolidated.

Using the Yale et al. (1993) equation, the estimated formation compressibility at the top of the "Orange" Sand (3,791 feet below ground level) is approximately 34.35 x 10^{-6} psi^{-1}. Note that in the DuPont Model, the formation compressibility is input as "α", which is defined in Freeze and Cherry (1979) and is equal to the formation compressibility (c_f) times the formation porosity (ϕ). Using an effective formation porosity of 30 percent, the appropriate DuPont model input is 10.4 x 10^{-6} psi^{-1} in the "Orange" Sand.

Pulse interference tests, which are conducted by monitoring the response in an observation well to a rate change conducted in a source well, can be used for confirming the transmissivity and storativity of Tertiary geological formations along the Texas Gulf Coast. Storativity is determined from the well-to-well testing using type-curve matching techniques (Earlougher, 1977). Knowing something about the reservoir thickness and porosity, which are generally constrained, allows for the determination of the total compressibility "c_t". Historical interference testing at the INVISTA Sabine River Works (INVISTA, 2017), approximately 45 miles northeast and the INVISTA Victoria Plant (INVISTA, 2018) approximately 168 miles southwest, show high total compressibility values in Miocene-aged unconsolidated sands (Table VII-3).

These formation compressibility values are calculated from well-to-well interference tests for Miocene-aged unconsolidated sands at injection sites of similar depth to Bluebonnet Hub fall within bounds that are calculated from Yale et al. (1993). Similar site-specific interference testing is available for the Lucite International Beaumont wells (WDW100 & WDW101) as shown in in Table VII-4 (Lucite, 2014).

In the DuPont Multilayer Pressure Model, the compressibility of water (c_f) is set to a fixed value of 3.035 x 10^{-6} psi^{-1}.

VII.A.2.5.2 Confining Shale Layer Compressibility

In the Gulf Coast, clay layers are more compressible than sand layers (Kasmerek et al., 2010; Kasmerek and Ramage, 2017). Confining shale compressibility (α) is conservatively assigned to be an order of magnitude higher than the sand layers. These higher compressibilities for the clay layers are consistent with observations from depressuring and dewatering of clay layers because of groundwater withdrawal. Under withdrawal, not only is a load placed on the clay layer skeleton

framework, but this load also produces a reorientation of the plate-like clay grains perpendicular to the load (Kasmarek, 2012). Note, that since the shale confining layers are made to be impermeable in the pressure models, the exact choice of compressibility value is not overly meaningful in the prediction of pressure buildup with time.

For the *DuPont Multilayer Vertical Permeation Model* runs, where the clay/shale layer is made to be permeable, the overlying clay/shales are conservatively assigned an upper-end compressibility (α) value of 7.0×10^{-5} psi^{-1}. This value is consistent with values presented in Table 2-5 in Freeze and Cherry (1979).

VII.A.2.5.3 Formation Fluid Compressibility

As indicated above, fluid (water) compressibility (β) is "hard-wired" into the FORTRAN code of the *DuPont Multilayer Pressure Model* as 3.034×10^{-6} psi^{-1} after Table 2-5 in Freeze and Cherry (1979).

VII.A.2.6 Layer Dispersion Characteristics

The *DuPont Basic Plume Model*, which describes effluent plume growth during injection, employs the so-called "multiplying factor concept", developed by Miller, et. al. (1986) to place conservative upper bounds on the extent of advective/dispersive fluid transport (see Appendix VII-1). This upper limit is most appropriate for the injection period, where the distance the effluent will travel from its source is relatively small. The multiplying factor concept usually provides a more conservative upper bound to dispersion during the active injection period than the conventional Gaussian "constant dispersivity" methodology.

VII.A.2.6.1 Multiplying Factor for Advective Dispersion in Basic Plume Model

The "multiplying factor" M is used to describe advective dispersion in the *DuPont Basic Plume Model* (Appendix VII-1). Calculation of effluent plume growth during injection using the *DuPont Basic Plume Model* with the multiplying factor included (*i.e.*, with M>1) is designed to predict the maximum lateral extent possible for the effluent plume (effluent plume geometry). This is accomplished conceptually by tracking the movement of the fastest-moving portion of the injected effluent.

The multiplying factor approach is implemented in practice by computationally assigning increased rates of injection to the various wells within the model, with values that have been enhanced by a factor of M. This produces computed velocities in the model that have also increased by the same factor, M. The higher velocities correspond to the lateral speed of travel of the fastest-moving portion of the effluent. Use of the *DuPont Basic Plume Model* combined with the multiplying factor provides a basis for tracking the location of this fastest-moving effluent.

In the present calculations, the multiplying factor M has been specified on the basis of observed stratigraphic non-uniformities within the intervals employed for injection, determined from permeability variations of the core samples. For perfectly stratified (layer cake) geological settings in which both the permeability and porosity vary solely with vertical depth through the injection interval, the multiplying factor can be calculated from the following formula (this equation is a simple extension of the earlier relationship developed in Miller, et. al. (1986) for geological systems in which only the permeability varies with depth):

$$M = \frac{(k/\phi)_{\max}}{\frac{1}{h}\int_0^h \left(k/\phi\right) \partial z}$$

where:

k = permeability at vertical location z

ϕ = porosity at z

h = thickness of the layer

As can be noted from this formula, the permeability k appears in both the numerator and denominator of the expression. This indicates that the absolute value of the permeability is not important in determining the multiplying factor, only the variations of the permeability relative to the average value are considered for the determination of M.

Core data from wells surrounding the Bluebonnet Hub are used to calculate a multiplying factor. The calculation is made using the core data permeability/porosity pairs (see Figure VII-3) without

thickness weighting. The calculated multiplying factor value is 3.7 using the site core data (Table VII-5).

The calculated multiplying factor (M) is, in the strictest sense, valid for a geological setting in which the only non-uniformities present are physical property variations with depth. However, in this geological setting beneath the Bluebonnet Sequestration Hub, the properties of the injection interval will vary laterally, and may exhibit anisotropy to some degree. These effects will tend to increase the predicted extent of the waste plume. On the other hand, the influence of transverse dispersion perpendicular to the bedding planes (*i.e.,* vertically) will cause contaminants to move from higher to lower permeability depth increments within the injection interval, which will tend to reduce the extent of the waste plume. This transverse dispersion phenomenon is largely responsible for the transition that takes place from the purely advective dispersion existing in the near-well region, to the Gaussian dispersion, characteristic of the field scale. Therefore, to account for natural lateral changes a multiplying factor of 3.7 is used in the plume model.

VII.A.2.7 Boundary Conditions

General structural elements in the area surrounding the Bluebonnet Sequestration Hub show a southwest to northeast oriented small displacement fault located approximately tangent to the 2.5-mile radius Area of Review circle near Fig Orchard field (see Figure V-30). Displacement along the fault at the level of the injection interval sands is insufficient to completely offset each sand, however, in general the upper portion of each injection interval sand is juxtaposed against a low-permeability clay/shale layer, while the lower portion of the injection interval sand is juxtaposed against the upper portion of itself. This incomplete offset and favorable juxtaposition across the fault suggest at least partial transmissibility across the fault. However, to be conservative in the prediction of pressure buildup, a “no flow” barrier of infinite extent is incorporated into the model. The no flow boundary is positioned tangentially to the 2.5-mile radius Area of Review circle and is located by defining two X,Y coordinates along the trace of the modeled boundary. In the model coordinate system, the two no flow boundary coordinates are located at -8,762. / -18,951. and 21,346. / -4,329.

Note that in the model, that the top horizon of the first layer and the bottom horizon of the deepest

layer are both no flow boundaries. Therefore, pressure buildup is confined within the vertical extent of the model layers. Additionally, as the permeability of the clay/shales between the sands in the pressure model are set to very low values, pressure is essentially contained within each injection interval sand in the *DuPont Multilayer Pressure Model* where there is active injection. Note that in the *DuPont Vertical Permeation Model*, clay/shale layer permeability is conservatively increased to allow for pressure driven permeation out of the injection intervals.

VII.A.3 Reservoir Fluid Salinity, Viscosity, pH and Density

VII.A.3.1 Reservoir Fluid Salinity

A native formation fluid sample was obtained from AP No. 2 - Encanto No. 1 (API 4207132664) well from the "Yellow" Sand at a depth of approximately 4,337 feet rig kelly bushing. This well is located approximately 8,400 ft north of the proposed injection wells location and provides site specific details to formation fluids in the injection intervals. The sample had a total dissolved solids content of 113,999 mg/l, a density of 1.0785 gm/cm^3 at 25 ^{o}C, and a pH of 8.02 standard units (Table VII-6). This site-specific value is used for both the "Orange" Sand and the "Yellow" Sand. Tabulated analytical data for the sample is shown below:

Additionally, formation brine sampling was conducted in AP No. 2 – Oxy, Bluebonnet USDW No. 1 (API No. 4207132672), which was drilled with the purpose of defining the lowermost underground source of drinking water (USDW). The well is located approximately 8,400 feet north of the proposed injection wells. These data are presented in Table VII-7.

VII.A.3.1.1 Spontaneous Potential Method

To understand the formation quality as a function of depth from the lowermost USDW through the base of the Injection Zone, the Bluebonnet Sequestration Hub utilized the "spontaneous potential" method to estimate formation water quality as a function of depth. The Bluebonnet Sequestration Hub utilized the following wells in the computations:

- AP No. 2 Encanto No. 1 (API 4207132664)
- AP No. 3 Pyramid Devillier No. 1 (API 4207131394)

- Fairway E&P Gallow No. 1A (API 4207132475)

The spontaneous potential curve records the electrical potential (voltage) produced by the interaction of the connate formation water, conductive drilling fluid, and certain ion-selective rocks (shales). Opposite shales, the spontaneous potential curve usually defines a straight line (called the shale baseline), while opposite permeable formations, the spontaneous potential curve shows excursions (deflections) away from the shale baseline. The deflection may be to the left (negative) or to the right (positive), depending primarily on the relative salinities of the formation water and the drilling mud filtrate. When formation salinities are greater than the drilling mud filtrate salinity, the deflection is to the left. For the reverse salinity contrast, the deflection is to the right. When salinities of the formation fluid and the drilling mud filtrate are similar, no spontaneous potential deflection opposite a permeable bed will occur.

The deflection of the spontaneous potential curve away from the shale baseline in a clean sand is related to the equivalent resistivities of the formation water (r_{we}) and the drilling mud filtrate (r_{mf}) by the following formula:

$$SP = -K \log \left(\frac{rmf}{rwe} \right)$$

For NaCl solutions, K = 71 at 77°F and varies in direct proportion to temperature by the following relationship:

$$K = 61 + 0.133\ T^{\circ} F$$

From the above equations, by knowing the formation temperature, the resistivity of the mud filtrate, and the spontaneous potential deflection away from the shale baseline, the resistivity of the formation water can be determined (Merkel, 1981). From the formation water resistivity and the formation temperature, the salinity (NaCl) of the formation water can be calculated using the Schlumberger GEN-9 chart (Schlumberger, 1979).

The collective formation fluid results and the calculations from log analysis are presented in Figure

VII-5. A curve fit bounding the water quality values forms the best representation of true formation fluid quality variation as a function of depth and should be the best model of variation in water quality above the Injection Interval sands. The values are fitted with a trend-fit (red-dashed line on Figure VII-5), which shows increasing total dissolved solids content as a function of depth through the Confining Zone and the Injection Zone. Additional formation fluid samples will be collected and evaluated for the "Yellow" and "Orange" Sands with the drilling of the injection wells for site specific data analysis.

VII.A.3.2 Reservoir Fluid Viscosity

Viscosity is the tendency of a fluid to resist flow. The *DuPont Multilayer Pressure Model* uses a single input value for the fluid viscosity within each modeled geologic layer. Therefore, the model assumes that the viscosity of the formation fluid and the injected effluent fluid are identical (See Section 6.4 of Appendix VII-2). The effect of assuming that the effluent viscosity is equal to the formation fluid viscosity will be relevant only within the borders of the effluent plume. Outside the plume, the predicted pressure distribution will be virtually unaffected.

The formation brine viscosity at reservoir conditions is determined using a Microsoft Excel spreadsheet correlation as a function of pressure, temperature, and NaCl content developed by Douglas M Boone (Boone, 1993). The calculation is used to determine formation fluid as a function of depth at formation conditions. The calculated viscosity for the formation fluids is presented in Table VII-1.

VII.A.3.3 Reservoir Fluid pH

A native formation fluid sample was obtained from AP No. 2 - Encanto No. 1 (API 4207132664) well from the "Yellow " at a depth of approximately 4,337 feet rig kelly bushing. The sample had a pH value of 8.02 standard units (Table VII-6).

VII.A.3.4 Reservoir Fluid Specific Gravity/Density

A native formation fluid sample was obtained from AP No. 2 - Encanto No. 1 (API 4207132664) well from the "Yellow " at a depth of approximately 4,337 feet rig kelly bushing. The sample had a density of 1.0785 gm/cm^3 at 25 ^{o}C, and a pH of 8.02 standard units (Table VII-6). The specific

gravity of the formation fluid at 25 °C is equal to the fluid density at 25 °C divided by density of pure water at 25 °C. Therefore, specific gravity of the formation fluid at 25 °F is 1.0785 / 0.997, equals 1.0817 at 25 °C.

VII.A.4 Original and Current Formation Pressures

A bottomhole pressure from just under the Injection Zone was obtained in the AP No. 2 - Encanto No. 1 (API 4207132664) well, with a measured value of 2,105 psi at a depth of 4,644 feet-KB for a pressure gradient of 0.4533 psi/ft.

In the *DuPont Multilayer Pressure Model*, modeled pressure response with time is calculated as an incremental pressure change. Therefore, the model calculations are independent of actual depth. The calculated model pressure responses are then related back to the subsurface environment by assigning a reference pressure (original pressure) at a specific reference depth the Injection Interval Sand of interest. For this TCEQ New Class I Well Permit Application, reference depths are set in relation to the AP No 11 - Goldston Oil Company Doornbos No. 1 well (API No. 4207132233) and corrected to below ground level (See Table VII-8).

VII.A.5 Estimation of Fracture Pressure

Fracture gradients for the Bluebonnet Hub Injection Intervals are estimated using Eaton's Method (Eaton, 1969). Eaton's method has been used by TCEQ to compute fracture pressures for Class I Injection sites along the Gulf Coast.

For this TCEQ New Class I Well Permit Application, the methodology using Eaton's Method follows that as presented in Moore (1974):

$$FG = \frac{\left(P_{ob} - P_r\right)e}{\left(1 - e\right)} + P_r$$

Where:

FG = Fracture Gradient

P_{ob} = Overburden Gradient (Figure 11-11 in Moore, 1974)

P_r = Reservoir Pressure Gradient (original)

e = Poisson's Ratio (Figure 11-12 in Moore, 1974)

The fracture pressure and the range in MASIP for a maximum injectate specific gravity of 1.1 are presented in Table VII-9.

As an example, the nomographs presented in Moore (1974) are solved for "Yellow" Sand which is the anticipated initial completion in the injection wells.

$$FG = \frac{(0.900 - 0.4533) * 0.390}{(1 - 0.390)} + 0.4533$$

$$= \quad 0.739 \text{ psi/ft}$$

Using the calculated fracture gradient of 0.739 psi/ft, the fracture pressure at the top of the "Yellow" Sand Injection Interval is calculated to equal 3,036 psi at 4,109 feet below ground level.

VII.A.5.1 Maximum Allowable Surface Injection Pressure Calculation

The calculation of maximum allowable surface injection pressure (MASIP) is as follows:

$$MASIP = P_{frac} - P_{hydro} - 100 \text{ psi}$$

Where:

P_{frac} = Fracture Pressure (psi)

P_{hydro} = Hydrostatic Column Pressure (psi)

P_{hydro} = (0.433 x $SG_{effluent}$) x Depth

The MASIP in each Injection Interval for injectate specific gravity at values of 1.1 are presented in Table VII-9. An example calculation is included for the "Yellow" Sand. The example Maximum Surface Injection Pressure is calculated with the highest specific gravity for injectate (specific gravity of 1.1) as follows:

$$MASIP = P_{frac} - P_{hydro} - 100 \text{ psi}$$

Where:

P_{frac} = Fracture Pressure (3,036 psi)

P_{hydro} = (0.433 x 1.1) x 4,109 = 1,958 psi

MASIP = 3,036 psi – 1,958 psi - 100 psi

MASIP = 978 psi

These maximum operating pressures are sufficient to operate the wells efficiently and safely.

VII.A.6 Prediction of Reservoir Pressure Increase

VII.A.6.1 The DuPont Multilayer Pressure Model

Whenever effluent is injected into a subsurface geological formation, the pressure within the reservoir used for injection will increase. This pressure increase will be greatest at the well(s) and will decrease with distance away from each point of injection. After injection has ceased, the pressure will rapidly diminish and approach its value before injection.

The *DuPont Multilayer Pressure Model* is used to determine the pressure distribution within the active Bluebonnet Hub "Yellow" and "Orange" Sands. Complete documentation of this model is presented in Appendix VII-2. The model is an extension of an earlier treatment presented by Miller et al., (1986) that is based on the Theis (1935) equation. The new development recognizes the multilayer nature of the subsurface, and the ability of various permeable strata to communicate with one another, either by permeation through aquicludes, or by wellbores perforated into multiple horizons. The model discounts the ability of the aquiclude layers to compressively store fluids, which provides a conservative upper bound to the pressures within the injection reservoir. In the model, flow is isolated from communicating with layers above and below the modeled interval.

VII.A.6.2 Modeled Injection Rates

The model parameters used in the model calibration are also used for the prediction of future

injection. Modeling of injection at Bluebonnet Hub considered maximum injection from the start of 2025 through year end 2056 (estimated project duration). The model assumes all future injection into each active layer is at the maximum requested (continuous injection over the full model term). This overly conservative assumption of modeling total injection at a level significantly above the anticipated average rate of injection ensures a very conservative scenario for fluid movement and pressure buildup. Modeled rates are shown in Table VII-10:

VII.A.6.3 Modeled Injection Interval Transmissibility

Model predicted formation pressure increase due to injection is directly proportional to the assigned transmissibility (kh/μ) value used for that interval. Annual injectivity/falloff tests will be conducted on the active Bluebonnet Hub injection wells, which will derive the formation transmissibility and evaluate the response to injection (Table VII-11). Calculated injection reservoir transmissibility in the AP No. 2 - Encanto No. 1 (API 4207132664) well, located approximately 8,400 feet north, is presented in Section VII.A.2.2.

VII.A.6.3.1 Flowing Reservoir Layer Calibration

Since this is the initial permit application, no injection has occurred into either of the proposed "Orange" or "Yellow" Sand Injection Intervals. Model calibration involves generating the model-predicted flowing and shut-in pressure response and comparing it to the observed, historical, flowing, and shut-in static well pressures. The process of model calibration is interactive because geologic and reservoir inputs can be adjusted, within their range of possible values, until a reasonable estimate of the measured flowing pressure history is achieved. The fundamental reservoir parameters that can be varied in the calibration process for the *DuPont Multilayer Pressure Model* are transmissibility (kh/μ) and storativity ($\phi c_t h$).

An initial estimate of the range in key model parameters comes from empirical site-specific data and nearby data. These include injection/falloff tests, core data, and geophysical well logs from offset wells and Class I injection operations.

VII.A.6.4 DuPont Multilayer Pressure Model Results

VII.A.6.4.1 Model Projections

Model projection runs are made for the proposed "Orange" and "Yellow" Sand Injection Intervals using maximum injection rate conditions (Table VII-10). This maximum injection rate in each of the active layers is assumed to be continuous over the modeled future injection term from the start of 2025 through year-end 2056. This assumption is conservative as the wells have not been constructed and the facility and do not expect to operate at maximum conditions, 24 hours per day, 7 days a week, 365 days per a year. Injection is expected to be at slightly lower average rates.

Note that the predictive model uses future maximum rates from the beginning of 2025 through year end 2056. The standard model year in the DuPont Models is 365.25 days. The conversion is:

Gallons/minute = Annual Volume (gals) / [(365.25 days/year) x (1440 minutes/day)]

Pressure contour plots are presented at the end of 1 year (end of 2025), 10 years (end of 2035), and at the end of 2056 (end of future term) in each of the active Injection Layers.

A summary of the pressure modeling in the active Injection Layers is presented below:

"Yellow" Sand (Miocene) – The "Yellow" Sand will be the initial completion interval for the Class I well(s). Future injection at 1,200 gpm (cumulative) is modeled in the Bluebonnet Hub injection wells. The historical model also includes offset injection by nearby Class II saltwater injection wells. The conservative assumption is made that all saltwater was disposed into the "Yellow" Sand interval. Incremental pressure contour plots are presented at:

- Year End 2025 (Figure VII-6)
- Year End 2035 (Figure VII-7)
- Year End 2056 (Figure VII-8)

The figures present incremental pressure increases (Black Contours) above the initial reference pressure. Overall pressure distribution increases in each model period as more volume is placed into the interval. Additionally, the Cone of Influence incremental pressure value of 34

psi is also shown on each figure (Red Contour). In each case, the Cone of Influence is contained within the 2.5-mile radius Area of Review. Figure VII-9 presents an incremental pressure buildup graph at the Bluebonnet Hub from the historical period, through maximum projected injection (1,200 gpm), and a 30-year pressure recovery period. The solid (Blue) line in Figure VII-9, is the model predicted pressure buildup with time. Maximum pressure increase at year-end 2056 is 80.4 psi, which is equivalent to a bottomhole pressure of 1,943.4 psi at 4,109 feet below ground reference depth.

"Orange" Sand (Miocene) – The "Orange" Sand is the designated backup completion interval for the Class I well(s), should it be needed. Future injection at 975 gpm (cumulative) is modeled in the Bluebonnet Hub injection wells. The historical model also includes offset injection by nearby Class II Saltwater injection wells. The conservative assumption is made that all saltwater was disposed into the "Orange" Sand interval. Incremental pressure contour plots are presented at:

- Year End 2025 (Figure VII-10)
- Year End 2035 (Figure VII-11)
- Year End 2056 (Figure VII-12)

The figures present incremental pressure increases (Black Contours) above the initial reference pressure. Overall pressure distribution increases in each model period as more volume is placed into the interval. Additionally, the Cone of Influence incremental pressure value of 30.4 psi is also shown on each figure (Red Contour). In each case, the Cone of Influence is contained within the 2.5-mile radius Area of Review. Figure VII-13 presents an incremental pressure buildup graph at the Bluebonnet Hub from the historical period, through maximum projected injection (975 gpm), and a 30-year pressure recovery period. The solid (Green) line in Figure VII-13, is the model predicted pressure buildup with time. Maximum pressure increase at year-end 2056 is 81.4 psi, which is equivalent to a bottomhole pressure of 1,800.4 psi at 3,791 feet below ground reference depth.

VII.A.6.4.2 Pressure Recovery

The *DuPont Multilayer Pressure Model* predicts post-injection pressure recovery back towards original formation pressure for a period of 30 years after the projected injection term through year end 2056. The pressure recovery is shown for the "Yellow" Sand Figure VII-9 and for the "Orange" Sand in Figure VII-13. The results from the modeling using maximum injection indicates that pressure recovery would begin immediately following cessation of injection. A rapid decrease in the formation pressure occurs within the first year post-closure. Pressure at the injection well(s) is projected to fall below the Cone of Influence pressure during this first-year post-closure. Pressure recovery is projected to continue asymptotically, with formation pressure returning to a few psi over the original formation pressure after 30 years post-closure. These results indicate that the incremental injection pressure in the Injection Layers will equilibrate rapidly within the Area of Review. Therefore, the driving force needed for vertical movement of formation water or effluent from any of the injection sands into an adjacent layer will dissipate rapidly.

VII.A.7 Determination of the Cone of Influence

Under the Texas Administrative Code (TAC) §331.42(b)(1) standard, the Area of Review for a Class I injection well corresponds to the area within a fixed 2.5-mile radius from the injection well or is based on the calculated "cone of influence" of the injection well, whichever is greater. The "*cone of influence" is defined as "...the potentiometric surface area around the injection well within which increased injection zone pressures caused by injection of wastes would be sufficient to drive fluids into an underground source of drinking water (USDW) or freshwater aquifer*" (TAC §331.2). It is apparent from this definition that the direct concern present in the Area of Review determination is the pressure increase or incremental rise over the pre-existing static formation background conditions, which are the result of the Class I injection well activity. The "cone of influence" concept was, therefore, developed specifically to preclude consideration of extraneous factors not resulting from the injection activity itself.

The methodology used in this TCEQ Permit Application for calculating the cone of influence for the Bluebonnet Hub is generally consistent with previous methods (Barker, 1981; Clark et al., 1987; Collins, 1986; Davis, 1986; Johnson and Greene, 1979; Johnson and Knape, 1986; Warner, 1988; Warner and Syed, 1986). The basic underlying assumption in this approach is that in the

absence of naturally occurring, vertically transmissive conduits (faults and fractures) between the Bluebonnet Hub Injection Layers and any USDW (such as at the Bluebonnet Hub), the only potential pathway between the injection zone and any USDW is through an artificial penetration (active or inactive oil and gas well(s)).

In order to pose a potential threat to a USDW (*i.e.*, pressure buildup from injection sufficient to drive fluids into a USDW), the pressure increase in the Injection Interval would have to be greater than the pressure necessary to displace the material residing within the borehole. This pressure necessary to displace the material residing within the borehole is defined as the allowable buildup pressure. Therefore, the cone of influence is the area within which Injection Interval pressures are greater than the allowable buildup pressure. The cone of influence exists over that area in which increased pressures at the top of the injection reservoir are sufficient to drive reservoir fluids into a wellbore by overcoming a 9.0 pound per gallon (ppg) fluid column extending from the top of the injection reservoir.

A static mud column exerts pressure. For an abandoned well to provide a pathway for fluid movement, the pressures acting on the static mud column (pressure due to injection plus original formation pressure) must be greater than the static mud column pressure. Additionally, in a column of static drilling mud, the gel strength of the mud must also be considered.

Therefore, for upward fluid movement to begin, original formation pressure (P_f) plus the pressure due to injection (P_i) must be greater than the static fluid column pressure plus the gel strength of the mud. This relationship is based on a simple balance of forces (Davis, 1986):

$$P_f + P_i > P_S + P_g$$

where:

P_f = original formation pressure (psi)

P_i = formation pressure increase due to injection (psi)

P_S = static fluid column pressure (psi)

P_g = gel strength pressure (psi)

Therefore, pressure increase due to injection must be greater than the static fluid column pressure minus original formation pressure:

$$P_i > P_s + P_g - P_f$$

The initial step in calculating the allowable buildup pressure (cone of influence) for the Bluebonnet Hub involves determining the maximum pressure buildup gradient. This gradient is derived by first calculating the mud column gradient from a 9.0 ppg wellbore mud. Note that this mud weight is less than the minimum mud weight used for artificial penetrations within the Area of Review (see Section VIII). The original formation pressure gradient in each of the Injection Layers is presented in Section VII.A.4 and is calculated by dividing the reference formation pressure at the top of Injection Layer at the reference depth.

Computationally, the Cone of Influence for the "Yellow" Sand and the "Orange" Sand is calculated at the Artificial Penetration with the shallowest depth to the reservoir in the 2.5-Mile Area of Review, which is Artificial Penetration No. 5 (API 4207131389), and a fallback of 50 feet in the mud column is assumed in the reference borehole. This results in a shorter column of mud and a lower calculated displacement pressure for the Cone of Influence determination. For the Bluebonnet Hub Injection Intervals, the allowable pressure buildups are presented in Table VII-12.

As a layer of conservatism in the Cone of Influence computation, the incremental additive pressure due to the gel strength of quiescent mud is discounted. Using formulas employed in a TCEQ study (Johnson and Knape, 1986), a low-end computation for the additive pressure due to gel strength would be about 20 psi at the top of the Bluebonnet Hub "Yellow" and "Orange" Sands. The relevant equation is shown below.

$$P_g = \frac{0.00333 \times G \times h}{d}$$

where:

P_g = pressure due to gel strength (psi)

G = gel strength (lb/100 ft^2)

h = depth to the injection reservoir (feet)

d = borehole diameter (inches)

where, 0.00333 is the conversion factor, such that P_g is in psi.

It is important to note that the current calculations of the Area of Review are very conservative and contain significant additional safety factors not considered here. The additional safety factors include the actual weight of the mud in the borehole, the actual ultimate gel strength of the drilling mud, and borehole closure, which have not been included in the conservative assessment.

VII.A.8 Historical Analysis of Pressure Effects

Potential historical pressure effects of offset saltwater disposal near the 2.5-Mile Area of Review are included in the models. The conservative assumption is made that all saltwater was disposed into the "Orange" Sand and the "Yellow" Sand Injection Intervals. Figures VII-9 and VII-13 show only minor pressure effects (less than 1 psi) at the start of modeled injection at the Bluebonnet Hub.

VII.A.9 Potentiometric Surface Map of the Injection Zone

The static fluid level (hydraulic head) at the top of the Bluebonnet Hub "Orange" and "Yellow" Sand Injection Intervals (at original pressures), using ground level as the datum, can be calculated from the following equation:

$$h = Z + \frac{P}{\rho}$$

where:

h = hydraulic head (ft)

Z = elevation relative to datum (ft)

P = fluid pressure at point Z (psi)

ρ = weight density of fluid (psi/ft)

The inputs for the Bluebonnet Hub "Orange" and "Yellow" Sands are then substituted into the equation. Results are tabulated in Table VII-13. These values fall within the defined "brine hydrostatic regime" of Kreitler et al. (1989).

Note that the density of the 113,999 mg/l formation brine at reservoir temperature results in a static fluid column that would be below ground level in a tightly sealed wellbore.

Many of the studies for flow rates in deep saline aquifers come from the search for nuclear waste isolation sites. These studies show sluggish circulation to nearly static conditions in the deep subsurface. Flow rates in the deep saline aquifers are found generally to be on the order of inches per year (Clark, 1988). A south-southeastern (downdip) direction of regional flow established for the Oakville Formation is consistent with the theory of deep basin flows and the physical mechanisms (topographic relief near outcrops and deep basin compaction) identified as contributing to natural formation drift (Bethke et al. 1988; Clark, 1988; Kreitler, 1986). A study by Clark (1988) determined that lateral hydraulic gradients for the Catahoula-Frio Formation across nearby Harris County is approximately 1.14 feet/mile (2.1×10^{-4} feet/feet). Bluebonnet Hub expects that similar gradients would exist in Chambers County.

The actual value for the natural hydraulic gradient in the Miocene strata is expected to be significantly less than 1.0 ft/yr since there is no obvious natural sink for the fluid except in regions where salt domes are being dissolved. According to Miller (1989), flow due to dissolution of salt domes is expected to be on the order of a few centimeters per year, or substantially less than 1.0 ft/yr, at distances greater than one mile from the source of dissolution. Therefore, the estimate of 1.0 ft/yr in the southerly (downdip) direction for the natural hydraulic gradient near the Bluebonnet Sequestration Hub is considered to be a conservative estimate.

Kasmarek and Robinson (2004) provide a predevelopment potentiometric surface of the Evangeline aquifer in the northern part of the Gulf Coast Aquifer System based on model simulation results (Figure VII-14). The potentiometric surface slopes gently across Chambers County in a south-southeasterly direction from outcrop areas located 80 to 100 miles north and northwest of the Bluebonnet Hub.

VII.A.10 Justification of Plume Geometry

Horizontal variations in formation thickness and permeability can affect the lateral extent of plume transport. Sudden changes in these parameters can be included either explicitly in model calculations, using image well techniques, or using the multiplying factor. In a purely homogeneous geological formation, the interface between the effluent and formation fluid will advance laterally as a sharp vertical front. This front will take the shape of a right circular cylinder for the case of a single isolated well. The diameter of the circle will be determined strictly by geometric considerations, involving the total volume of the injected effluent, and the height and porosity of the formation. Such a plume is referred to as an ideal circular effluent plume.

For multiple-well injection sites, methods of analyzing fluid transport in purely homogeneous geological formations have been available for many decades, based on work in the petroleum field. The standard approach involves a two-part process. First, determine the lateral velocity distribution within the injection formation at any time using solutions provided by potential flow theory. Second, integrate the time-dependent kinematic equations relating the calculated velocity distribution to the motion of the interfacial front between the injected effluent and formation fluid.

The first step takes advantage of the well-known mathematical analogy between fluid flow in porous media and ideal potential flow of inviscid fluids. This mathematical analogy permits the determination of the velocity distribution in an injection formation directly from the previously established solution to the same problem in potential flow theory. The second part of the modeling process involves the use of the velocities determined by the mathematical equations to calculate the time-dependent motion of the front between the injected effluent and formation fluid. This is accomplished mathematically by introducing a set of fictitious tracer particles around the circumference of each plume in the *DuPont Basic Plume Model* and calculating the trajectory of these particles as time progresses. A separate set of tracer particles is employed for each well. Because the model automatically conserves mass, these tracer particles remain situated on the outer perimeter of the individual plumes for all times.

At the Bluebonnet Hub, plume geometry in the Injection Layers is only influenced by injection into the interval and dispersion. Dispersion is handled in the model through the “multiplying

factor" described in Section VII.A.2.6.1, which results in a plume size greater than that, which would be predicted using pure plug flow (piston displacement).

VII.A.11 Extent of the Waste Plume

VII.A.11.1 The DuPont Basic Plume Model

During injection, the movement of effluent within an injection reservoir is dominated by the volumetric growth of the effluent plume and related displacement of the formation fluid away from the injection well. Effluent plume growth during injection is modeled in this application using the *DuPont Basic Plume Model*. This model was introduced in Miller et al., (1986). Model documentation is presented in Appendix VII-1. The *DuPont Basic Plume Model* calculates the time-dependent lateral movement of an effluent plume emanating from an injection well at an injection site. The model includes the effects of multiple well interactions, and is set up as a single layer calculation, which discounts the vertical exchange of fluids between geologic strata. A separate calculation is therefore required for each layer into which effluent is injected.

The *DuPont Basic Plume Model* accounts for the effects of geologic non-uniformities (dispersion) within an injection reservoir by means of a special technique, known as the multiplying factor concept (see Section VII.A.2.6.1), introduced by Miller et al., (1986). This concept provides the basis for establishing an extreme outer perimeter beyond which none of the effluent could have passed. The calculated multiplying factor (M) in Section VII.A.2.6 is, in the strictest sense, valid for a geological setting in which the only non-uniformities present are physical property variations with depth (see Appendix VII-1). However, in this geological setting beneath the Bluebonnet Sequestration Hub, the properties of the Injection Interval will vary laterally, and may exhibit anisotropy to some degree. These effects will tend to increase the predicted extent of the waste plume via dispersion. On the other hand, the influence of transverse dispersion perpendicular to the bedding planes (*i.e.*, vertically) will cause contaminants to move from higher to lower permeability depth increments within the Injection Interval, which will tend to reduce the extent of the waste plume. This transverse dispersion phenomenon is largely responsible for the transition that takes place from the purely advective dispersion existing in the near-well region, to the Gaussian dispersion, characteristic of the field scale. Therefore, to account for natural lateral

changes leading to dispersion, a multiplying factor of 3.7 is used in the plume model (*i.e.*, the injection volume in the Basic Plume Model is enhanced by a factor of 3.7).

Once injection is discontinued, the rate of plume movement will diminish very rapidly, and approach the natural horizontal drift velocity. Natural horizontal gradient drift refers to the very slow indigenous movement of formation fluids laterally within a deep underground formation. It is important only on a time scale of thousands of years and does not significantly influence the location of the injected effluent during the injection process. As discussed in Section VII.A.9, the natural background flow in the Miocene strata is expected to be significantly less than 1.0 ft/yr since there is no obvious natural sink for the fluid except in regions where salt domes are being dissolved. According to Miller (1989), flow due to dissolution of salt domes is expected to be on the order of a few centimeters per year, or substantially less than 1.0 ft/yr, at distances greater than one mile from the source of dissolution. Therefore, the estimate of 1.0 ft/yr in the southerly (downdip) direction for the natural hydraulic gradient near the Bluebonnet Sequestration Hub is considered to be a conservative estimate.

VII.A.11.2 The DuPont Multilayer Vertical Permeation Model

The *DuPont Multilayer Vertical Permeation Model* is used to predict vertical fluid movement within the injection zone, providing the third dimension to plume geometry. This model is an extension of an earlier development presented by Miller et al., (1986), and includes the effects of multilayer stratigraphy and aquitard compressibility. Complete documentation of the *DuPont Multilayer Vertical Permeation Model* is presented in Appendix VII-3.

The *DuPont Multilayer Vertical Permeation Model* performs a separate calculation for each of the two key time frames for possible maximum fluid movement. The short-term submodel focuses on the injection period and early post-closure periods and includes the effects of compressive fluid storage in the aquitard layers. The long-term submodel calculates the residual fluid movement well into the future (essentially at infinite time).

Injection elevates the pressure within the injection reservoirs both during injection, and for a period of time afterwards. This elevated pressure provides the driving force for the vertical movement of effluent and formation fluid into the overlying aquiclude bounding the injection reservoir. While

injection is occurring, fluid entering the base of the overlying aquitard compresses some of the native brine immediately above it. This compression raises the pressure within the lower portion of the aquitard and expands the aquitard pores. The combined effects of native brine compression and aquitard pore expansion provide the necessary space to store the entering fluid. As time progresses, the portion of the aquiclude affected by brine compression and pore expansion grows. The short-term submodel calculates the vertical distance that the native fluids and injected effluent will move into overlying aquicludes.

After injection has been discontinued the pressure driving force for vertical permeation will dissipate, along with the compressive storage of fluids in the aquitards. The rate of fluid movement into each aquitard layer will decrease to zero, and the vertical permeation distance into each aquitard will approach a final residual value. The long-term submodel calculates this residual value of vertical fluid movement.

VII.A.11.3 Modeled Injection Rates

For modeling of injection at the Bluebonnet Hub, historical and projected injection through year-end 2056, followed by a 30-year post injection period is considered. The projected injection over the future term through year-end 2056 uses maximum rates presented in Table VII-10.

Fluids flowing through an aquifer may not move through the entire volume of the pore space. There may be both dead-end pores and non-interconnected pores through which fluids may not flow (Fetter, 1988). This immovable water is considered in the modeling of plume geometry. Its effect is implicitly included in the calculations by lowering the effective porosity of the Bluebonnet Hub Injection Layers in the models by a factor of 20% (see effective porosities listed in Table VII-1) and Section VII.A.2.3.

VII.A.11.4 Model Results

The horizontal and vertical distribution of injected effluent (three-dimensional plume geometry) through year-end 2056 is presented in the following sections. The results are obtained from the predictions of the *DuPont Basic Plume Model* and *DuPont Multilayer Vertical Permeation Model* under the conditions requested in this new Class I UIC permit application.

VII.A.11.4.1 Horizontal Extent

Plume geometry at the end of the three-time intervals of Interest are presented for the:

"Yellow" Sand:

- Year End 2025 (Figure VII-15)
- Year End 2035 (Figure VII-16)
- Year End 2056 (Figure VII-17)

"Orange" Sand:

- Year End 2025 (Figure VII-18)
- Year End 2035 (Figure VII-19)
- Year End 2056 (Figure VII-20)

The projected maximum horizontal extent of the effluent plume in the Bluebonnet Hub "Yellow" Sand and "Orange" Sand do not exceed a radius of 7,500 feet and 7,000 feet, respectively.

VII.A.11.4.2 Vertical Extent

Vertical permeation is calculated for the clay/shale layers immediately overlying the Injection Layers. The conceptualization for the *DuPont Vertical Permeation Model* is virtually identical to that employed for simulating pressure buildup in the Bluebonnet Hub Injection Layers. The major difference between the two models is that in the *DuPont Vertical Permeation Model*, the clay/shale overlying the Injection Layers is assigned a conservative upper bound permeability based on Porter and Newsom (1987). This allows for permeation of formation fluid and injectate into the clay/shale layer. The employed permeability values exceed local area whole core data by at least an order of magnitude and will result in an overestimate of vertical permeation of injectate and formation brine during the operational and post-operational periods.

In the clay/shales overlying the Bluebonnet Hub Injection Layers, the maximum upward permeation of effluent and formation brine will not exceed 3.44 feet. A graphical output of

injection induced permeation into each clay/shale overlying the Bluebonnet Hub Injection Layers is presented in Figure VII-21. In the figures, the brown line is the permeation distance at the point of injection (point of maximum pressure).

VII.A.11.4.3 Post-Injection Wastewater Distribution

The extent of vertical permeation is driven by the increase in formation pressure during injection. After injection has been discontinued, this driving force will dissipate, and the extent of vertical permeation will decrease back towards the sand/shale interface as pressure decays in the Injection Interval. At the end of 30 years post-closure, vertical permeation will not exceed a few feet to 2.5 into the clay/shale above the "Orange" Sand (Figure VII-21). Permeation will continue to decrease asymptotically over the long term. The residual permeation values (open circles on the far right of the graph) will remain constant for an infinite period of time (less than 2.2 feet). Since the overlying clay/shale layers above the Injection Layers exceed likely permeation distances, the permeation of formation brine and injected effluent will be contained within the defined Injection Zone.

VII.B. Other Subsurface Disposal Operations in the Area

Three wells located just outside of the 2.5-mile radius Area of Review Boundary have been used for saltwater disposal from oil and gas operations. They are:

- Tepee O.C. Devillier 3 SWD (API 4207130370), located approximately 14,620 feet west – Permitted interval 2,550 to 4,050 feet, Completed interval 3,375 – 3,855 feet.
- Lases Dugat SWD-3 (API 4207132543), located approximately 13,890 feet north – Permitted Interval 2,500 – 4,500 feet.
- Lases Dugat SWD-1SW (API 4207131590), located approximately 15,325 feet north – Permitted Interval 3,050 – 4,400 feet.

The permitted intervals in the permits span the "Orange" Sand or both the "Orange" Sand and the "Yellow" Sand.

Injection volumes from the Railroad Commission of Texas were gathered for the saltwater disposal wells and are presented in Figure VII-22. To be conservative in the modeling, the Bluebonnet Hub has allocated 100% of the injected saltwater brines successively to each of the "Orange" Sand and the "Yellow" Sand (*i.e.*, entire volume in placed into each interval). The Tepee O.C. Devillier 3 SWD (API 4207130370) appears to have ceased injection since July 2004 and is not assigned an injection rate in the future model time frame. The Dugat Class II wells have injection volumes through year-end 2023 (latest reports) and are presumed to inject at their last injection rates over the entire duration of the future model term (through year end 2056).

REFERENCES

Ali, M. A. J., 1997, Correlations to Predict and Smooth Pore Volume Compressibility from Laboratory Test Measurements: MS Thesis, Colorado School of Mines, 154 p.

Amyx, J. W., Bass D. M., and Whiting, R. L., 1960, Petroleum Reservoir Engineering: McGraw-Hill Book Company, New York, New York, p. 63.

Barker, S. E., 1981, Determining the Area of Review for Industrial Waste Disposal Wells: Master's Thesis, The University of Texas at Austin, Austin, Texas, 146 p.

BASF Corporation, 2022, UIC Class I Permit Renewal Application: Geostock Sandia, LLC, Houston, Texas.

Beckman, J. D., and Williamson, A. K., 1990, Salt Dome locations in the Gulf Coast Coastal Plain, South-central United States: U.S., Geological Survey Water-resources Investigation Report 90-4060, Austin, Texas, 44 p.

Bethke, C. M., Harrison, W. J., Upson, C., and Altaner, S. P., 1988, Super computer analysis of sedimentary basins: Science, v. 239, Washington, D. C.

Chan, A. W., Hagin, P. N., and Zoback, M. D., 2004, Viscoplastic deformation, stress, and strain paths in unconsolidated reservoir sands (Part 2): Field applications using Dynamic DARS Analysis: American Rock Mechanics Association, 6th North American Rock Mechanics Symposium, Houston, Texas.

Clark, J. E., Howard, M. R., and Sparks, D. K., 1987, Factors that can cause abandoned wells to leak as verified by case histories from Class II injection, Texas Railroad Commission Files: International Symposium on Subsurface Injection of Oil Field Brines, Underground Injection Practices Council, New Orleans, Louisiana, p. 166-223.

Clark, J. E., 1988, Groundwater flow in deep saline aquifers: Special Session on the Hydrologic and Geochemical Processes Involved in Deep Injection of Liquid Wastes, Groundwater Committee of the American Geophysical Union and the International Association of Hydrogeologists, Baltimore, Maryland.

Collins, R. E., 1986, Technical basis for area of review, an engineering study prepared for Chemical Manufacturers Association: Chemical Manufacturers Association Reference Number 80-160-000-4.

Davis, K. E., 1986, Factors effecting the area of review for hazardous waste disposal wells: Proceedings of the International Symposium on Subsurface Injection of Liquid Wastes, New Orleans, National Water Well Association, Dublin, Ohio, p. 148-194.

Doornhof, D., Kristiansen, T. G., Nagel, N. B., Pattillo, P. D., and Sayers, C., 2006, Compaction and subsidence: Oilfield Review, Schlumberger, p. 50-68.

DuPont Environmental Remediation Services, 1995, Permit Renewal Application for Plant Well 1-A (WDW110); Hoechst Celanese Chemical Group, Bay City, Texas.

Earlougher, R., C., Jr., 1977, Advances in Well Test Analysis: Society of Petroleum Engineers, Millet the Printer, Inc., Dallas, Texas, 264 p.

Eaton, B. A., 1969, Fracture gradient prediction and its application in oilfield operations: Transactions of the American Institute of Mechanical Engineers, v. 246.

E.I. du Pont de Nemours & Co., 1990, Hazardous Waste Disposal Injection Restrictions Exemption Petition – Beaumont Works: Beaumont, Texas.

E.I. du Pont de Nemours & Co., 2012, 2012 TCEQ UIC Class I Well Permit Renewal Application for Injection Well Nos. 1 (WDW082), 2 (WDW083), 3 (WDW149), & 4 (WDW360): Sandia Technologies, LLC, Houston Texas.

Fetter, C. W., 1988, Applied Hydrogeology: Merrill Publishing Company, Columbus, Ohio, 592 p.

Freeze, R. A. and Cherry, J. A., 1979, Groundwater: Prentice-Hall, Inc., Inglewood Cliffs, New Jersey, 604 p.

Hall, H. N., 1953, Compressibility of reservoir rocks: Trans AIME, v. 198, p. 309-311.

Hantush, M. S., 1960, Modification of the theory of leaky aquifers: Journal of Geophysical Research, v. 65, n., 11, pp. 3713-3725.

INVISTA, 2016, 2006 HWDIR Exemption Petition Reissuance Request INVISTA Victoria Plant: Geostock Sandia, LLC, Houston, Texas.

INVISTA, 2017, INVISRA Orange Site, 2018 HWDIR Exemption Petition Reissuance: Geostock Sandia, KKC, Houston, Texas.

Johnston, O. C. and Greene, C. J., 1979, Investigation of artificial penetrations in the vicinity of subsurface disposal wells-Technical Report: Texas Department of Water Resources.

Johnston, O. C., and Knape, B. K., 1986, Pressure Effects of the Static Mud Column in Abandoned Wells: Texas Water Commission LP 86-06, 106 p.

Jongerius, M., 2016, Reservoir compaction in shallow gas reservoirs: The impact of production-induced reservoir compaction on the recovery of gas from shallow reservoirs: MS Thesis, Delft University of Technology, 83 p.

Kasmarek, M. C., 2012, Hydrogeology and simulation of groundwater flow and land-surface subsidence in the northern part of the Gulf Coast Aquifer System, Texas, 1891-2009: U.S. Geological Survey Scientific Investigations Report 2012-5154, 55 p.

Kasmarek, M. C., and Robinson, J. L., 2004, Hydrogeology and Simulation of Ground-Water Flow

and Land-Surface Subsidence in the Northern Part of the Gulf Coast Aquifer System, Texas: U.S. Geological Survey Scientific Investigations Report 2004-5102, 111 p.

Kasmarek, M. C., Gabrysch, R. K., and Johnson, M. R., 2010, Estimated land-surface subsidence in Harris County, Texas, 1915–17 to 2001: U.S. Geological Survey Scientific Investigations Map 3097.

Kasmarek, M. C., and Ramage, J. K., 2017, Water-Level Altitudes 2017 and Water-Level Changes in the Chicot, Evangeline, and Jasper Aquifers and Compaction 1973–2016 in the Chicot and Evangeline Aquifers, Houston-Galveston Region, Texas: U.S. Geological Survey Scientific Investigations Report 2017-5080, 32 p.

Kreitler, C. W., 1986, Hydrogeology of sedimentary basins as it relates to deep-well injection of chemical wastes: Proceedings of the International Symposium Subsurface Injection of Liquid Wastes, New Orleans, National Water Well Assc., Dublin, Ohio, p. 398-416.

Kreitler, C. W., Akhter, M. S., and Donnelly, A. C., 1989, Hydrologic-hydrochemical characterization of the Texas Gulf Coast saline formations used for deep-well injection of chemical wastes: Proceedings of the International Symposium on Class I & II Injection Well Technology, Dallas, Texas, Ground Water Protection Council, p. 177-197.

Lucite International, 2014, EPA No-Migration Petition Reissuance Demonstration – Section 2.0 Modeling: Sandia Technologies, LLC, Houston Texas.

Miller, C., Fisher, T. A. II, Clark J. E., Porter, W., Hales, C. H. Tilton, J. R., 1986, Flow and containment of injected waste: Proceedings of the International Symposium Subsurface Injection of Liquid Wastes, New Orleans, National Water Well Assc., Dublin, Ohio, p. 520-559.

Milovac, J., 2009, Rock Physics Modeling of an Unconsolidated Sand Reservoir: MS Thesis, University of Houston, 77 p.

Merkel, R. H., 1981, Well Log Formation Evaluation: Continuing Education Course Note Series #14, American Association of Petroleum Geologists, 82 p.

Moore, P. L., 1974, Drilling Practices Manual: PennWell Books, Tulsa, Oklahoma.

Newman, G. H., 1973, Pore-volume compressibility of consolidated, friable, and unconsolidated reservoir rocks under hydrostatic loading: Journal of Petroleum Technology, p. 129-134.

Nguyen, V. H., Gland, N., Dautriat, J., David, C., Wassermann, J., and Guelard, J., 2014, Compaction, permeability evolution and stress path effects in unconsolidated sand and weakly consolidated sandstone: International Journal of Rock Mechanics & Mining Sciences, vol. 67, p. 226-239.

Porter, W. M. and Newsom, S. W., 1987, Shale Porosity and Permeability: DuPont Report.

Pratt, W. E., and Johnson, D. W., 1926, Local Subsidence of the Goose Creek Oil Field: The

Journal of Geology, v. 34, no. 7, p. 577-590.

Schlumberger, 1979, Log Interpretation Charts: Schlumberger Well Surveying Corporation, 97 p.

Theis, C. V., 1935, The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage: Trans. Amer. Geophys. Union, v.2, p. 519-534.

Warner, D. L., and Syed, T., 1986, Confining layer study-supplemental report, prepared for U.S. EPA Region V, Chicago, Illinois.

Warner, D. L., 1988, Abandoned oil and gas industry wells and their environmental implications: prepared for the American Petroleum Institute.

Wattenbarger, R. A., 1999, Formation Compressibility: Report for DuPont.

Wyllie, M. R. J., Gregory, A. R., and Gardner, L. W., 1956, Elastic Wave Velocities in Heterogeneous and Porous Media: Geophysics, vol. 21 no. 1, p. 41–70.

Yale, D. P., Nabor, G. W., Russell, J. A., Pham, H. D., and Yousef, M., 1993, Application of variable formation compressibility for improved reservoir analysis: Society of Petroleum Engineers, Society Petroleum Engineers Paper 26647, Houston, Texas, p. 435-450.

TABLES

Geostock Sandia

Table VII-1 DuPont Multilayer Pressure Model Input Parameters

Layer No.	Thickness (feet)	Porosity (vo./vol.)	Permeability (darcies)	Fluid Viscosity (centipoise)	Rock Compressibility (psi-1)	Description
1	120	0.114	1.E-15	0.748	7.00E-05	Top Confining Zone Shale
2	22	0.25	1.00	0.746	1.00E-05	Sand
3	45	0.114	1.E-15	0.744	7.00E-05	Shale
4	67	0.25	1.00	0.742	1.00E-05	Sand
5	54	0.114	1.E-15	0.74	7.00E-05	Shale
6	26	0.25	1.00	0.737	9.86E-06	Sand
7	70	0.114	1.E-15	0.735	7.00E-05	Shale
8	10	0.25	1.00	0.733	9.74E-06	Sand
9	146	0.113	1.E-15	0.729	7.00E-05	Shale
10	18	0.25	1.00	0.724	9.55E-06	Sand
11	59	0.113	1.E-15	0.722	7.00E-05	Shale
12	73	0.25	1.00	0.719	9.47E-06	Sand
13	125	0.113	1.E-15	0.715	7.00E-05	Shale
14	45	0.25	1.00	0.71	9.25E-06	Sand
15	130	0.112	1.E-15	0.706	7.00E-05	Shale
16	77	0.25	1.00	0.702	9.07E-06	Top of Injection Zone
17	29	0.111	1.E-15	0.701	7.00E-05	Containment Interval Shale
18	12	0.25	1.00	0.699	8.96E-06	Sand
19	108	0.111	1.E-15	0.694	7.00E-05	Containment Interval Shale
20	80	0.25	1.00	0.689	8.84E-06	Sand
21	68	0.11	1.E-15	0.686	7.00E-05	Containment Interval Shale
22	51	0.25	1.00	0.682	8.70E-06	Sand
23	67	0.11	1.E-15	0.688	7.00E-05	Containment Interval Shale
24	55	0.27	4.00	0.694	10.4E-06	Miocene Orange-Top Lobe
25	24	0.109	1.E-15	0.69	7.00E-05	Shale
26	70	0.27	4.00	0.686	10.4E-06	Miocene Orange-Mid Lobe
27	79	0.109	1.E-15	0.682	7.00E-05	Shale
28	45	0.31	4.00	0.678	10.4E-06	Miocene Orange-Lower Lobe
29	64	0.109	1.E-15	0.672	7.00E-05	Shale
30	85	0.29	4.00	0.666	9.58E-06	Miocene Yellow-Top Lobe
31	66	0.109	1.E-15	0.662	7.00E-05	Shale
32	45	0.3	4.00	0.657	9.96E-06	Miocene Yellow-Mid Lobe
33	54	0.109	1.E-15	0.654	7.00E-05	Shale
34	60	0.3	4.00	0.652	9.86E-06	Miocene Yellow-Lower Lobe

Table VII-2

Vertically Oriented Shale Core Plugs
Dow Beaumont Injection Well No. 3 (WDW188)

Depth (Feet)	Permeability to Liquid (Darcies)
3,595 (Lagarto)	5.1×10^{-9}
3,602 (Lagarto)	1.1×10^{-8}
4,055 (Oakville)	1.7×10^{-8}
5,949 (Catahoula)	2.8×10^{-8}
6,688 (Frio)	5.9×10^{-8}
6,698 (Frio)	1.8×10^{-8}
7,356 (Frio)	8.0×10^{-8}

Table VII-3

Estimated Rock Compressibility – INVISTA Orange & Victoria Sites

Facility	Wells	Date	Calculated Interference Storativity (feet/psi)	Interval Thickness (feet)	Porosity (vol/vol)	Calculated Total Compressibility (x 10^{-6} psi^{-1})	Estimated Rock Compressibility (x 10^{-6} psi^{-1})*
Invista Sabine River Works	Well 6 to Well 4	1992	1.48E-03	70	30	71	68
	Well 6 to Well 4	1994	2.20E-03	70	30	105	102
	Well 4 to Well 6	1996	1.20E-03	70	30	57	54
Invista Victoria	Well 8 to Well 1	2016	3.00E-03	261	30	38	35
	Well 1 to Well 8	2017	2.94E-03	261	30	38	35

* *Water Compressibility approximately 3.035E-06 psi-1*

Table VII-4

Estimated Rock Compressibility – Lucite Beaumont Site

Test Date	Injection Well	Observation Well	Calculated Interference Storativity (feet/psi)	Interval Thickness (feet)	Porosity (vol/vol)	Rock Compressibility (x 10^{-6} psi^{-1})*
2006	Well No. 1	Well No. 2	5.66E-04	100	0.31	15
2007	Well No. 1	Well No. 2	7.40E-04	100	0.31	21
2008	Well No. 2	Well No. 1	5.95E-04	100	0.31	16
2014	Well No. 1	Well No. 2	8.16E-04	100	0.31	23
2015	Well No. 1	Well No. 2	8.30E-04	100	0.31	24

* *Water Compressibility approximately 3.035E-06 psi-1*

Table VII-5
Calculation of Multiplying Factor from Core Data

Lucite Beaumont	Lucite Beaumont (cont)	BASF Beaumont	BASF Beaumont	BASF Beaumont	BASF Beaumont	BASF Beaumont	Encanto 1
13,843.9	19,843.6	15,056.8	8,866.3	4,206.6	16,494.8	10,443.0	27,140.4
12,228.7	16,194.6	14,970.1	4,457.8	3,542.9	4,260.5	9,872.6	12,755.1
12,767.6	14,461.1	15,882.4	3,395.6	10,775.6	12,937.1	9,090.9	38,213.4
14,615.4	15,587.1	9,375.0	5,046.7	23,307.0	19,306.9	9,554.1	36,027.0
11,788.7	14,651.5	7,871.7	4,350.5	20,363.9	6,372.5	9,104.5	31,742.6
12,005.7	14,892.3	8,702.1	5,463.0	12,469.5	6,879.2	9,302.3	30,428.9
12,302.1	15,178.7	14,984.7	2,387.3	22,334.4	7,142.9	11,290.3	27,040.5
14,090.6	13,800.6	10,355.0	3,271.0	1,706.9	2,411.3	9,493.7	41,804.9
11,934.7	16,275.2	1,437.0	4,103.3	12,046.2	1,678.4	9,785.9	38,335.2
14,593.8	13,551.5	14,906.8	3,197.5	16,857.1	9,032.3	9,206.3	37,319.3
14,768.4	14,817.6	15,753.4	3,343.8	15,723.3	7,389.9	8,536.6	26,718.1
12,173.4	21,043.1	19,877.7	7,195.1	2,672.4	12,339.7	5,032.5	34,822.9
12,477.9	14,893.3	17,048.2	6,625.4	16,768.3	7,843.1	4,530.7	36,097.3
13,006.1	15,000.0	16,721.3	2,749.1	2,062.9	2,741.4	4,651.2	15,417.3
13,918.0	21,746.7	16,109.4	3,776.4	1,816.5	3,112.2	5,571.8	16,434.2
13,281.3	13,909.1	8,359.6	3,322.3	23,728.8	3,084.4	5,642.6	21,903.3
15,379.1	15,360.5	10,682.5	3,671.9	16,333.3	6,009.6	5,144.7	17,396.5
15,565.7	14,729.7	26,315.8	3,271.8	17,721.5	6,093.8	7,384.6	20,583.1
14,640.4	14,273.3	4,152.8	2,822.3	3,093.8	3,859.1	13,531.4	20,913.9
13,088.7		15,476.2	3,539.8	18,471.3	3,896.1	15,082.0	39,195.2
14,542.4		15,029.8	3,355.5	2,572.8	6,250.0	14,634.1	43,122.8
12,859.3		16,113.0	3,537.0	8,598.7	6,051.0	14,851.5	24,816.9
13,915.9		7,871.7	3,594.2	16,612.4	1,980.8	13,871.0	18,959.8
15,375.0		3,516.8	3,765.8	3,797.5	2,186.5	13,871.0	28,648.4
15,229.7		8,213.3	3,713.8	9,090.9	6,496.7	14,137.9	21,808.8
13,457.9		7,339.4	3,255.8	11,635.2	4,609.9	16,666.7	
13,525.0		4,550.9	3,208.2	20,462.0	6,606.6	17,365.3	
13,087.6		7,958.6	3,316.5	4,406.8	9,810.1		
14,900.3		5,630.8	3,645.2	12,207.4	13,851.4		
14,126.1		4,398.7	1,035.6	6,088.6	2,230.5		
13,896.3		4,534.5	11,272.7	9,316.8	4,538.0		
14,624.2		6,047.2	11,913.9	18,808.8	5,610.6		
14,461.1		5,208.3	5,538.2	4,900.3	4,603.2		
13,727.3		4,203.8	6,427.7	5,292.5	4,966.9		
14,922.8		9,832.4	8,492.7	2,357.9	4,603.2		
19,516.1		5,430.3	5,379.4	8,430.2	4,966.9		
15,178.7		4,592.1	5,847.0	7,550.3	7,807.3		
14,503.0		5,297.6	6,546.0	17,515.9	6,853.6		
17,321.4							

Maximum k/phi = **43,122.8**
Mininum k/phi = **1,035.6**

Average k/phi = **11695.46**

Geological Multiplying Factor = **3.7**

* Disregarded abnormally low permeability/porosity pairs

Table VII-6

Formation Brine Properties – "Yellow" Sand

Parameter	Method	Result	Unit
Sample Depth	Downhole RDT	4,337.04	ft MD
Barium	ICP-OES	163.6	mg/L
Boron	ICP-OES	4.46	mg/L
Calcium	ICP-OES	5793	mg/L
Iron (total)	ICP-OES	12.13	mg/L
Lithium	ICP-OES	<1.02	mg/L
Magnesium	ICP-OES	1798	mg/L
Manganese	ICP-OES	3.19	mg/L
Potassium	ICP-OES	126.3	mg/L
Sodium	ICP-OES	35,513	mg/L
Strontium	ICP-OES	243	mg/L
Bromide	IC	83.3	mg/L
Chloride	IC	70,192	mg/L
Fluoride	IC	<11.34	mg/L
Sulfate	SM 4500	<2.0	mg/L
pH (lab, 25 °C)	EPA 9040C	8.02	SU
Conductivity (lab, 25 °C)	EPA 9050A	143,015	µS/cm
Hardness	SM 2340 B	21,869	ppm
Density (lab, 25 °C)	ASTM D4052	1.0785	g/cm^3
TDS	Calculated from Conductivity	91,530	
TDS	Calculated Sum Major Ions	113,999	
Alkalinity (carbonate)	Titration (ASTM D3875)	0.0	
Alkalinity (bicarbonate)	Titration (ASTM D3875)	67.71	

Table VII-7

Shallow Formation Brine Properties – Total Dissolved Solids Content

Depth (RKB)	Total Dissolved Solids Content (mg/l)
566	2,828
909	5,133
1,260	12,231
1,433	20,989

Table VII-8

Injection Interval Reference Pressures

Injection Interval	Reference Depth (feet bgl)	Reference Pressure (psig)
“Orange” Sand	3,791	1,718.4
“Yellow” Sand	4,109	1,862.5

Table VII-9

Injection Interval MASIP Values

Injection Interval	Fracture Gradient (psi/foot)	MASIP Pressure (psig)
“Orange” Sand	0.731	864
“Yellow” Sand	0.739	978

Table VII-10
Injection Interval Volumes

Injection Interval	Maximum Injection Rate (gpm)	Annual Model Volume (Mgals)
"Orange" Sand	975	512.81
"Yellow" Sand	1,200	631.15

Table VII-11
Modeled Injection Interval Transmissibility

Injection Interval	Transmissibility (md-ft/cp)
"Orange" Sand	995,311
"Yellow" Sand	1,149,421

Table VII-12
Injection Interval Cone of Influence Pressure

Injection Interval	Formation Pressure Gradient (psi/ft)	Cone of Influence (psi)
"Orange" Sand	0.4533	30.4
"Yellow" Sand	0.4533	34.0

Table VII-13

Potentiometric Surface

Injection Interval	Environmental Head (feet referenced to GL)	Freshwater Head (feet referenced to GL)
“Orange” Sand	-78	+175
“Yellow” Sand	-80	+189

FIGURES

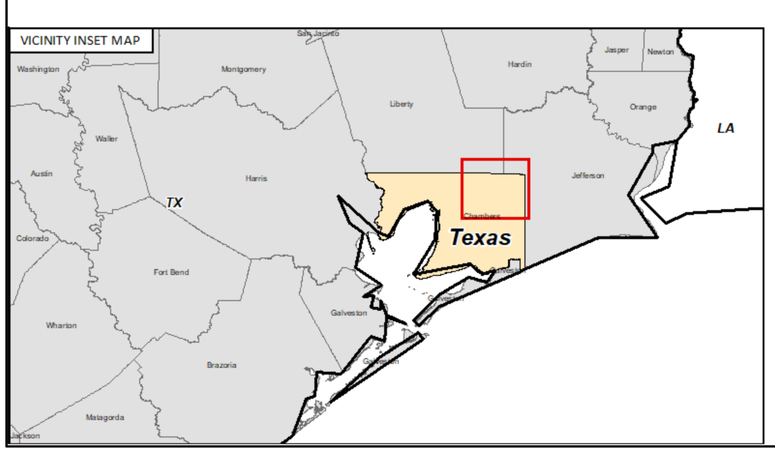
Geostock Sandia

2.5-MILE AREA OF REVIEW (AOR)

MODELED NO FLOW FAULT BOUNDARY

Bluebonnet DSW M1
Bluebonnet DSW M2

VICINITY INSET MAP



Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

0ft 304.8006096ft 609.6012192ft 914.4018288ft 1219.2024384ft 1524.003048ft 1828.8036576ft

KEY IDENTIFIERS

AP12 : ARTIFICIAL PENETRATION (AP) WELL IDENTIFIER
-5495 : SUBSURFACE PICK PENETRATION (TVDSS)
350 : SUBSURFACE NET SAND / ISOPACH THICKNESS
F/O: HORIZON FAULTED OUT
NL: NO LOG
NDL: NO DIGITAL LOG
NDE: LOG NOT DEEP ENOUGH
NSE: LOG NOT SHALLOW ENOUGH
PQL: POOR QUALITY LOG
PDP: PROBLEM DATA POINT
NDS: NO DEVIATED SURVEY
NODRL: NOT DRILLED

CI: CONTOUR INTERVAL

STATE OF TEXAS
DANIEL J. COLLINS
GEOLOGY
1290
LICENSED
PROFESSIONAL GEOSCIENTIST

NOTE: 1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from EnverusDI (EnvDI), TXRRC (08/2024)

1POINTFIVE

FIGURE VII-1
INJECTION WELL LOCATION MAP

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)
DATE: 02/2025 / PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS) SHEET: 1 OF 1

Geostock Sandia

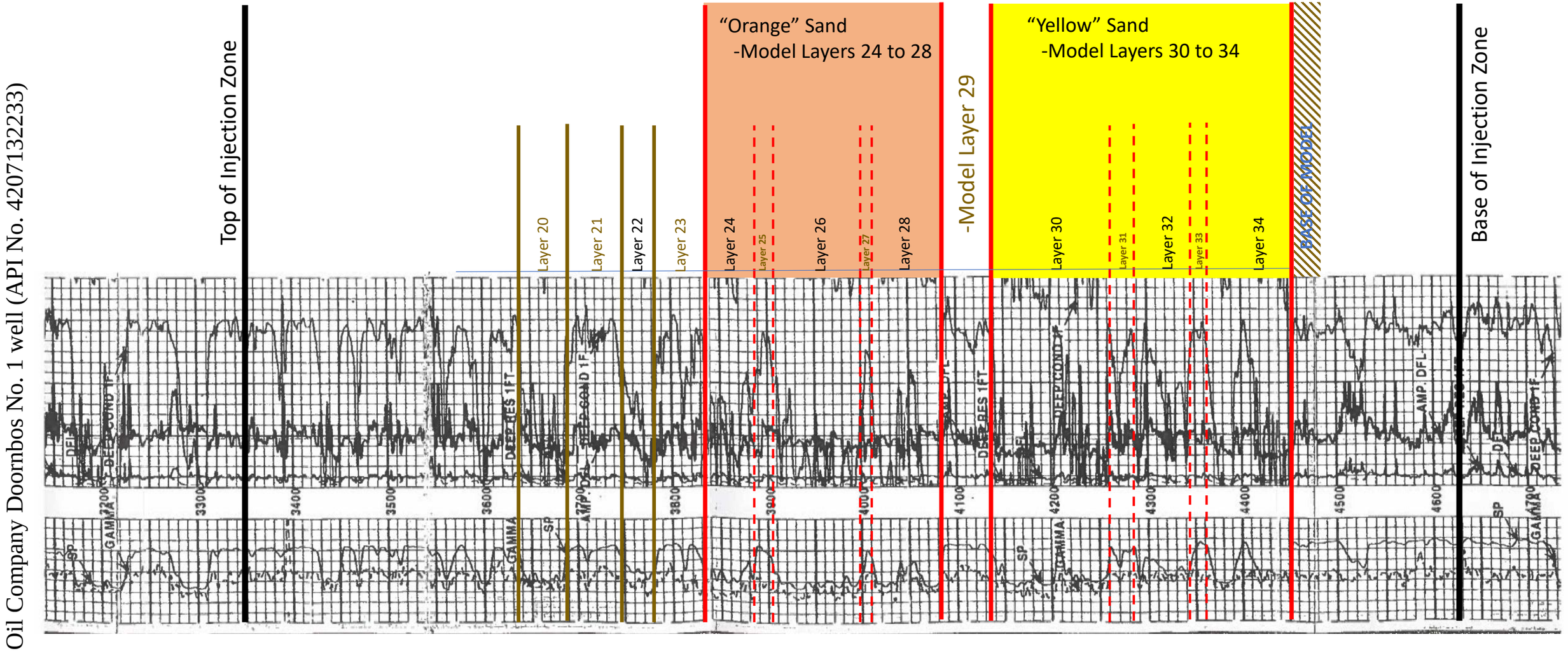


Figure VII-2 Designation of Injection Interval Sands in the Golston Oil Company Doornbos No. 1 well (API No. 4207132233)

STATE OF TEXAS
DANIEL J. COLLINS
GEOLOGY
1290
LICENSED
PROFESSIONAL GEOSCIENTIST
8/21/25

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CHAMBERS COUNTY, TEXAS

PROJECT INFO: 1POINTFIVE – BLUEBONNET PROJECT (CHAMBERS COUNTY TEXAS)	SCALE INFO: (IF APPLICABLE)
DATE: Jan 2025 / PROJECT NAME: 240069PWT	BY: GKS / CHECK BY: OXY / SHEET 1 OF 1

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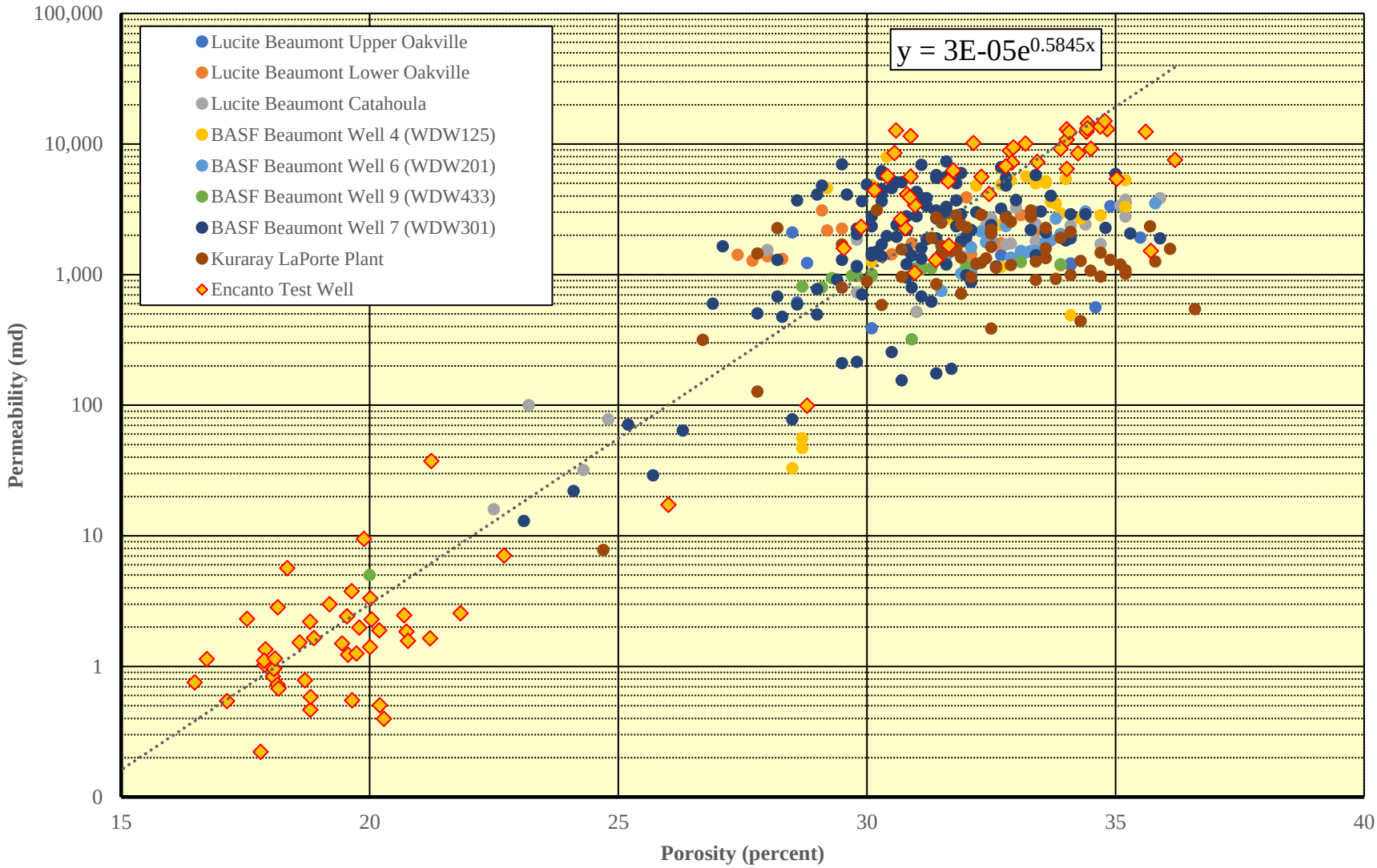

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Figure VII-3
Whole and Sidewall Core data from Miocene-Oligocene strata

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DATE: Jan 2025	PROJECT NAME: 240069PWT	BY: GKS CHECK BY: OXY	SHEET 1 OF 1

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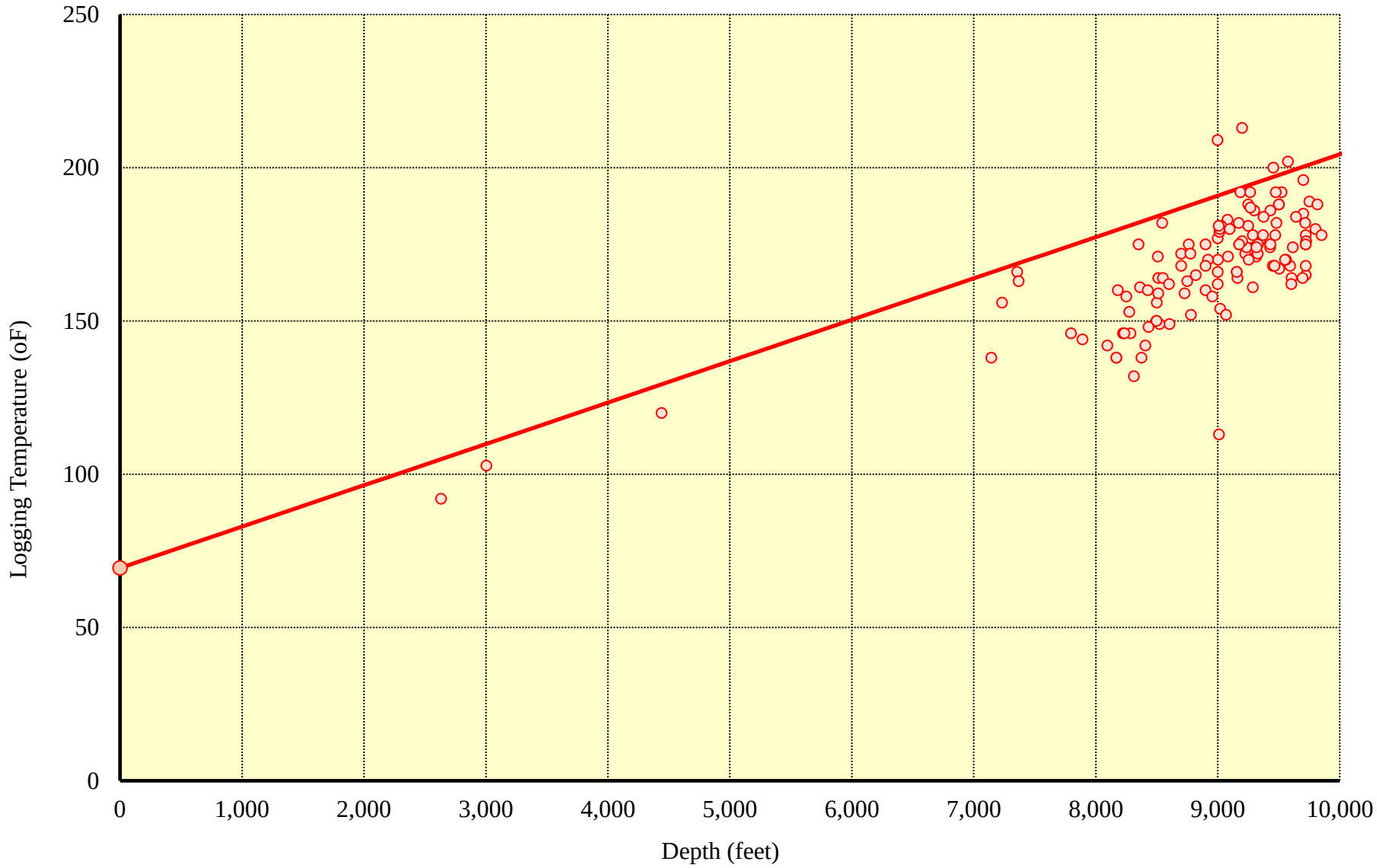

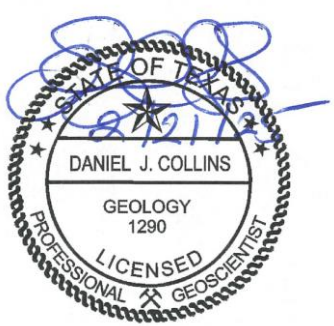

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Figure VII-4
Temperature Profile with Depth – Offset Oil and Gas Wells

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DATE: Jan 2025	PROJECT NAME: 240069PWT	BY: GKS CHECK BY: OXY	SHEET 1 OF 1

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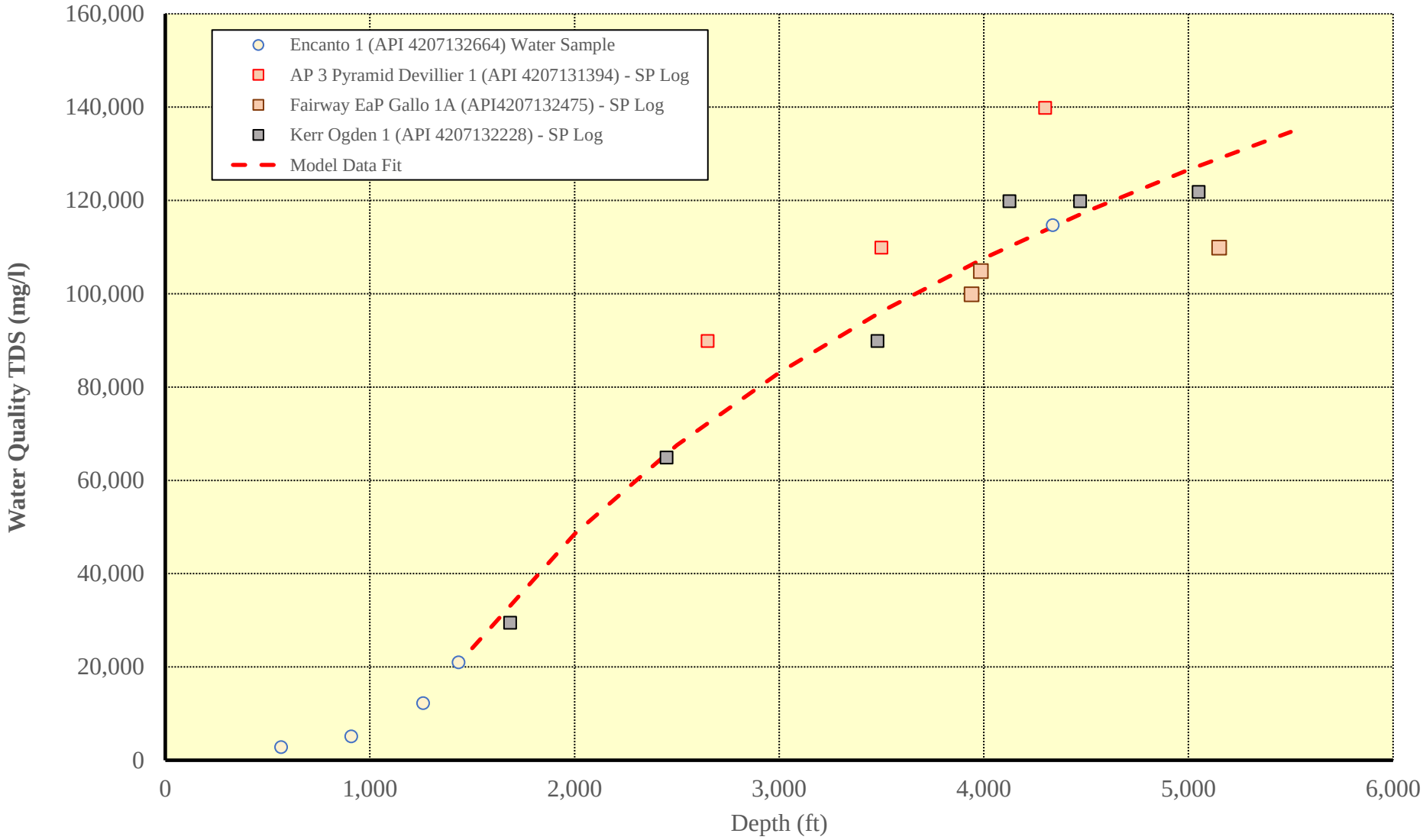

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Figure VII-5
Variation in formation fluid composition with depth

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DATE: Jan 2025	PROJECT NAME: 240069PWT	BY: GKS CHECK BY: OXY	SHEET 1 OF 1

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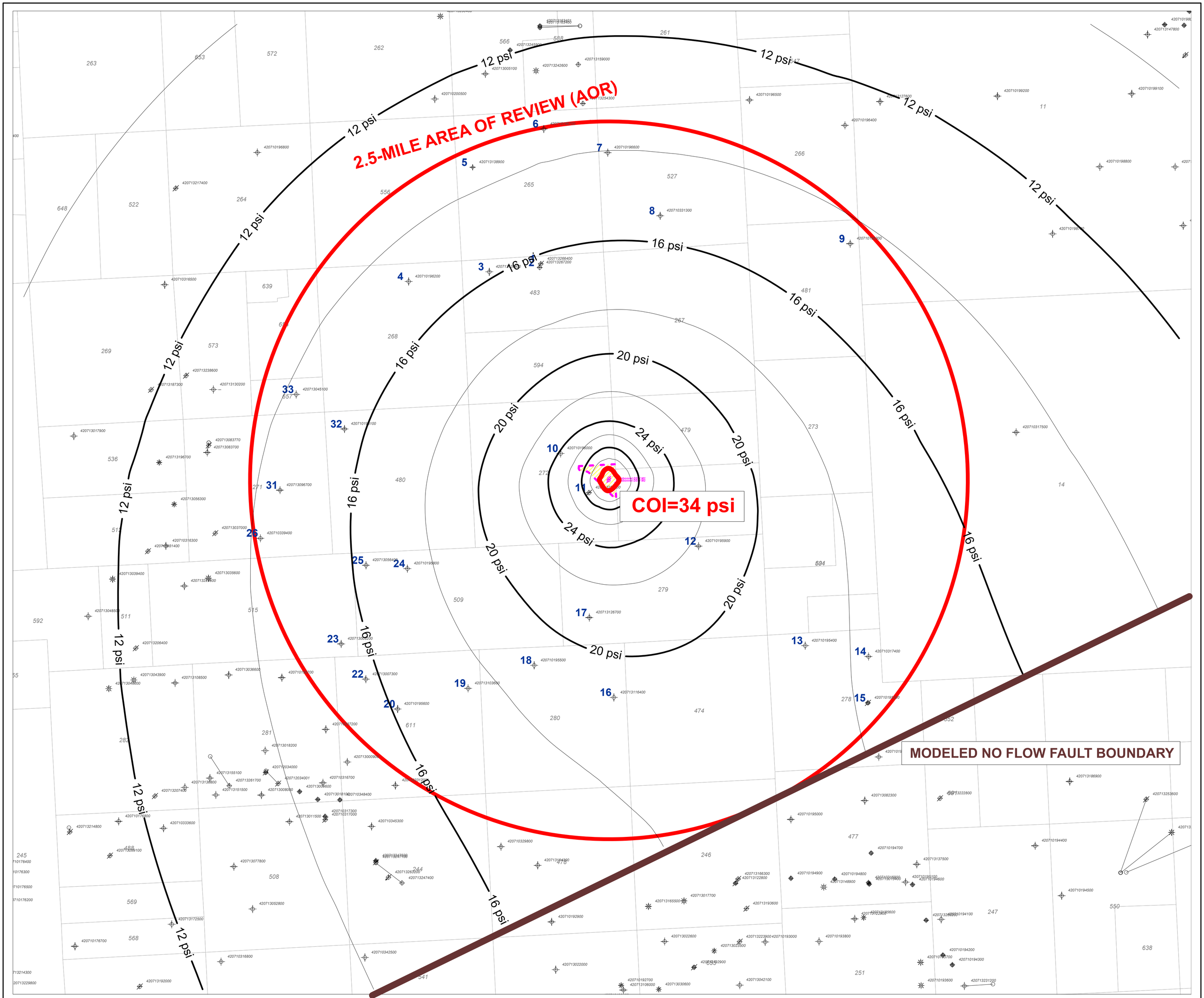
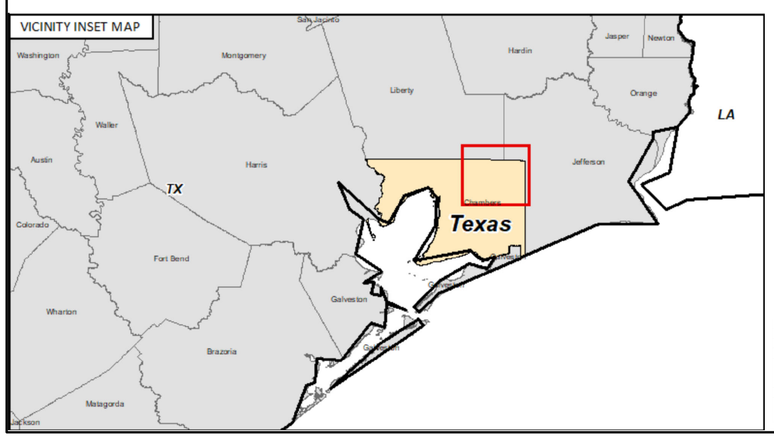


VICINITY INSET MAP



N

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

KEY IDENTIFIERS

AP12 : ARTIFICIAL PENETRATION (AP) WELL IDENTIFIER
-5495 : SUBSURFACE PICK PENETRATION (TVDSS)
350 : SUBSURFACE NET SAND / ISOPACH THICKNESS
F/O: HORIZON FAULTED OUT
NL: NO LOG
NDL: NO DIGITAL LOG
NDE: LOG NOT DEEP ENOUGH
NSE: LOG NOT SHALLOW ENOUGH
PQL: POOR QUALITY LOG
PDP: PROBLEM DATA POINT
NDS: NO DEVIATED SURVEY
NODRL: NOT DRILLED

CI: CONTOUR INTERVAL

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FIGURE VII-6
INCREMENTAL PRESSURE INCREASE IN THE "YELLOW" SAND AT YEAR-END 2025

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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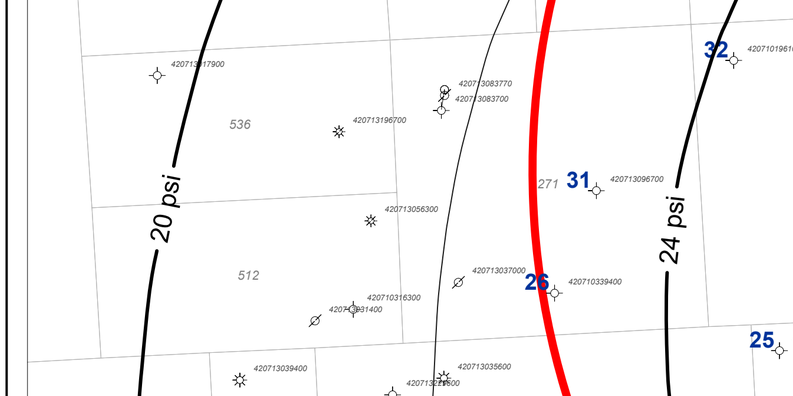
2.5-MILE AREA OF REVIEW (AOR)

COI=34 psi

MODELED NO FLOW FAULT BOUNDARY

20 psi
24 psi
28 psi
32 psi

VICINITY INSET MAP



N

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

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FIGURE VII-7
INCREMENTAL PRESSURE INCREASE IN THE "YELLOW" SAND AT YEAR-END 2035

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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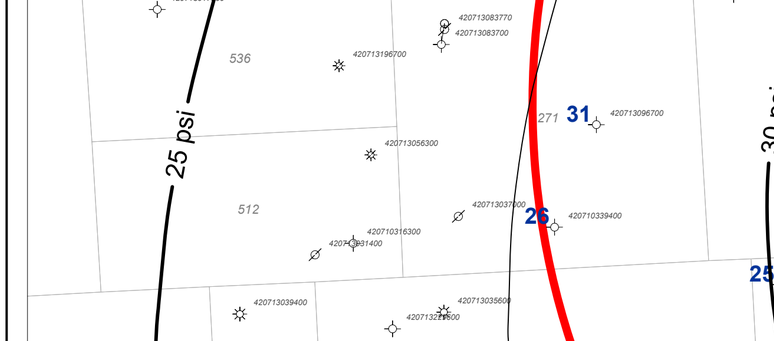
2.5-MILE AREA OF REVIEW (AOR)

MODELED NO FLOW FAULT BOUNDARY

25 psi
30 psi
35 psi
40 psi
COI=34 psi34



N

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

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FIGURE VII-8
INCREMENTAL PRESSURE INCREASE IN THE "YELLOW" SAND AT YEAR-END 2056

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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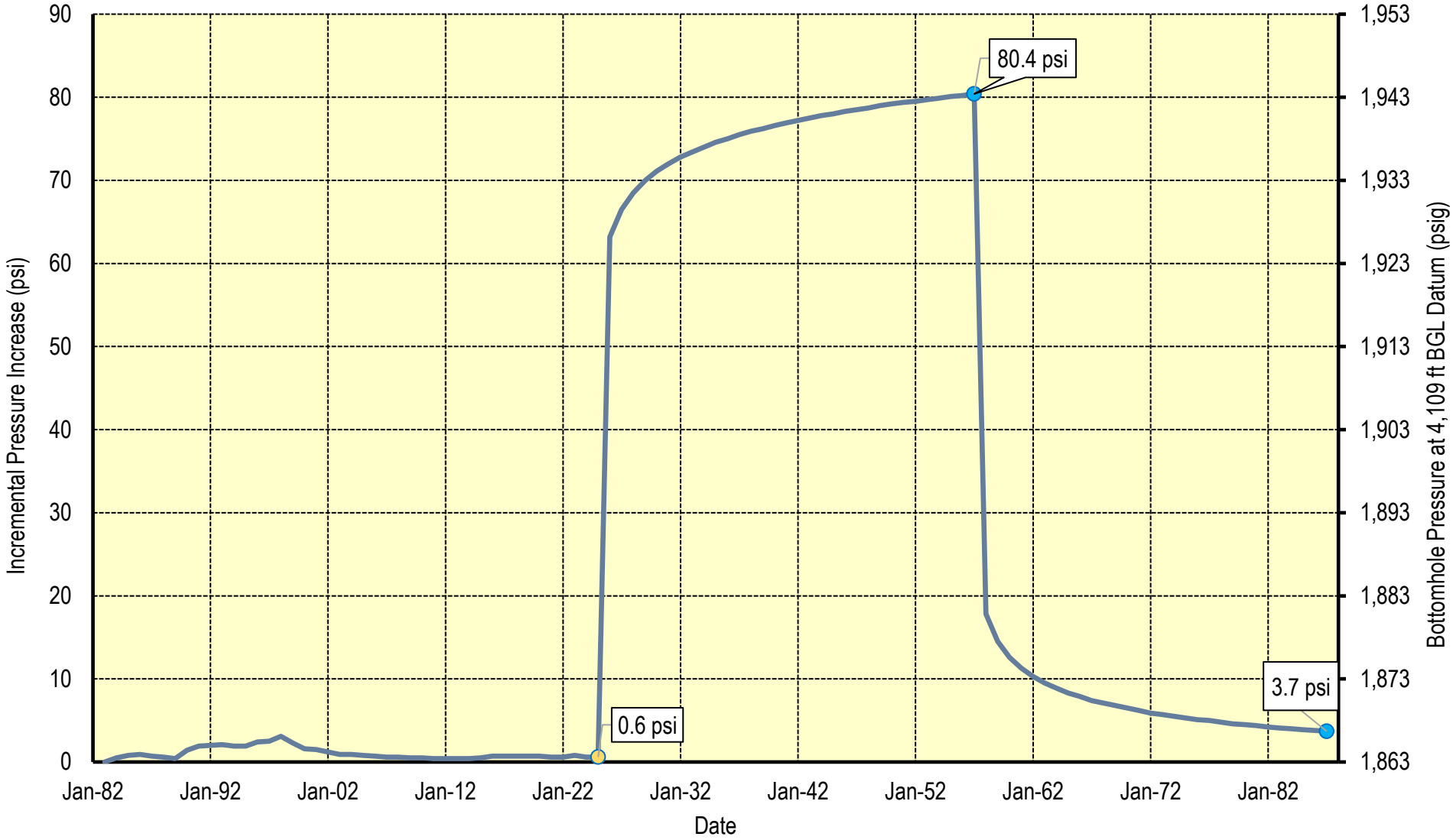

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Figure VII-9
Pressure buildup with time in the "Yellow" Sand Injection Interval

CHAMBERS COUNTY, TEXAS

PROJECT INFO: 1POINTFIVE – BLUEBONNET PROJECT (CHAMBERS COUNTY TEXAS)		SCALE INFO: (IF APPLICABLE)	
DATE: Jan 2025	PROJECT NAME: 240069PWT	BY: GKS CHECK BY: OXY	SHEET 1 OF 1

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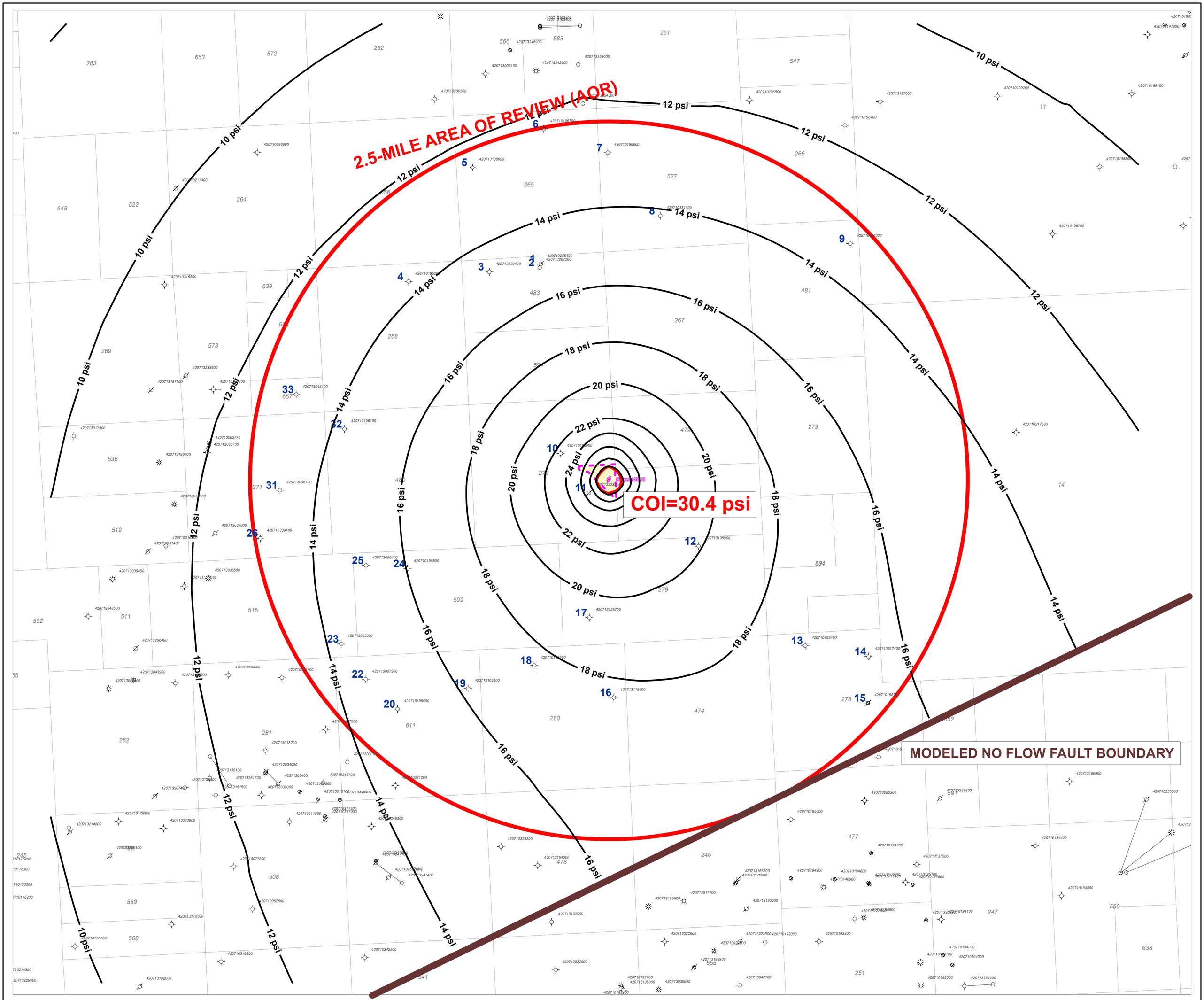

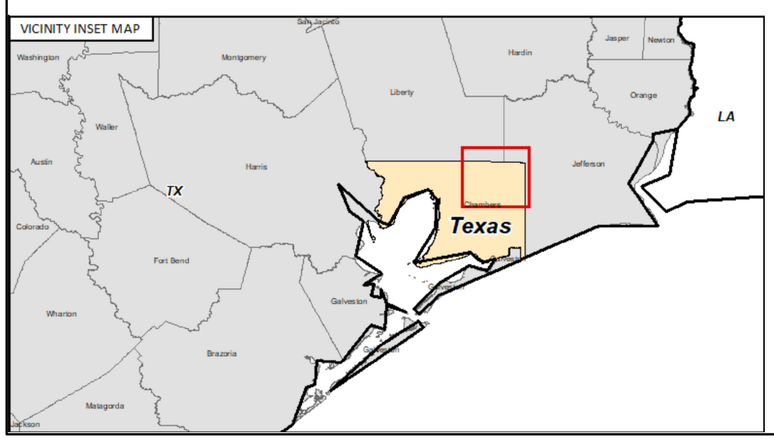

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

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FIGURE VII-10
INCREMENTAL PRESSURE INCREASE IN THE "ORANGE" SAND AT YEAR-END 2025

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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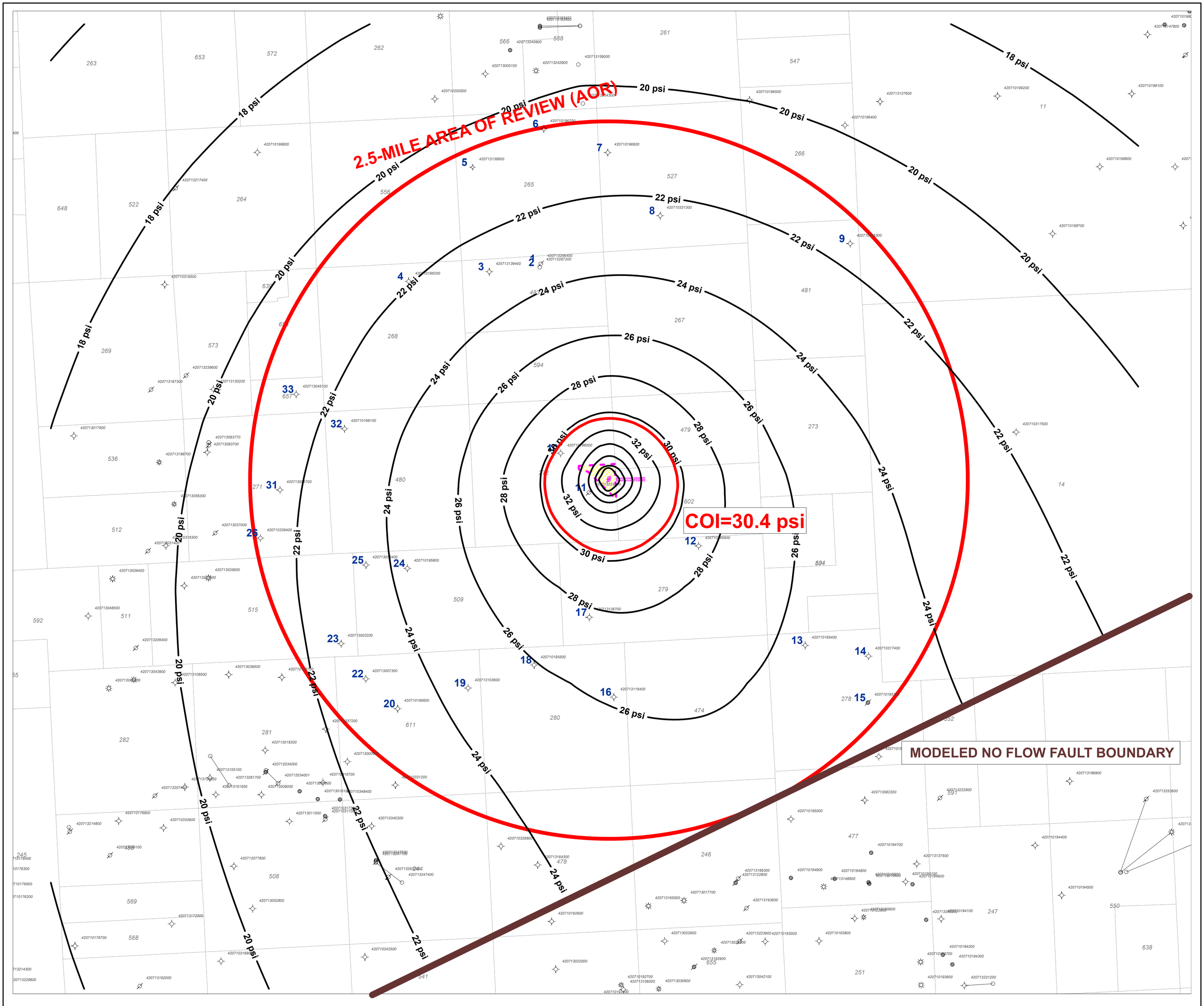

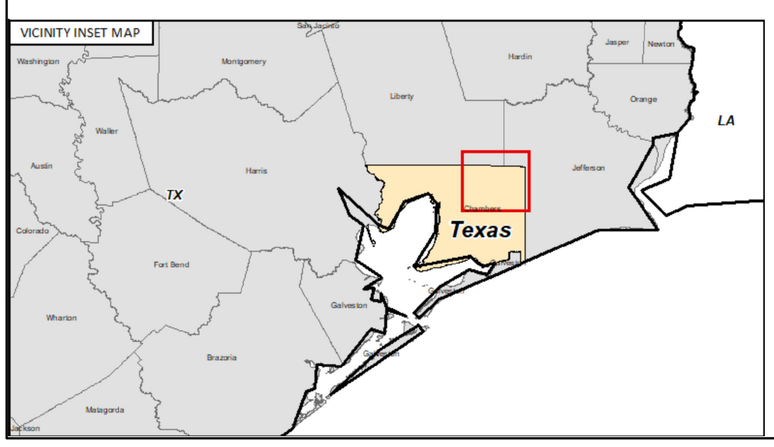

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

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FIGURE VII-11
INCREMENTAL PRESSURE INCREASE IN THE "ORANGE" SAND AT YEAR-END 2035

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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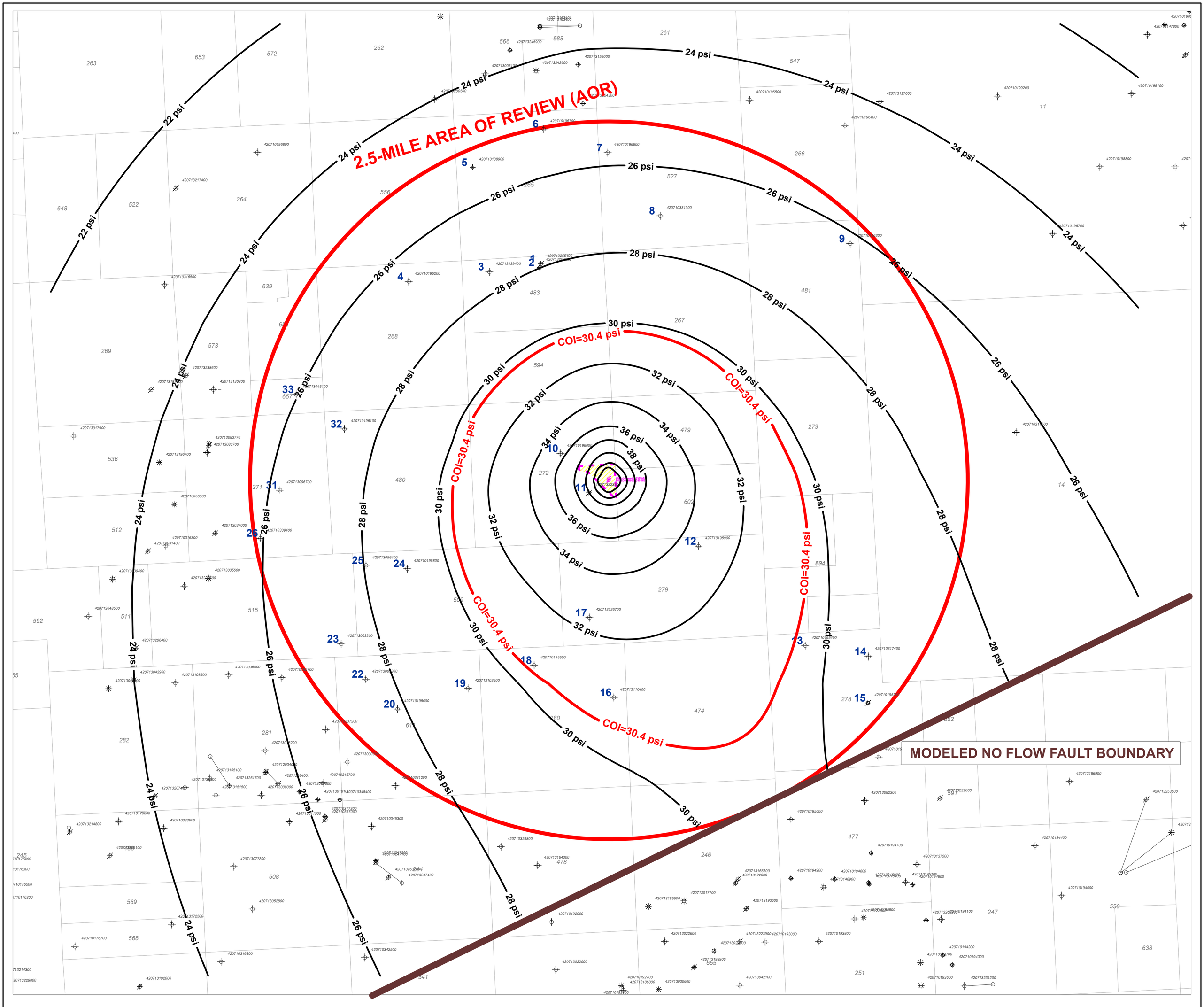

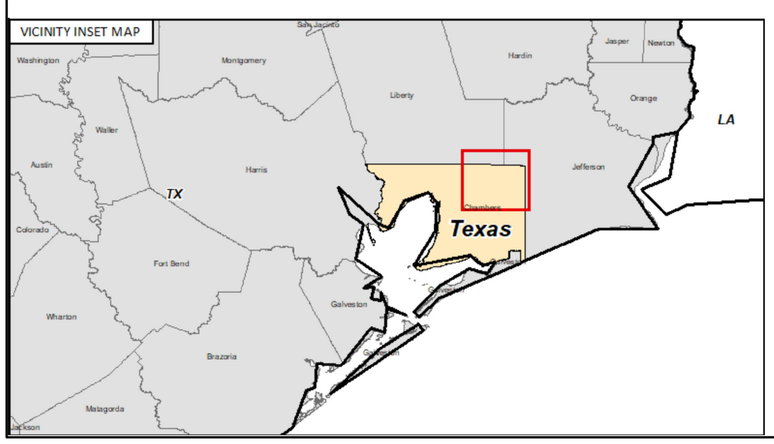

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
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Latitude Of Origin: 27.8333
Units: Foot US

0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

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FIGURE VII-12
INCREMENTAL PRESSURE INCREASE IN THE "ORANGE" SAND AT YEAR-END 2056

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET		SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)	
DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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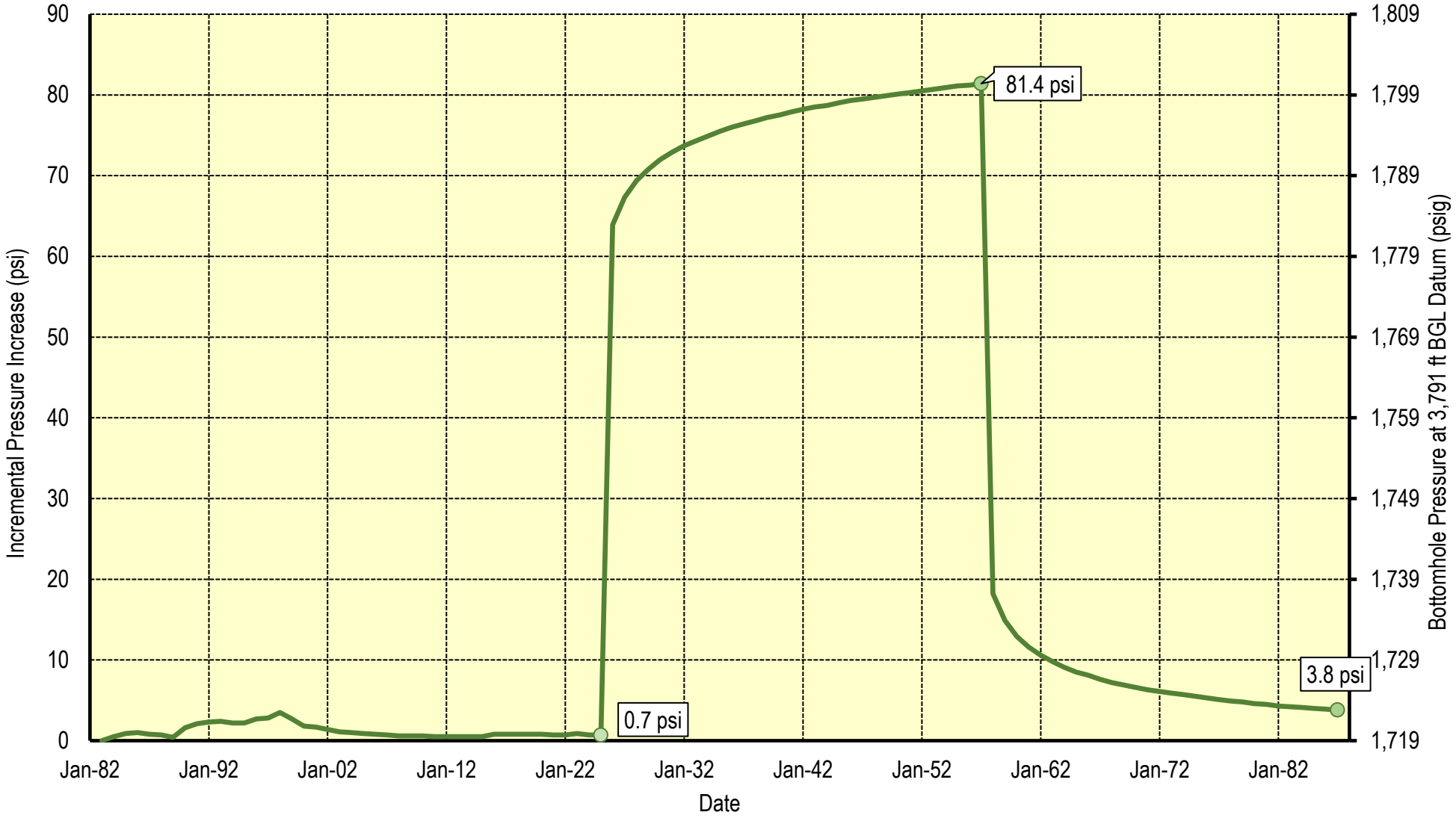

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Figure VII-13
Pressure buildup with time in the "Orange" Sand Injection Interval

CHAMBERS COUNTY, TEXAS

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DATE: Jan 2025	PROJECT NAME: 240069PWT	BY: GKS CHECK BY: OXY	SHEET 1 OF 1

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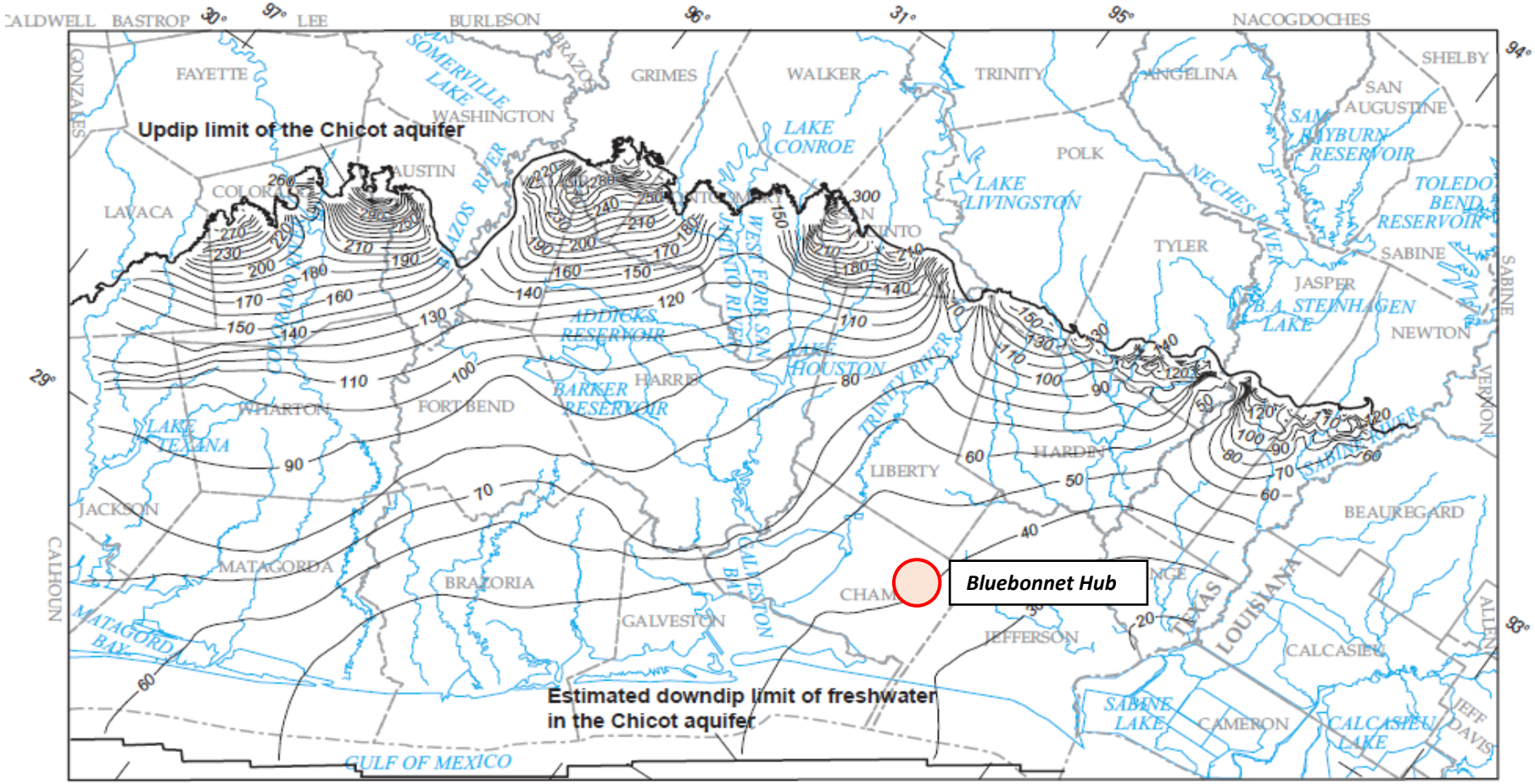

Base modified from U.S. Geological Survey digital data
Scale 1:24,000 (except Louisiana hydrography 1:100,000)
Albers equal-area projection, Datum NAD 83
Standard parallels 34°55' and 27°25', central meridian -100°

EXPLANATION

—210— **Potentiometric contour**—Shows altitude at which water would have stood in tightly cased well. Interval 10 feet. Datum is NGVD 29

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Figure VII-14
Predevelopment potentiometric surface of the Evangeline aquifer in the northern part of the Gulf Coast Aquifer System (Kasmarek and Robinson, 2004)

CHAMBERS COUNTY, TEXAS

PROJECT INFO: 1POINTFIVE – BLUEBONNET PROJECT (CHAMBERS COUNTY TEXAS)		SCALE INFO: (IF APPLICABLE)	
DATE: Jan 2025	PROJECT NAME: 240069PWT	BY: GKS CHECK BY: OXY	SHEET 1 OF 1

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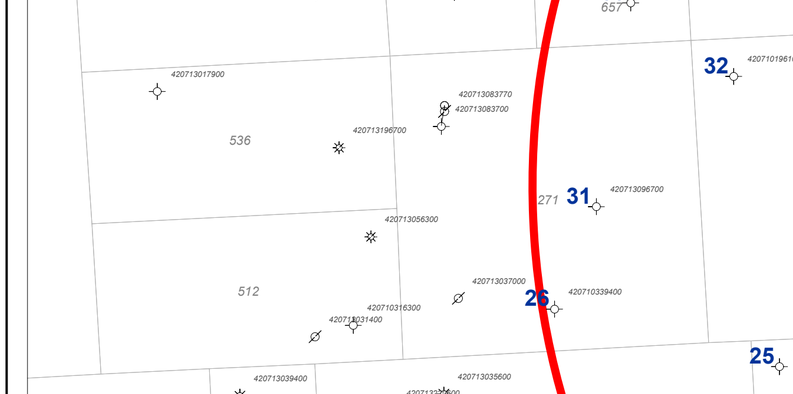
2.5-MILE AREA OF REVIEW (AOR)

MODELED NO FLOW FAULT BOUNDARY

VICINITY INSET MAP



0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

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FIGURE VII-15
MAXIMUM PLUME IN THE "YELLOW" SAND AT YEAR-END 2025

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET		SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)	
DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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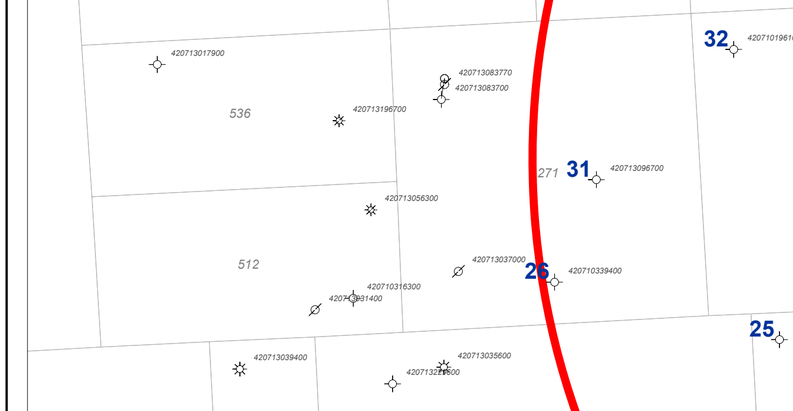
2.5-MILE AREA OF REVIEW (AOR)

MODELED NO FLOW FAULT BOUNDARY

VICINITY INSET MAP



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KEY IDENTIFIERS

AP12 : ARTIFICIAL PENETRATION (AP) WELL IDENTIFIER
-5495 : SUBSURFACE PICK PENETRATION (TVDSS)
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CI: CONTOUR INTERVAL

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
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False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
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FIGURE VII-16
MAXIMUM PLUME IN THE "YELLOW" SAND AT YEAR-END 2035

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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2.5-MILE AREA OF REVIEW (AOR)

MODELED NO FLOW FAULT BOUNDARY

VICINITY INSET MAP

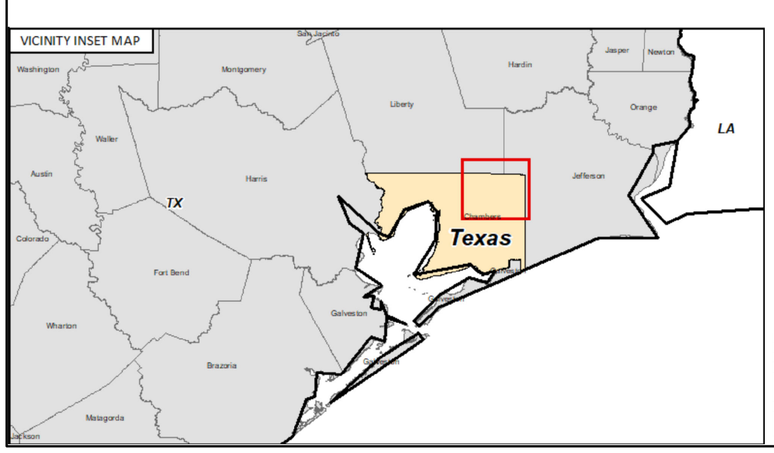

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FIGURE VII-17
MAXIMUM PLUME IN THE "YELLOW" SAND AT YEAR-END 2056

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET		SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)	
DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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2.5-MILE AREA OF REVIEW (AOR)

MODELED NO FLOW FAULT BOUNDARY

VICINITY INSET MAP



Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
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FIGURE VII-18
MAXIMUM PLUME IN THE "ORANGE" SAND AT YEAR-END 2025

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET		SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)	
DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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2.5-MILE AREA OF REVIEW (AOR)

MODELED NO FLOW FAULT BOUNDARY

VICINITY INSET MAP

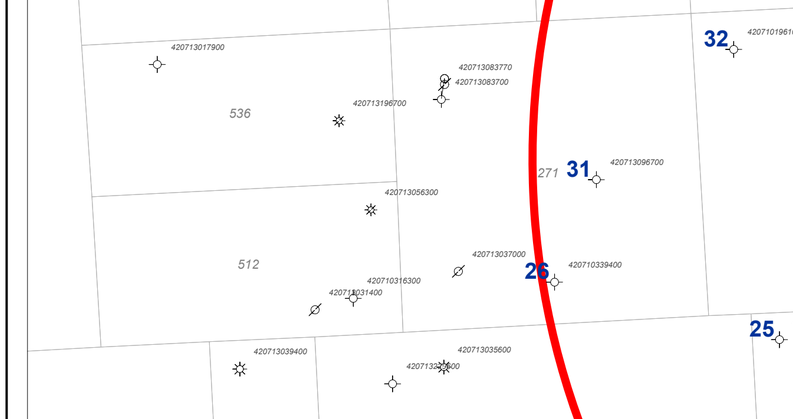

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FIGURE VII-19
MAXIMUM PLUME IN THE "ORANGE" SAND AT YEAR-END 2035

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)

DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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MODELED NO FLOW FAULT BOUNDARY

VICINITY INSET MAP

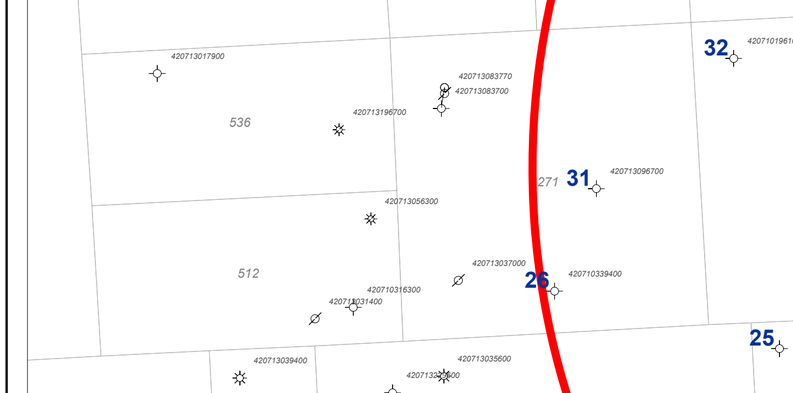

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FIGURE VII-20
MAXIMUM PLUME IN THE "ORANGE" SAND AT YEAR-END 2056

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

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DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

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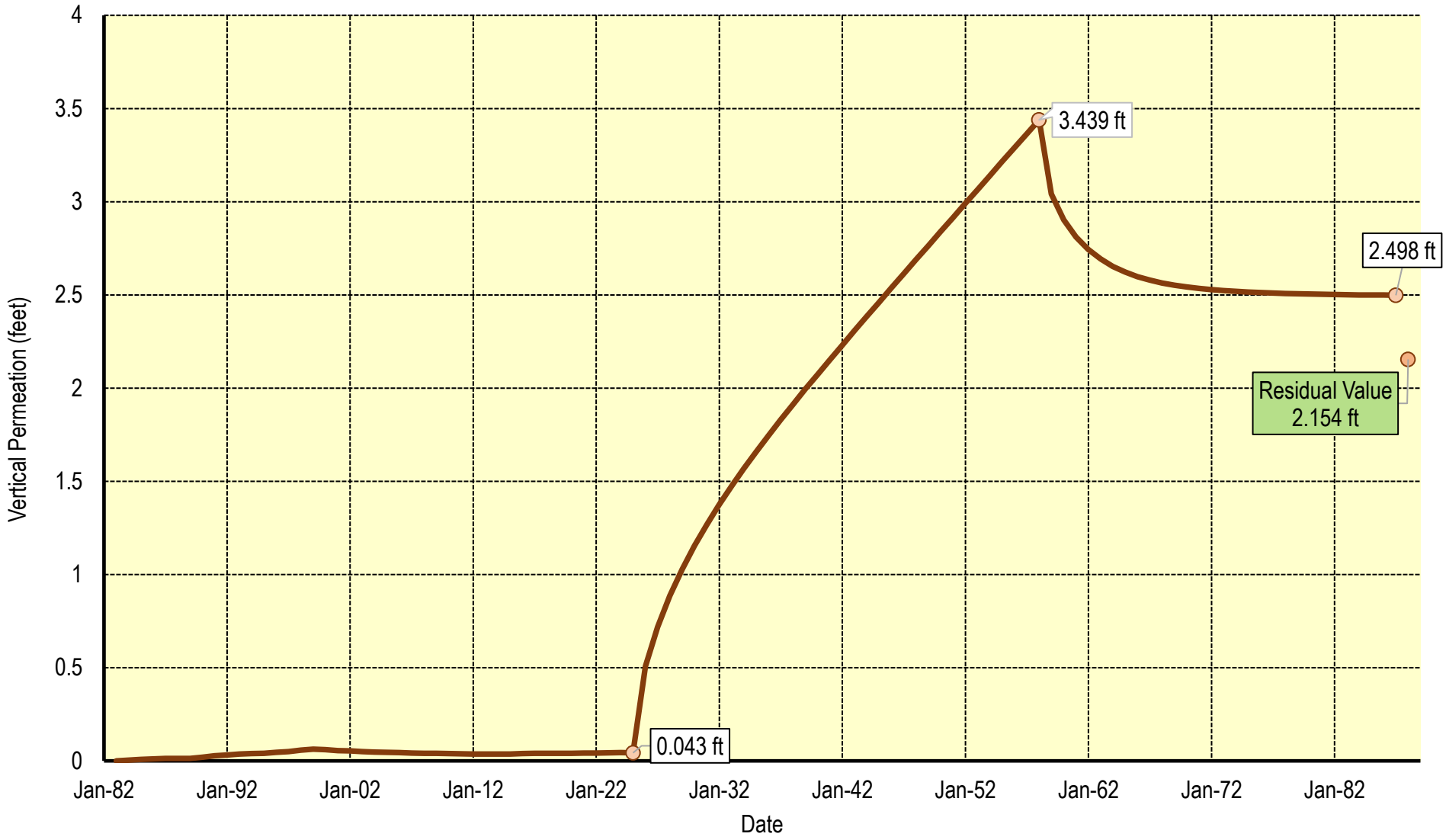

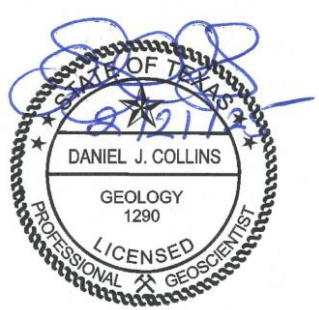

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Figure VII-21
Incremental vertical permeation of formation brine and wastewater into the clay/shale layer above the "Orange" Sand

CHAMBERS COUNTY, TEXAS

PROJECT INFO: 1POINTFIVE – BLUEBONNET PROJECT (CHAMBERS COUNTY TEXAS)		SCALE INFO: (IF APPLICABLE)	
DATE: Jan 2025	PROJECT NAME: 240069PWT	BY: GKS CHECK BY: OXY	SHEET 1 OF 1

Geostock Sandia

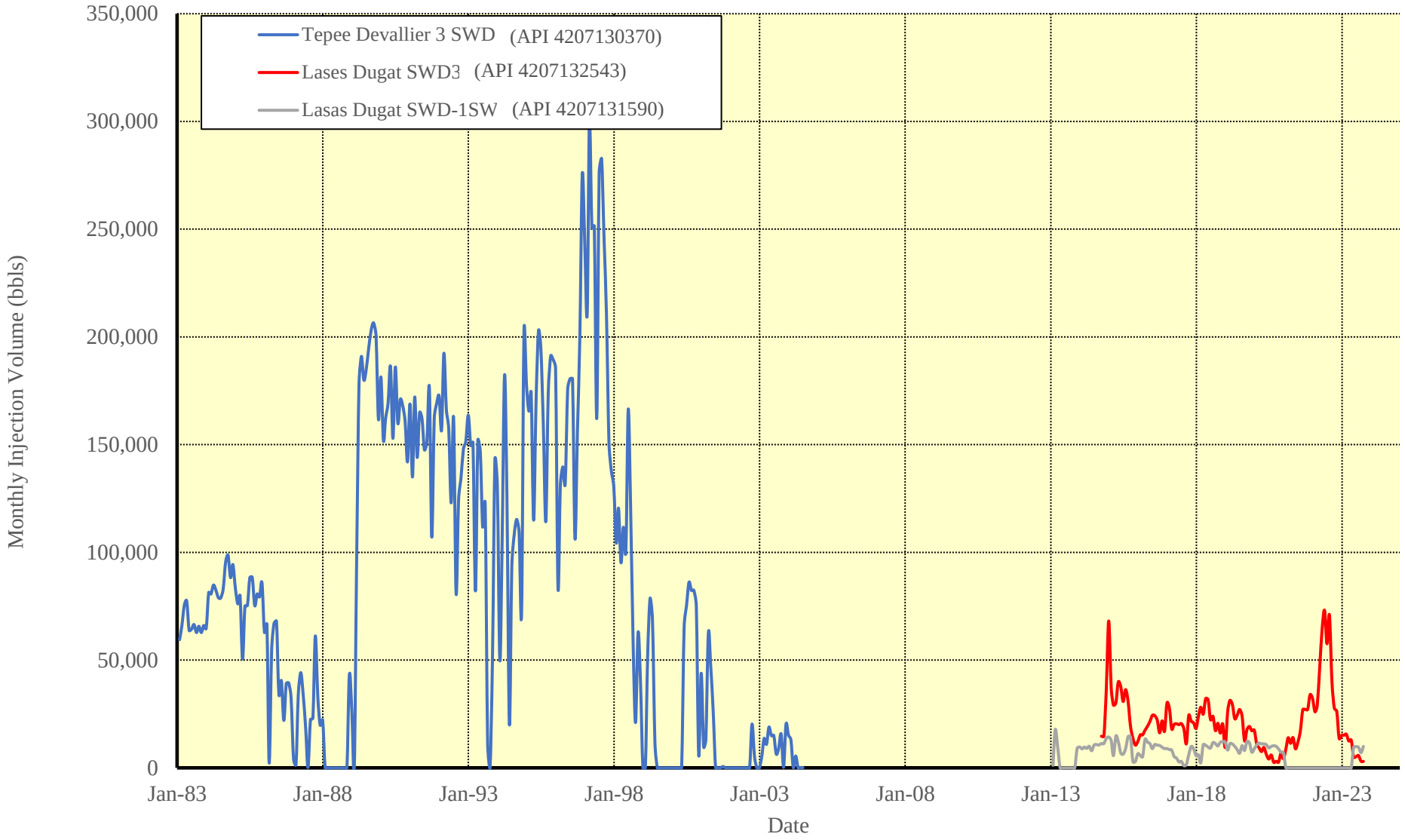

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Figure VII-22
Offset Class II injection volumes – barrels per month

CHAMBERS COUNTY, TEXAS

PROJECT INFO: 1POINTFIVE – BLUEBONNET PROJECT (CHAMBERS COUNTY TEXAS)		SCALE INFO: (IF APPLICABLE)	
DATE: Jan 2025	PROJECT NAME: 240069PWT	BY: GKS CHECK BY: OXY	SHEET 1 OF 1

Geostock Sandia

APPENDICES

Geostock Sandia

APPENDIX VII-1

DUPONT BASIC PLUME MODEL

Geostock Sandia

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1.0 GENERAL DESCRIPTION

The DuPont Basic Plume Model calculates the time-dependent lateral movement of waste plumes emanating from various wells at an injection site. Key features of the model were discussed by Miller et al. (1986).

2.0 MODEL STRUCTURE

The model is set up as a single layer calculation and neglects vertical exchange of fluids between geological strata. A separate calculation is therefore required for each layer into which waste is injected.

Many particle-tracking models of this type neglect the effects of non-uniformities within the injection formation on the distribution of the waste. Such non-uniformities are found to give rise to the phenomenon of macro-dispersion, which causes the leading edge of the waste plume to be jagged or diffuse (rather than vertical and sharp) and results in a greater effective lateral extent for the plume. The Basic Plume Model accounts for the effects of non-uniformities by means of a special technique, known as the "multiplying factor concept," introduced by Miller et al. (1986). This concept provides the basis for establishing an extreme outer perimeter beyond which none of the waste could have passed.

3.0 MODEL INPUTS

The model inputs are the set of parameters that must be supplied to the computer program to perform a site-specific calculation of waste transport within the injection stratum. In addition to identifying the required parameters, the present discussion considers the potential sources of this data and the sensitivity of the model results to variations in the inputs.

3.1 Well Locations

The geographical coordinates of all wells are specified using an X-Y coordinate system inscribed onto a map of the site locale. Data on the locations of the wells is readily available from historical records and maps of the plant vicinity. For a non-vertical wellbore, the borehole is projected downward to its intersection with the injection horizon.

The uncertainties associated with specifying the well locations are typically quite minimal and will have virtually no influence on the predicted advance of the waste plumes.

3.2 Geological Data

3.2.1 Average Injection Stratum Thickness

Average thickness of the injection stratum is determined by analyzing resistivity and spontaneous potential logs. Special geological surveys by experienced consultation organizations are often used as additional data sources.

The model predicts that the distance the waste front advances laterally is inversely proportional to the square root of the injection stratum thickness for the case of an isolated well in an unbounded isotropic medium.

3.2.2 Average Injection Stratum Porosity

The average porosity of the injection stratum is determined from core samples or regional geological studies of the area near the injection site. A large number of core samples is desirable to obtain a representative average.

The lateral advance of the waste front predicted by the model is inversely proportional to the square root of the porosity for the case of an isolated well in an unbounded isotropic medium. This is identical to the variation noted above with respect to the injection stratum thickness.

3.2.3 Location of Flow Barriers

The effects of barriers to fluid flow are accounted for explicitly in the model using the method of image wells (Freeze and Cherry, 1979). The model represents these features as vertical planar boundaries of infinite extent. Their location and orientation are supplied to the model by providing the lateral coordinates of any two points along the flow barrier. The model then calculates the appropriate locations of all image wells by applying a simple geometric formula. Information on the presence of flow barriers can be obtained from geological surveys of the site.

3.2.4 Multiplying Factor

The multiplying factor is used in the Basic Plume Model to compensate for the effects of dispersion associated with non-uniformities in the injection stratum and other geological uncertainties that may be present. It provides a basis for establishing a conservative outer boundary to the possible lateral extent of the waste, rather than predicting the exact waste location.

In practice, the multiplying factor functions as a scaling parameter that increases (mathematically) the injection rates input to the model at the various wells by a constant factor equal to or greater than 1. This results in a corresponding increase in the predicted lateral extent of the waste plumes, relative to the case of a perfectly homogeneous formation. The increased lateral movement simulates, on firm theoretical grounds, the enhanced transport that results from non-homogeneities. Thus, the multiplying factor concept enables a transport model that has been structured primarily as a tool for homogeneous porous media to be used to predict waste movement in a non-homogeneous geological system.

To account for the effects of vertically stratified permeability variations through the thickness of the injection formation, the multiplying factor is set equal to the ratio of the maximum horizontal permeability to the horizontal permeability averaged over the formation thickness. Values for these parameters can be obtained from core samples taken from the injection stratum during well drilling or from samples at neighboring wells. A large number of samples is desirable to obtain statistically significant estimates.

Use of the multiplying factor guarantees a margin of safety in the calculations, since the approach neglects the mitigating influence of both small-scale transverse dispersion and slow vertical flow, each of which acts to retard the lateral transport.

In calibrating the Basic Plume Model to actual field data, the multiplying factor is employed as the primary calibration parameter. Its value is adjusted to match the observed history of waste movement in the subsurface, as determined from encounters or nonencounters of waste at newly drilled wells at a site.

The predicted lateral advance of the waste front in the Basic Plume Model is proportional to the square root of the multiplying factor for the case of an isolated well in an unbounded medium.

3.3 Site Injection History

The waste injection history at each well must be specified as a function of time. If wells are operated such that only one horizon is perforated at any time, the flow into the injection stratum will be identical to the injection rate at the wellhead. For a well perforated into more than one horizon at a time, the total injection flow rate at the wellhead is known in advance, but not the partitioning of the flow between the perforated horizons. This partitioning can be calculated using the Multi-layer Pressure Model described in Appendix VII-2.

The well injection histories and the sequence of well completions are specified as functions of time for input to the Multi-layer Pressure Model. Injection history information is available from the site operating records. It can be provided on an average annual basis, or preferably, on an average monthly basis.

4.0 MODEL OUTPUTS

The model calculates the time-dependent motion of the front between the waste and formation fluid by predicting the movement of a set of fictitious tracer particles situated at the leading interface of each plume. The plume shapes can then be displayed graphically by joining the points along the plume boundaries.

5.0 ASSUMPTIONS, VALIDATIONS, AND MARGINS OF SAFETY

This section describes the key assumptions in the model and evaluates the particular site-specific conditions under which the assumptions are valid.

5.1 The Flow Is Incompressible

The effects of compressibility of the fluids and the porous medium are important in determining the pressure distribution in a broad geographic area surrounding an injection site, but not in determining the location of the waste. This is because the actual compression of materials that takes place locally is very small but is distributed over a large lateral area. The compression effect will amount to only a few tenths of a percent within the region occupied by the waste. Therefore, neglecting this compression must result in only a slight inaccuracy in the prediction of the waste location. Since the waste is compressed and the pores of the rock are expanded, the assumption will always lead to an underestimate in the lateral extent of the waste plume.

5.2 Seepage from the Injection Stratum into the Overlying and Underlying Aquitards Is Negligible

The adjacent aquitards are typically very low in permeability and will thus permit only a small amount of seepage to occur from the injection stratum. Moreover, this loss will result in a reduction in the lateral flow velocity and in the horizontal extent of the waste plume. Therefore, this assumption is conservative from the standpoint of bounding the waste movement.

5.3 Properties of the Injection Stratum do not Vary with Position

The model assumes that the thickness of the injection stratum does not vary horizontally, and that the permeability and porosity are constant with both horizontal and vertical position.

Horizontal variations in formation thickness and permeability can affect the lateral extent of waste transport. Large, sudden changes in these parameters can be included explicitly in the model calculations, using image well techniques, or through the use of the multiplying factor.

In geological formations such as those in the Gulf Coast region, permeability can vary greatly with vertical location through the thickness of the stratigraphic units. This permeability variation can result in an inter-fingering phenomenon at the leading edge of the waste plume and the enhancement of lateral transport, sometimes referred to as macro-dispersion. Using the

multiplying factor concept allows compensation for these effects and leads to an upper-bound estimate to the lateral movement of the waste.

5.4 Densities of the Waste and Formation Fluids Are Equal

Whenever the density of the injected waste differs from that of the native brine, there will be a tendency for natural convection effects to play a role in influencing the fluid flow velocities within the injection stratum. The injected fluid will be prone to either rise to the top of the formation or sink to the bottom, depending on whether it is more or less dense than the formation fluid. In addition, its leading edge will tend to move further horizontally than if the two fluids were of equal density, irrespective of which fluid is more dense.

Miller et al. (1986) assessed the magnitude of these effects. They showed that by applying an appropriately selected multiplying factor, the influence of density variations between the waste and formation fluids can be included within the context of the Basic Plume Model.

For those injection sites where the multiplying factor has been calibrated to the observed history of waste encounters and nonencounters at newly drilled wells, the value obtained will inherently include the effects of density differences between the waste and formation fluids.

5.5 The Fluid Viscosity Is Uniform within the Injection Stratum

Fluid viscosity within the injection stratum will typically vary by less than a factor of two between the waste viscosity in the region near the wells to the formation fluid viscosity at distances beyond the waste plumes. For a single-well injection site, these variations will have virtually no influence on the radial transport of waste (although the pressure distribution will be affected). For a multiple-well site, the effects can normally be neglected. However, if viscosity variations are much larger than a factor of two at a multiple-well site, appropriate compensation should be included in transport calculations. This can be accomplished by judicious choice of the multiplying factor in the Basic Plume Model.

5.6 The Injection Stratum Is Fully Perforated

Most injection wells are not perforated over the full height of the injection interval. The effects of partial perforation will typically be manifested as a localized phenomenon, confined to the horizontal region within a few formation heights of each individual well. The presence of partial perforation at one well will normally not significantly influence the transport at adjacent wells.

The distance waste travels laterally can be expected to be slightly enhanced as a result of partial perforation, but the effect can be neglected. For a homogeneous isotropic injection stratum, one can show that the lateral advance of the waste plume will never exceed that obtained with a fully perforated interval by more than one-fourth the formation height. This maximum enhancement will occur at a lateral distance of about half a formation height away from the injection well. At larger distances from the well, the waste front will tend to become "self-sharpening," and revert to a more nearly vertical configuration. Thus, the enhancement resulting from partial perforation will decrease with increasing distance from the well.

If the injection formation is anisotropic, so that the permeability in the vertical direction is considerably smaller than the permeability in the horizontal [for example, in a formation exhibiting "layered anisotropy" (Freeze and Cherry, 1979)], the enhanced lateral transport produced by partial perforation will be greater than that described above in the case of an isotropic system. For this situation, one can show that the increased lateral transport will never exceed one-fourth the formation height multiplied by the square root of the ratio of the horizontal to the vertical permeability. Even for a permeability ratio of 10, this will amount to an increased lateral advance of only about three-fourths of a formation height.

6.0 FORMULATION AND SOLUTION

This section presents the formulation and solution of the Basic Plume Model. Attention is focused first on the case of a purely homogeneous geological formation, which produces an ideal vertical waste front. Second, the effects of non-uniformities and hydrodynamic dispersion are considered. Finally, some novel numerical techniques are presented which overcome certain computational problems frequently arising in calculations of this type.

6.1 Ideal Sharp Vertical Waste Front

In a purely homogeneous geological formation, the interface between the waste and formation fluid will advance laterally as a sharp vertical front. This front will take the shape of a right circular cylinder for the case of a single isolated well. The diameter of the circle will be determined strictly by geometric considerations, involving the total volume of the injected waste, and the height and porosity of the formation. Such a plume is referred to as an ideal circular waste plume.

For multiple-well injection sites, methods of analyzing waste transport in purely homogeneous geological formations have been available for many decades, based on work in the petroleum field (Collins, 1961). The Basic Plume Model is therefore not a new development, but closely parallels the standard approach recommended by others (Collins, 1961; Javandel et al., 1984).

The standard approach involves a two-part process. First, determine lateral velocity distribution within the injection formation at any time using solutions provided by potential flow theory. Second, integrate the time-dependent kinematic equations relating the calculated velocity distribution to the motion of the interfacial front between the waste and formation fluid.

The first step takes advantage of the well-known mathematical analogy between fluid flow in porous media and ideal potential flow of inviscid fluids. This mathematical analogy permits the determination of the velocity distribution in an injection formation directly from the previously established solution to the same problem in potential flow theory.

For waste injection at a multiple-well site, Javandel et al. (1984) gave the following potential flow expressions for the lateral components of fluid velocity in an injection formation.

$$V_x = \frac{1}{2\pi\phi b} \sum_{i=1}^{N} \frac{Q_i (x - x_i)}{(x - x_i)^2 + (y - y_i)^2} \quad (1)$$

$$Vy = \frac{1}{2\pi\phi b} \sum_{i=1}^{N} \frac{Q_i (y - y_i)}{(x - x_i)^2 + (y - y_i)^2} \quad (2)$$

Where:

v_x and v_y	=	Lateral pore velocities in the x and y horizontal coordinate directions
Qi	=	Instantaneous injection rate at time t at well i
x_i and y_i	=	Coordinates of well i
b	=	Height of the injection formation
ϕ	=	Porosity
N	=	Total number of injection wells

Equations 1 and 2 implicitly include the use of linear spatial superposition principles to generate the velocity distribution for multiple injection wells from the simpler pure radial velocity distribution for a single isolated well.

The second part of the modeling process involves the use of the velocities determined by Equations 1 and 2 to calculate the time-dependent motion of the front between the waste and formation fluid. This is accomplished mathematically by introducing a set of fictitious tracer particles around the circumference of each plume, and calculating the trajectory of these particles as time progresses (see Figure 1). A separate set of tracer particles is employed for each plume. Because the model automatically conserves mass, these tracer particles remain situated on the outer perimeter of the plume for all times.

The kinematic equations for calculating the time-dependent motions of the tracer particles are given by

$$\frac{dX_k}{dt} = v_x (x_k, y_k) \quad (3)$$

$$\frac{dY_k}{dt} = v_y (x_k, y_k) \quad (4)$$

Where:

X_k and Y_k	=	The horizontal spatial coordinates of a fictitious tracer particle k (k = 1....M, where M is the total number of particles around the circumference of the plume) at time t.

Substitution of Equations 1 and 2 into Equations 3 and 4 leads to a pair of coupled first order ordinary differential equations for the horizontal spatial coordinates X_k and Y_k of each tracer particle as parametric functions of time. The model integrates these equations numerically for all of the particles along the boundaries of all the plumes using a commercially available non-stiff ordinary differential equation routine. This determines the location of the particles around the circumference of each plume at any time t. The shape of the plume can then be displayed graphically by connecting the points.

6.2 Effects of Non-uniformities and Hydrodynamic Dispersion

The degree of hydrodynamic dispersion occurring in field-scale transport experiments has frequently been observed to be much greater than that measured in homogeneous porous media under laboratory conditions.[1] The cause of this phenomenon has been associated with the existence of significant heterogeneous variations in material properties within the underground geological formations, particularly of permeability.

Another important phenomenon that has been noted in the field is the dependence of the effective longitudinal dispersivity parameter (dispersivity in the direction of fluid movement) on the scale of measurement.[2] The observed dispersivity has been found to increase monotonically with distance between the injection source and the measurement receptor. This observation is inconsistent with the usual theoretical assumption employed in many transport models (Intercomp, 1976), namely, that the dispersivity is a constant.

A number of recent publications have provided greater insight into these dispersion phenomena and have reconciled many of the apparent inconsistencies.[3] By focusing attention on purely stratified geological formations in which the permeability varies strongly with vertical position but not with location laterally, these studies were able to show that at relatively small distances from the injection source, the transport behavior is dominated by advection rather than dispersion. The advection referred to here includes the effects of the vertical permeability variations which give rise to corresponding variations in the lateral velocity profile (Figure 2). These velocity variations cause a highly interfingered boundary to develop between the injected fluid and the native liquid.

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1 Guven et al., 1984; Fried and Combarnous, 1971; Pickens and Grisak, 1981a and 1981b.

2 Guven et al., 1984 and 1985; Anderson, 1979 and 1984; Molz et al., 1983; Domenico and Robbins, 1984; and Gillham et al., 1985; Mercado, 1984.

3 Guven et al., 1984 and 1985; Molz et al., 1983; Matheron and De Marsily, 1980; Lake and Hirasaki, 1981.

When samples are then taken at a collection receptor, the time-dependent concentration variations observed are incorrectly interpreted as being caused by dispersion. In reality, they are caused by the effects of the *advective interfingering*, combined with the vertical mixing that takes place during the sampling process. The effective field-scale *pseudo-dispersivity* (sometimes called *macro-dispersivity*) deduced from this type of test is typically much larger than the dispersivity measured for homogeneous core samples in the laboratory. In the region dominated by advective interfingering, the pseudo-dispersivity determined in the field will be scale-dependent and will increase with increasing distance between the tracer source and the collection receptor.

At larger lateral distances between the source and receptor, a second transport mechanism begins to take effect (Figure 3). This mechanism is *small-scale transverse dispersion*, perpendicular to the advective concentration fingers (in the vertical direction normal to the motion). Note that until the concentration fingers have formed, this second mechanism cannot occur since the driving force for transverse dispersion is a concentration gradient in the vertical direction. The transverse dispersion mechanism acts in opposition to the advective interfingering effect by allowing solutes to transfer from the faster moving layers to the slower moving layers (fingers) and vice versa. The net effect is to reduce the rate at which the pseudo-dispersivity increases with the increasing scale of measurement, and thus the value of the pseudo-dispersivity attained at any location.

At very large lateral distances between an injection source and a measurement receptor, the interaction between the two opposing transport mechanisms approaches an equilibrium. This causes the longitudinal macro-dispersivity to no longer increase with increasing scale of measurement, and to attain a final constant field scale value. On this scale, the concentration variations at the front between the injected fluid and the native liquid will resemble the variations caused by ordinary dispersion, rather than advection. The concentration fingers will have largely vanished.

The combination of an advective velocity variation normal to the direction of motion and small-scale transverse dispersion typically manifests itself as an apparent longitudinal dispersion phenomenon. This is analogous to the effective longitudinal dispersion behavior investigated by G. I. Taylor (1953, 1954) for flow in a tube. The effect is often referred to as “Taylor dispersion.”

The implications of these findings on the lateral transport of waste in underground injection systems can be very significant. Large non-uniformities in properties within the injection

stratum (mainly non-uniform permeability) can lead to a high degree of macro-dispersion at the front between the waste and the native brine. Such non-uniformities can be broken down into two broad categories - horizontal and vertical.

A variety of different forms of horizontal variation can occur, but two of the most common are:

1. Gradual changes in permeability, and
2. Sudden changes, such as a flow barrier.

If a sudden change is known to exist, its effects can be modeled directly using image well methods as previously discussed. Gradual trends have less of an influence on waste transport but are more difficult to model precisely. However, one can obtain a worst-case estimate of their effects simply by approximating these variations as equivalent sudden changes. Other types of horizontal variations that may be present can be handled through the use of the multiplying factor to provide a margin of safety in predicting an upper bound to the maximum lateral extent of the waste.

In the Gulf Coast region, the permeability may vary strongly with vertical position through the thickness of the geological formations (Figure 4). Moreover, these vertical variations appear to persist over large lateral distances. In such a system, the interface between the waste and the native brine will no longer be perfectly flat and vertical as in the ideal case of a homogeneous porous medium. Instead, it will assume a highly interfingered shape in which the advective transport mechanisms discussed previously are at work. Neglecting the mitigating influence of the small-scale transverse dispersion mechanism in limiting the horizontal extent of waste provides a conservative worst-case estimate of the lateral waste transport.

The quantitative implications of this permeability distribution are illustrated schematically in Figure 5 for the simple case of rectilinear flow. In the system shown, horizontal flow takes place within a slab of porous matrix of finite extent consisting of a series of discrete layers, each with a different permeability. The flow is driven by an applied pressure difference between the two ends of the slab. This system is analogous to an electric circuit consisting of a set of unequal resistors connected in parallel across a constant potential. The fluid flow will distribute itself among the different layers such that highest flow rates will be obtained in the layers of least resistance (highest permeability). This results in a velocity distribution across the slab that directly reflects the permeability variation:

$$\frac{v(z)}{\bar{v}} = \frac{k(z)}{\bar{k}} \tag{5}$$

Where $\bar{v}$ and $\bar{k}$ are the horizontal velocity and permeability averaged over the thickness of the slab, and v(z) and k(z) are the local values at vertical position z.

According to Equation 5, velocity variations are determined not by the magnitude of the permeability, but by the variations in permeability relative to the average. This represents an important difference between a model used for calculating transport in a stratified geological system (such as the present Basic Plume Model) and a model used for calculating the pressure distribution (such as the Multi-layer Pressure Model), in which the response is determined primarily by the vertically-averaged permeability.

The results expressed in Equation 5 are valid, not just for the simple case of rectilinear flow, but for all geological arrangements in which permeability varies solely with vertical position through the formation. Therefore, these results can be applied directly to predict waste transport within any vertically-stratified multiple-well injection system. For example, to calculate the location of the interface between the waste and native brine in the fastest moving layer of waste, the average velocities determined in the Basic Plume Model are simply multiplied by the ratio of the maximum layer permeability to the vertically-averaged permeability. This is done most conveniently by scaling the injection rates input to all the wells in the model by this same ratio. Since the equations for the velocities are linear in the injection rates (see Equations 1 and 2), the procedure will automatically deliver the required velocity distribution for the fastest moving layer. When the model is run with this modification to the input data, it will output the time-dependent advance of the fastest moving layer of waste. Of course, only a small fraction of the total waste will actually travel this far.

6.3 Improved Numerical Procedures

A numerical difficulty sometimes experienced with “particle tracking” models like the Basic Plume Model is related to the tangential motion of the fictitious tracer particles along the boundary between the waste and formation brine. Although the particles are initially placed uniformly around the plume perimeter, they will tend to slide along the interface and accumulate in a limited portion of the front as the solution evolves. This leaves the coverage in some parts of the perimeter very sparse and causes a loss of resolution in displaying the plume boundary graphically. There is no loss of accuracy in the solution, only in the graphical display. This difficulty arises when two injection wells are situated relatively close to one another, so that the

tracer particles in the "stagnation zone" between the wells are driven out of the region and forced toward the opposite sides of the plumes.

A novel approach has been developed in the Basic Plume Model to overcome these difficulties. This approach automatically requires that the tracer particles remain uniformly spaced around the perimeter of the plume for all times.

The new technique recognizes that the velocity of any tracer particle on the plume boundary can be resolved into two components, one perpendicular to the boundary and one tangential. Only the component perpendicular to the boundary is actually responsible for the observed advance of the plume. The tangential component merely causes the particles to slide along the perimeter like rings on a shower rod. Therefore, the tangential velocity components of the particles can be modified in any arbitrary manner without affecting the predicted shape and movement of the plume boundary. This forms the basis for the new computational approach to achieving high display resolution on the perimeter shape.

The objective of this derivation is to identify a modified velocity distribution (along the boundary of the plumes) capable of correctly predicting the time-dependent evolution of the boundary shapes, while continually maintaining the tracer particles at a uniform spacing around the perimeter. This is accomplished by defining a modified velocity variation $\underline{V}$ (underbars are used here to denote vectors) in the following form:

$$\underline{V} = \underline{v} + v^* \underline{\tau} \tag{6}$$

Where:

$\underline{v}$	=	Actual velocity of fluid movement determined from Equations 1 and 2
$\underline{\tau}$	=	Unit tangent vector to the plume boundary at each location
v^*	=	Magnitude of an as yet undetermined alteration mathematically imposed on the tangential velocity

From the previous discussion it follows that if all the fictitious tracer particles move with this modified velocity variation, they will automatically remain situated on the plume boundary for all times and properly trace out the time-dependent motion of the perimeter. The problem then reduces to one of determining the variation in altered tangential velocity parameter v* such that the spacing between the particles always remains uniform.

Assume that at time zero, when a well first begins injecting waste, particles are placed uniformly around the circumference of the injection well. Let θ denote the initial angular location of each particle with respect to the x coordinate direction. In the present development the parameter θ shall be used as a particle label or material coordinate to help keep track of the trajectories of the individual particles as they pass through space. The spatial coordinates of any particle X and Y can be expressed parametrically as a function of the initial angle θ and time t as follows:

$$X = X(\theta, t)$$

$$Y = Y(\theta, t)$$

Next, denote dl as the differential arc length between two neighboring tracer particles along the plume boundary at time t. The material coordinates of the two tracer particles are q and q + dθ, and the length of the differential arc is given by:

$$dl = \sqrt{(X')^2 + (Y')^2}\, d\theta \tag{7}$$

Where:

$$X' = \frac{\partial X(\theta, t)}{\partial \theta} \tag{8}$$

And:

$$Y' = \frac{\partial Y(\theta, t)}{\partial \theta} \tag{9}$$

The rate at which this arc is growing in length (stretching) with respect to time is obtained by taking the time derivative of Equation 7. This yields:

$$\frac{dl}{dt} = \frac{X'V'_x + Y'V'_y}{\sqrt{\left((X')^2 + (Y')^2\right)}}\, d\theta \tag{10}$$

Where V_x and V_y are the components of the modified velocity vector $\underline{V}$ defined in Equation 6, and where use has been made here of the fundamental kinematic conditions that:

$$V_x = \frac{\partial X(\theta, t)}{\partial t}$$

And:

$$V_y = \frac{\partial Y(\theta, t)}{\partial t}$$

The rate of stretching of the entire circumference of the plume, denoted C, is obtained by adding together the contributions of the individual differential elements of arc to yield:

$$\frac{dC}{dt} = \int_0^{2\pi} \frac{X'V'_x + Y'V'_y}{\sqrt{(X')^2 + (Y')^2}} d\theta \tag{11}$$

In order for the tracer particles to remain uniformly distributed around the circumference, the local rate of stretching of the differential arc length at any arbitrary location along the plume perimeter (per unit initial angle dθ) must match the average stretch rate existing over the entire circumference.

This requires that:

$$\frac{X'V'_x + Y'V'_y}{\sqrt{(X')^2 + (Y')^2}} = \frac{1}{2\pi} \int_0^{2\pi} \frac{X'V'_x + Y'V'_y}{\sqrt{(X')^2 + (Y')^2}} d\theta \tag{12}$$

If Equation 6 for the modified velocity variation $\underline{V}$ is next expressed in component form, one obtains:

$$V_x = v_x \frac{v^* X'}{\sqrt{(X')^2 + (Y')^2}} \tag{13}$$

$$V_y = v_y \frac{v^* Y'}{\sqrt{(X')^2 + (Y')^2}} \tag{14}$$

Where use has been made here of the fact that the components of the unit tangent vector $\underline{\tau}$ are given by:

$$\tau_x = \frac{X'}{\sqrt{(X')^2 + (Y')^2}}$$

$$\tau_y = \frac{Y'}{\sqrt{(X')^2 + (Y')^2}}$$

Substituting Equations 13 and 14 into Equation 12, and performing some straightforward mathematical manipulations yields:

$$\frac{dv^*}{d\theta} = \frac{1}{2\pi} \int_0^{2\pi} \frac{X' v'_x + Y' v'_y}{\sqrt{\left((X')^2 + (Y')^2\right)}} d\theta - \frac{X' v'_x + Y' v'_y}{\sqrt{\left((X')^2 + (Y')^2\right)}} \qquad (15)$$

Equation 15 provides the desired relationship for determining alterations to the tangential velocity along the plume v* required for the tracer particles to remain uniformly spaced at all times. It expresses this velocity alteration in terms of the actual fluid velocity components v_x and v_y, and the local spatial derivatives of the plume shape. This velocity variation is not unique, since Equation 15 gives only the derivative of v*, rather than v* itself. As a result, the tangential velocity change is determined only up to an arbitrary constant of integration (v* at $\theta = 0$).

The required condition of equal spacing for the tracer particles will always be satisfied using Equation 15, irrespective of the choice for the integration constant. However, the average speed at which the equally spaced tracer particles move around the plume boundary will depend on the value selected. To establish uniqueness, it is reasonable to require that this average tangential speed be set equal to zero. This will prevent the particles from moving around the circumference of the plume like cars on a race track.

The average tangential speed will equal zero whenever the following condition is satisfied:

$$\int_0^{2\pi} \left(V_x X' + V_y Y'\right) d\theta = 0 \qquad (16)$$

If Equations 13 and 14 for the components of the modified velocity vector V are substituted into Equation 16, one obtains:

$$\int_0^{2\pi} v^* \sqrt{(X')^2 + (Y')^2}\, d\theta = 0 \tag{17}$$

Where use has been made here of the condition that for potential flow, the integral in Equation 16 is identically zero (the flow is irrotational).

Equations 15 and 17 provide the required relationships in the Basic Plume Model for uniquely determining the tangential velocity parameter v*. Equation 17 is equivalent to specification of the constant of integration in Equation 15, or equivalently, the initial v* value at θ = 0.

Both Equation 15 and Equation 17 can be simplified somewhat by recognizing that, since the tracer particles remain equally spaced around the plume boundaries at all times, the quantity

$$\sqrt{(X')^2 + (Y')^2}$$

will be a constant, independent of location on the perimeter (independent of θ). Therefore, this radical can be factored out of the integrals in Equations 15 and 17, to yield:

$$C\frac{dv^*}{d\theta} = \int_0^{2\pi} \left(X'v'_x + Y'v'_y\right) d\theta - 2\pi\left(X'v'_x + Y'v'_y\right) \tag{18}$$

$$\int_0^{2\pi} v^* d\theta = 0 \tag{19}$$

Where C is the circumference of the plume, defined as:

$$C = \int_0^{2\pi} \sqrt{(X')^2 + (Y')^2}\, d\theta \tag{20}$$

Similarly, Equations 13 and 14 become:

$$V_x = v_x + \frac{2\pi v^* X'}{C} \tag{21}$$

$$V_y = v_y + \frac{2\pi v * Y'}{C} \tag{22}$$

Equations 18 through 22 are the relationships employed in the Basic Plume Model to obtain a uniform distribution of tracer particles and correspondingly high plotting resolution on the plume shapes.

7.0 VERIFICATION

The computer program used to solve model equations has been verified against a variety of analytic and numerical solutions in the literature and by independent numerical tests to guarantee that it delivers correct and accurate results.

The single-well capabilities of the model were first compared with the analytic solution to the case of a homogeneous isotropic injection stratum. This analytical solution is given by the well-known equation:

$$r = \sqrt{\frac{V}{\pi \phi b}} \tag{23}$$

Where r is the radial distance from the well to the leading edge of the waste plume at any time, and V is the total volume of waste injected. The numerical model accurately duplicated this result to within 0.01 percent in all cases tested, irrespective of the injection rate history imposed.

To evaluate the ability of the computer program to accurately describe the behavior of multiple-well injection sites, calculations were performed on a system featuring two wells - an injection well and a nearby withdrawal well. The objective of the calculation was to predict the time-dependent movement of a waste front away from the injection well, and the time for the waste plume to exhibit "break-through" at the withdrawal well. This system was solved analytically by Muskat (1946), and numerically by Collins (1961) and Javandel et al. (1984). Collins considered the general case, in which the variables are expressed in dimensionless form, while Javandel et al. performed calculations for a specific field example. Muskat derived the following analytical expression for calculating the time at break-through:

$$t = \frac{\pi \phi d^2 b}{3Q} \tag{24}$$

Where d is the distance between the wells and Q is the injection rate.

The specific field arrangement analyzed by Javandel et al. (1984) is shown in Figure 6. They assumed an injection rate of 50 m^3/h at Well A, and an equal withdrawal rate at Well B. The height of the formation was 10 m, and the porosity was 25 percent ($\theta = 0.25$). Figure 7 shows a comparison between the results obtained by Javandel et al. (1984) and those from the Basic Plume Model. The agreement is excellent. The calculated break-through time using the Basic

Plume Model was 4.30 years, which is identical to the value obtained by Javandel et al. (1984) and virtually indistinguishable from the analytic result.

The novel numerical technique developed for obtaining high plotting resolution on the shape of the waste plumes was tested by comparing results obtained with this procedure for complex multiple-well injection sites against corresponding calculations carried out using the standard approach. In all cases, the plots were superimposable. The new approach, however, provided much higher resolution in the critical regions near stagnation points.

Another test of the new high resolution version of the Basic Plume Model was to compare the calculated shapes of waste plumes for wells located adjacent to one another. The new numerical technique calculates each waste plume separately and uses the spatial derivatives of the individual boundary shapes over all positions on the plume perimeters to determine the motions of the tracer particles. In those specific cases where virtually all the formation fluid is squeezed out from between the plumes, the shapes of the plume boundaries should closely match one another. This condition has been found to prevail in all situations tested, to such an extent that the plumes fit together like pieces of a jigsaw puzzle.

REFERENCES

Anderson, M. P., 1979. Using Models to Simulate the Movements of Contaminants Through Groundwater Flow Systems, Crit. Rev. Environ. Contr., Vol. 9, pp. 97-156.

Anderson, M. P., 1984. Movement of Contaminants in Groundwater: Groundwater Transport Advection and Dispersion, in Groundwater Contamination, pp. 37-45, National Academy Press, Washington, DC.

Collins, R. E., 1961. Flow of Fluids Through Porous Media, Reinhold, New York.

Domenico, P. A., and G. A. Robbins, 1984. A Dispersion Scale Effect in Model Calibrations and Field Tracer Experiments, J. Hydrol., Vol. 70, pp. 123-132.

Freeze, R. A., and J. A. Cherry, 1979. Groundwater, Prentice-Hall, Englewood Cliffs, New Jersey.

Fried, J. J., and M. A. Combarnous, 1971. Dispersion in Porous Media, edited by V. T. Chow, in Advances in Hydroscience, Vol. 9, pp. 169-282, Acamemic, New York.

Gillham, R. W., E. A. Sudicky, J. A. Cherry, and E. O. Frind, 1984. An Advection-diffusion Concept for Solute Transport in Heterogeneous Unconsolidated Geological Deposits, Water Resources Res., Vol. 21, No. 3, pp. 369-378.

Guven, O., F. J. Molz, and J. G. Melville, 1984. An Analysis of Dispersion in a Stratified Aquifer, Water Resources Res., Vol. 20, No. 10, pp. 1337-1354.

Guven, O., R. W. Falta, F. J. Molz, and J. G. Melville, 1985. Analysis and Interpretation of Single-well Tracer Tests in Stratified Aquifers, Water Resources Res., Vol. 21, No. 5, pp. 676-684.

Intercomp Resource Development and Engineering, Inc., 1976. A Model for Calculating Effects of Liquid Waste Disposal in Deep Saline Aquifers . . . Part I-Development, and Part II-Documentation, prepared for United States Geological Survey (USGS), USGS/WRD/WRI-76-056.

Javandel, I., C. Doughty, and C. F. Tsang, 1984. Ground Water Transport: Handbook of Mathematical Models, American Geophysical Union, Washington, DC.

Lake, L. W., and G. J. Hirasaki, 1981. Taylor's Dispersion in Stratified Porous Media, SPE Journal, Vol. 21, No. 4, pp. 459-468.

Matheron, G., and G. De Marsily, 1980. Is Transport in Porous Media Always Diffusive? A Counterexample, Water Resources Res., Vol. 16, No. 5, pp. 901-917.

Mercado, A., 1984. A Note on Micro and Macro-dispersion, Ground Water, Vol. 22, pp. 790-791.

REFERENCES (CONTINUED)

Miller, C., T., A. Fischer II, J. E. Clark, W. M. Porter, C. H. Hales, and J. R. Tilton. 1986. Flow and Containment of Injected Wastes, Groundwater Monitoring Review, Vol. 6, No. 3, pp. 37-48, 1986; in Proceedings of International Symposium on Subsurface Injection of Liquid Wastes, March 3 - 5, 1986, New Orleans, Louisiana, pp. 520-559.

Molz, F. J., O. Guven, and J. G. Melville, 1983. An Examination of Scale-dependent Dispersion Coefficients, Ground Water, Vol. 21, No. 6, pp. 715-725.

Muskat, M., 1946. The Flow of Homogeneous Fluids Through Porous Media, J. W. Edwards, Ann Arbor.

Pickens, J. F., and G. E. Grisak, 1981a. Modeling of Scale-dependent Dispersion in Hydrogeologic Systems, Water Resources Res., Vol. 17, No. 6, pp. 1701-1711.

Pickens, J. F., and G. E. Grisak, 1981b. Scale-dependent Dispersion in a Stratified Granular Aquifer, Water Resources Res., Vol. 17, No. 4, pp. 1191-1211.

Taylor, G. I., 1953. Dispersion of Soluble Matter in Solvent Flowing Slowly through a Tube, Prod. Roy. Soc. London, Ser. A, Vol. 219, pp. 186-203.

Taylor, G. I., 1954. Conditions Under Which Dispersion of a Solute in a Stream of Solvent can be used to Measure Molecular Diffusion, Proc. Roy. Soc. London, Ser. A, Vol. 225, pp. 473-477.

FIGURES

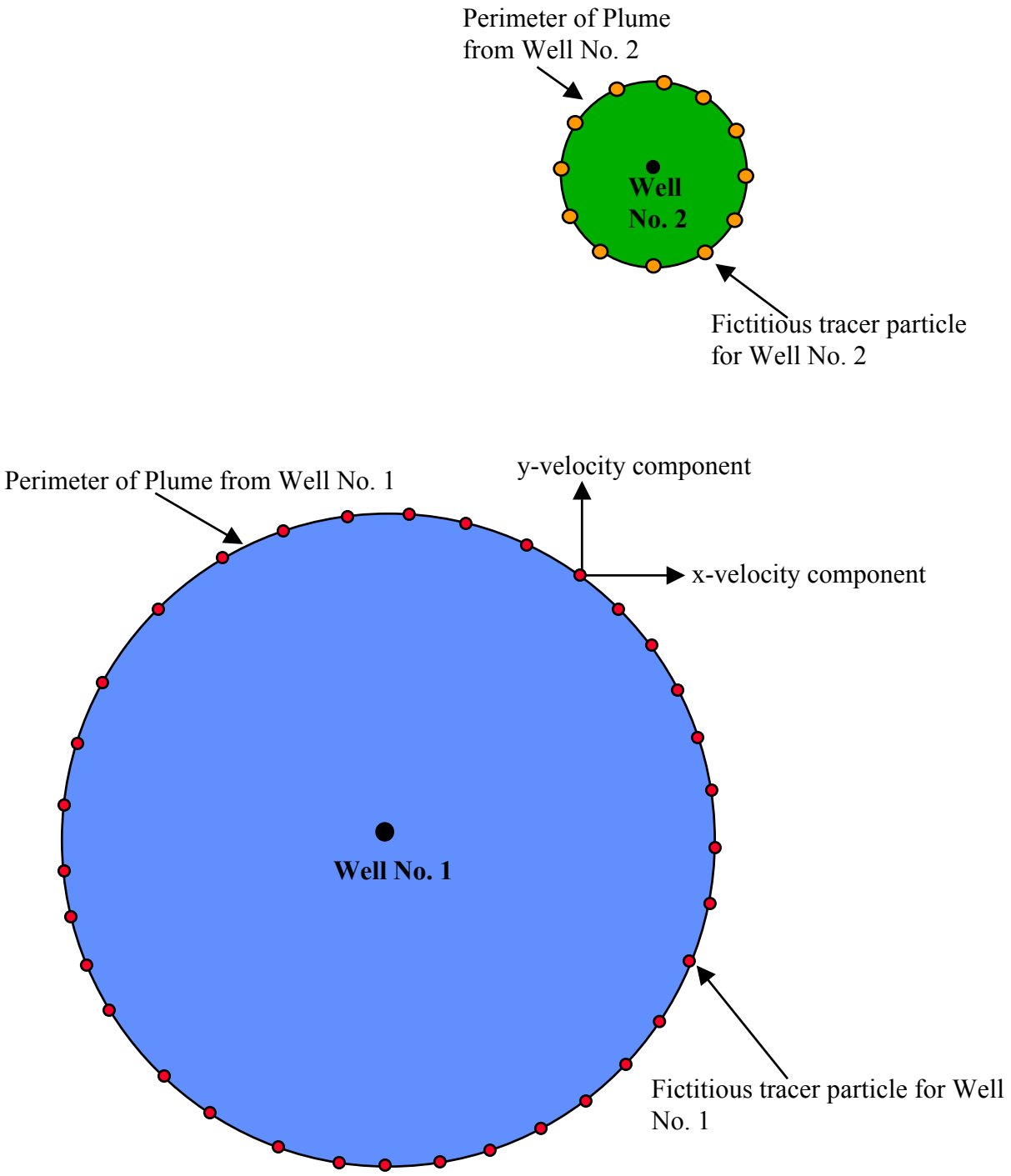

Figure 1
Model Calculation of Fictitious Tracer Particles Around the Perimeters of the Waste Plumes

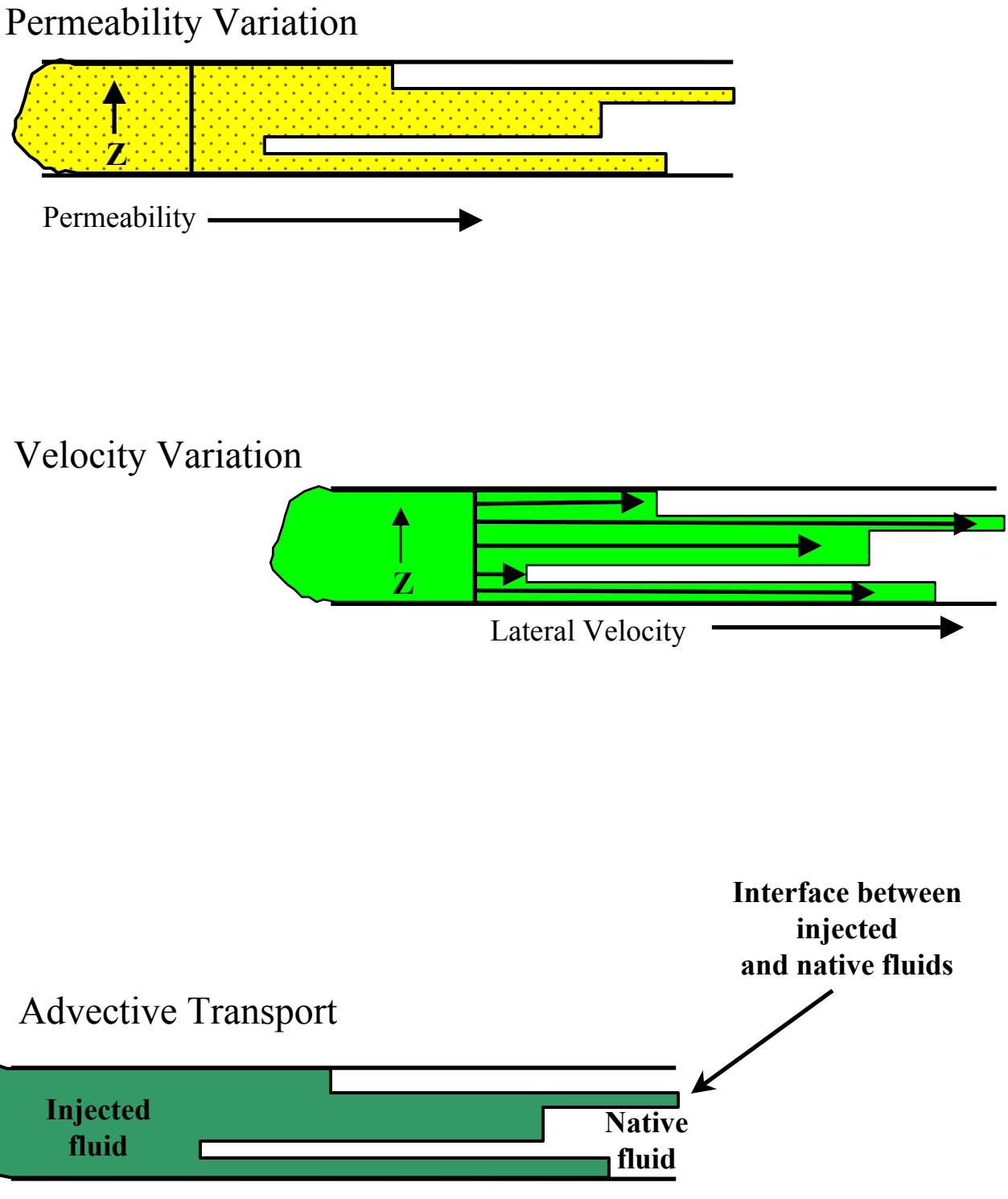

Figure 2
Effect of Stratified Permeability Variations on Lateral Transport

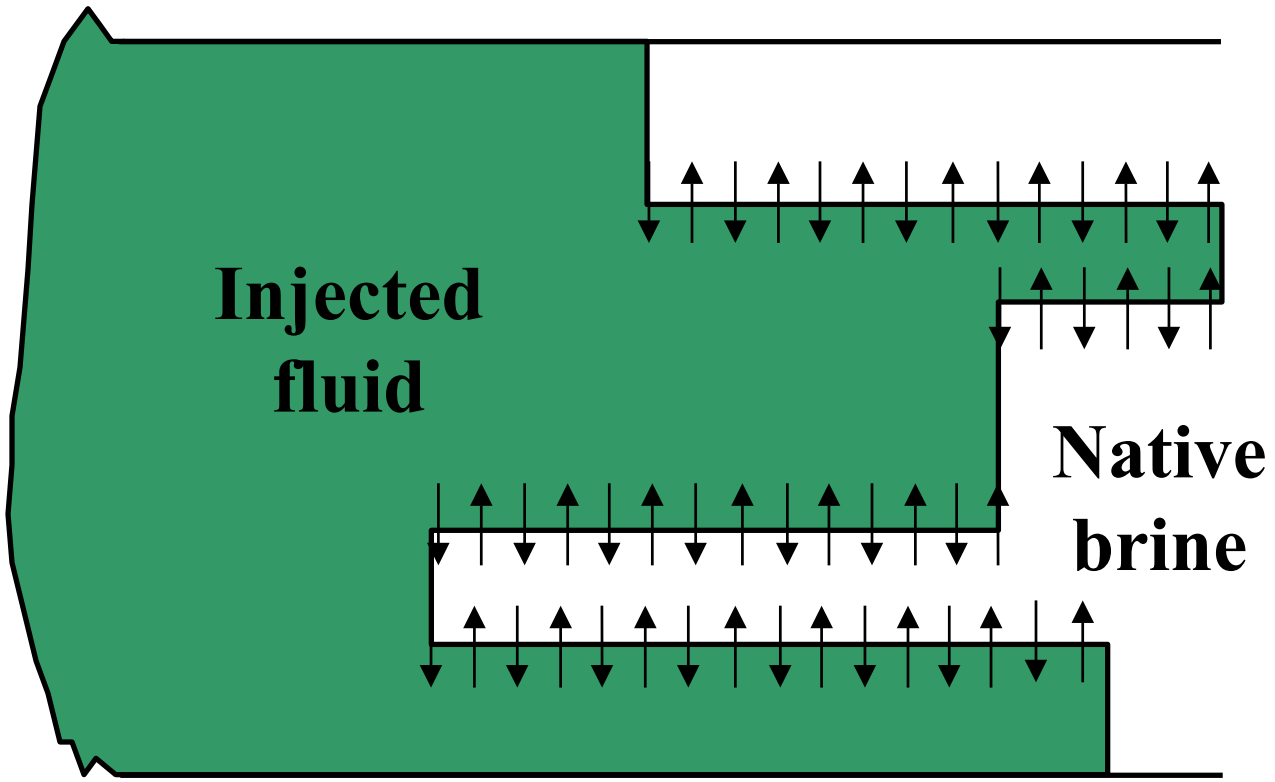

Figure 3
Small-scale Transverse Dispersion Perpendicular to Concentration Fingers

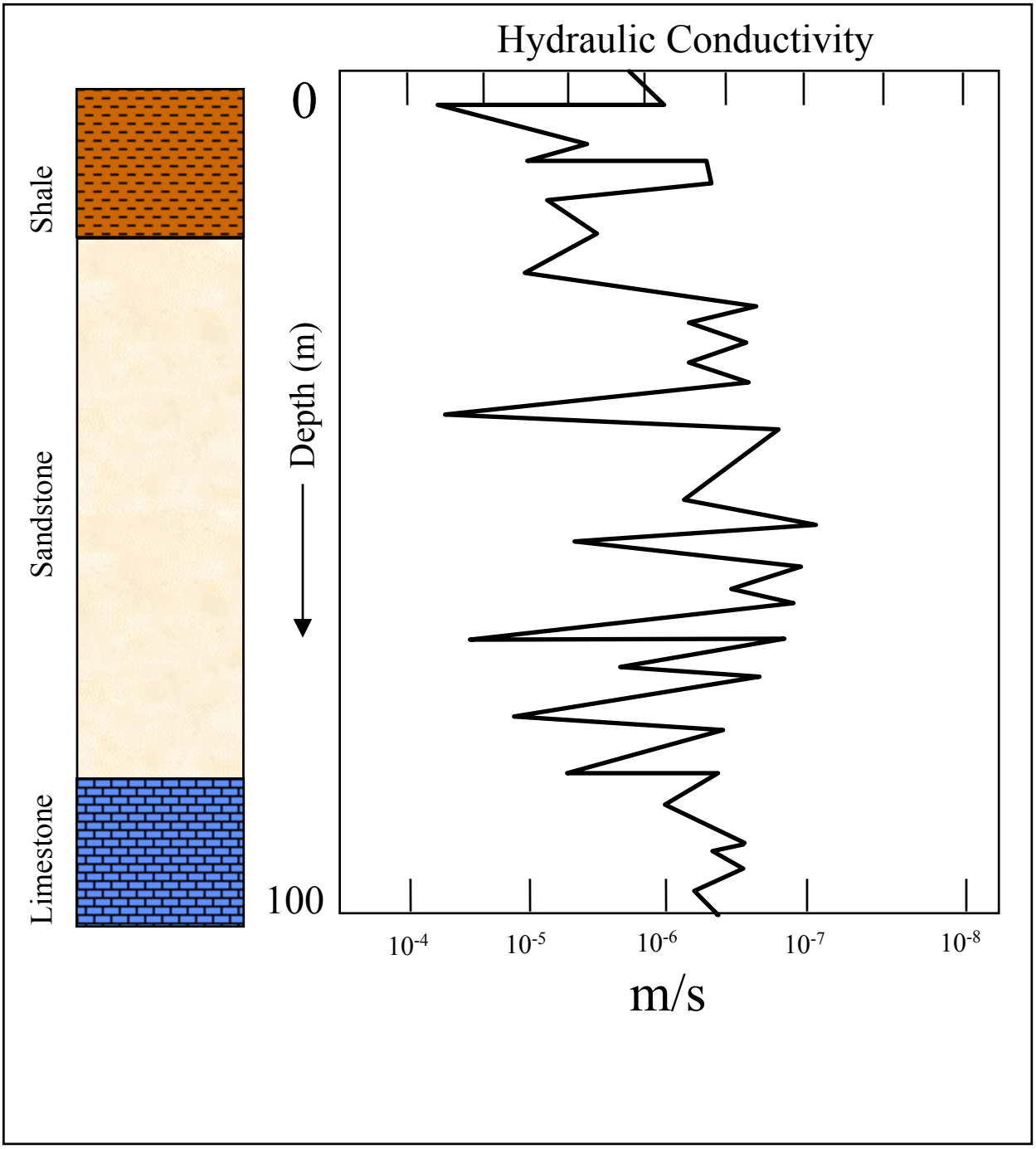

Figure 4
Typical Permeability Variation through the Thickness of a Geological Formation (Freeze and Cherry, 1979). Permeability is Expressed in Terms of Hydraulic Conductivity

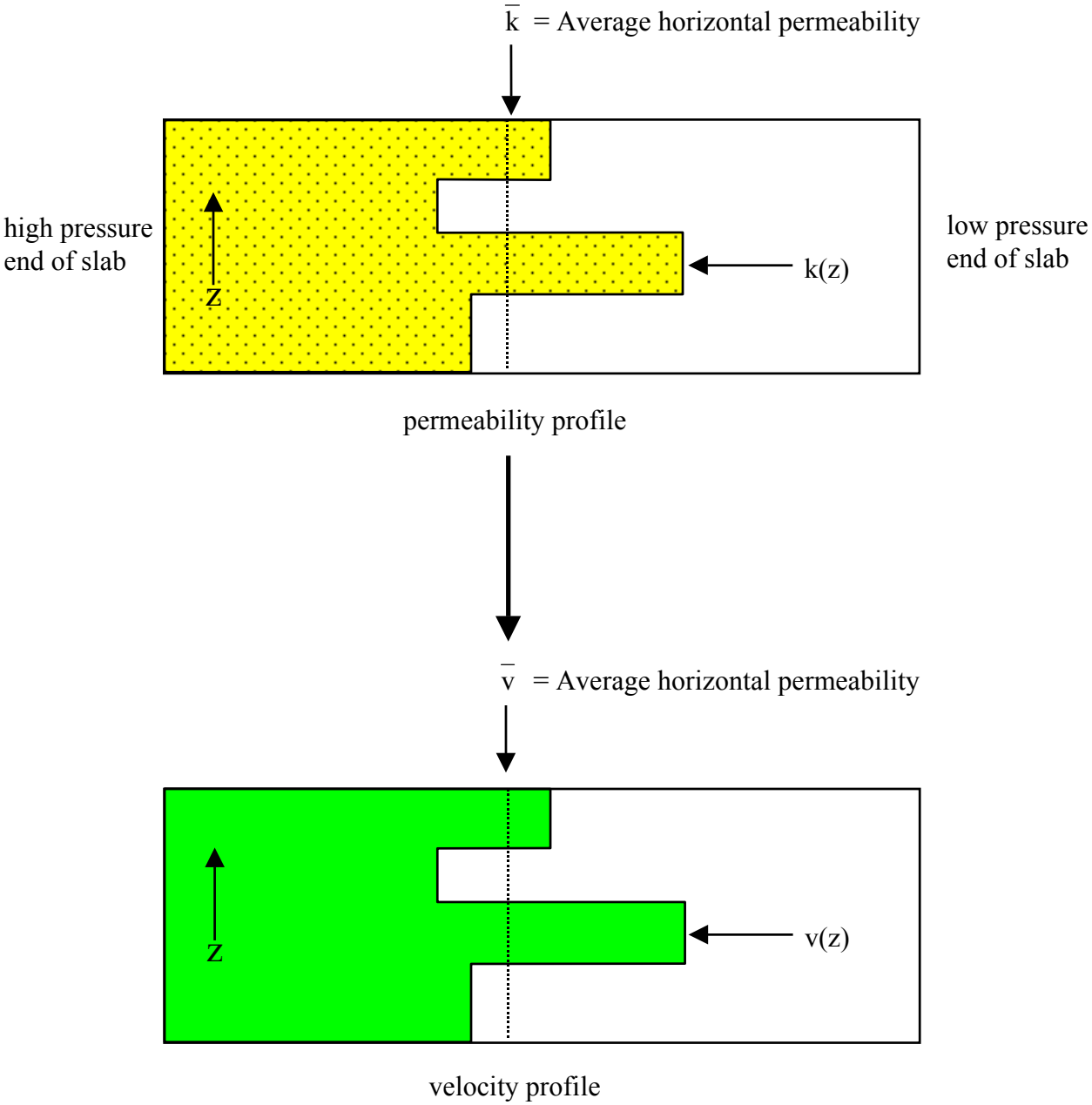

Figure 5
Effect of Stratified Permeability Distribution of Velocity Profile for Rectilinear Flow through a Porous Slab

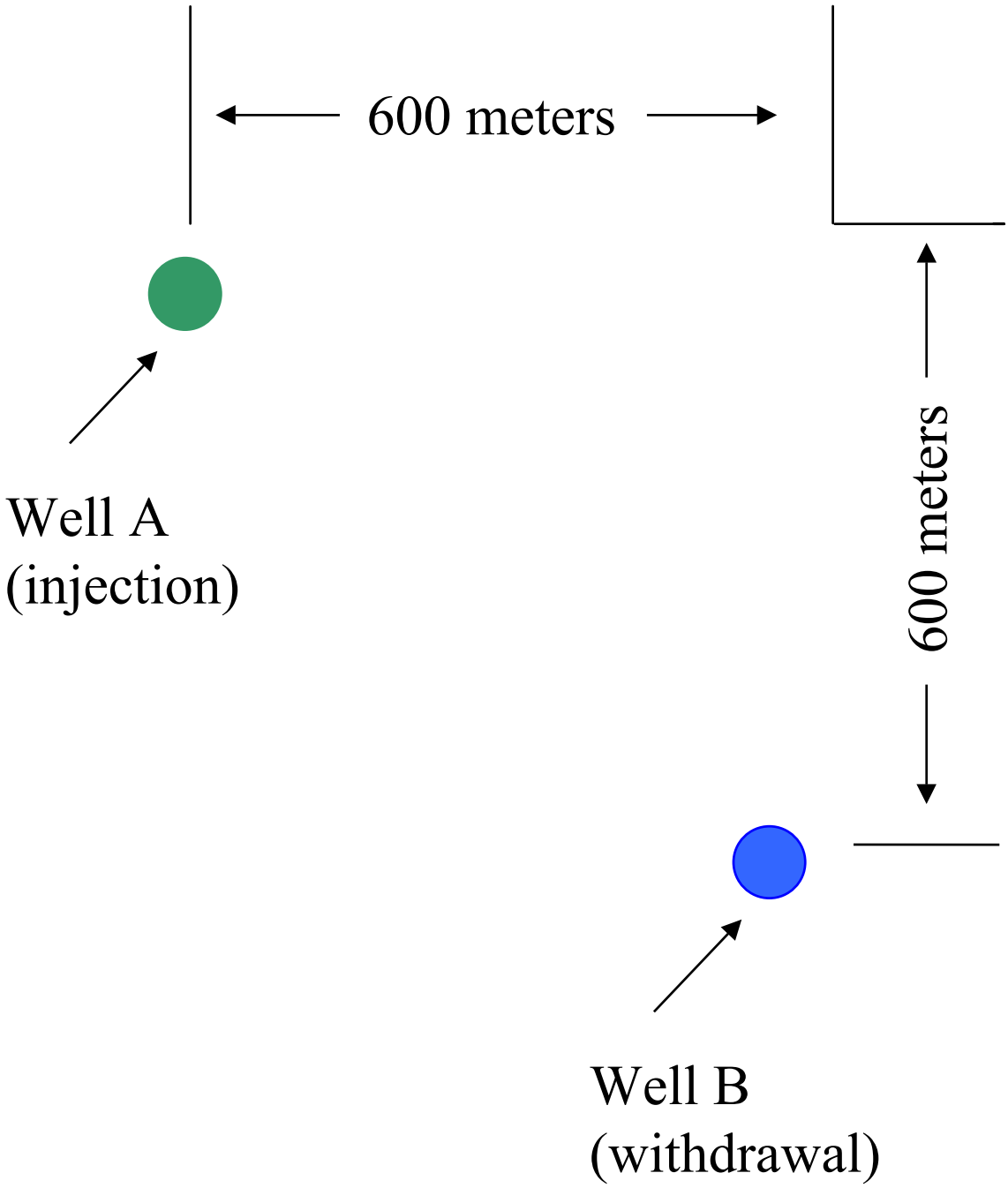

Figure 6
Field Arrangement Analyzed by Javandel et. al., 1984

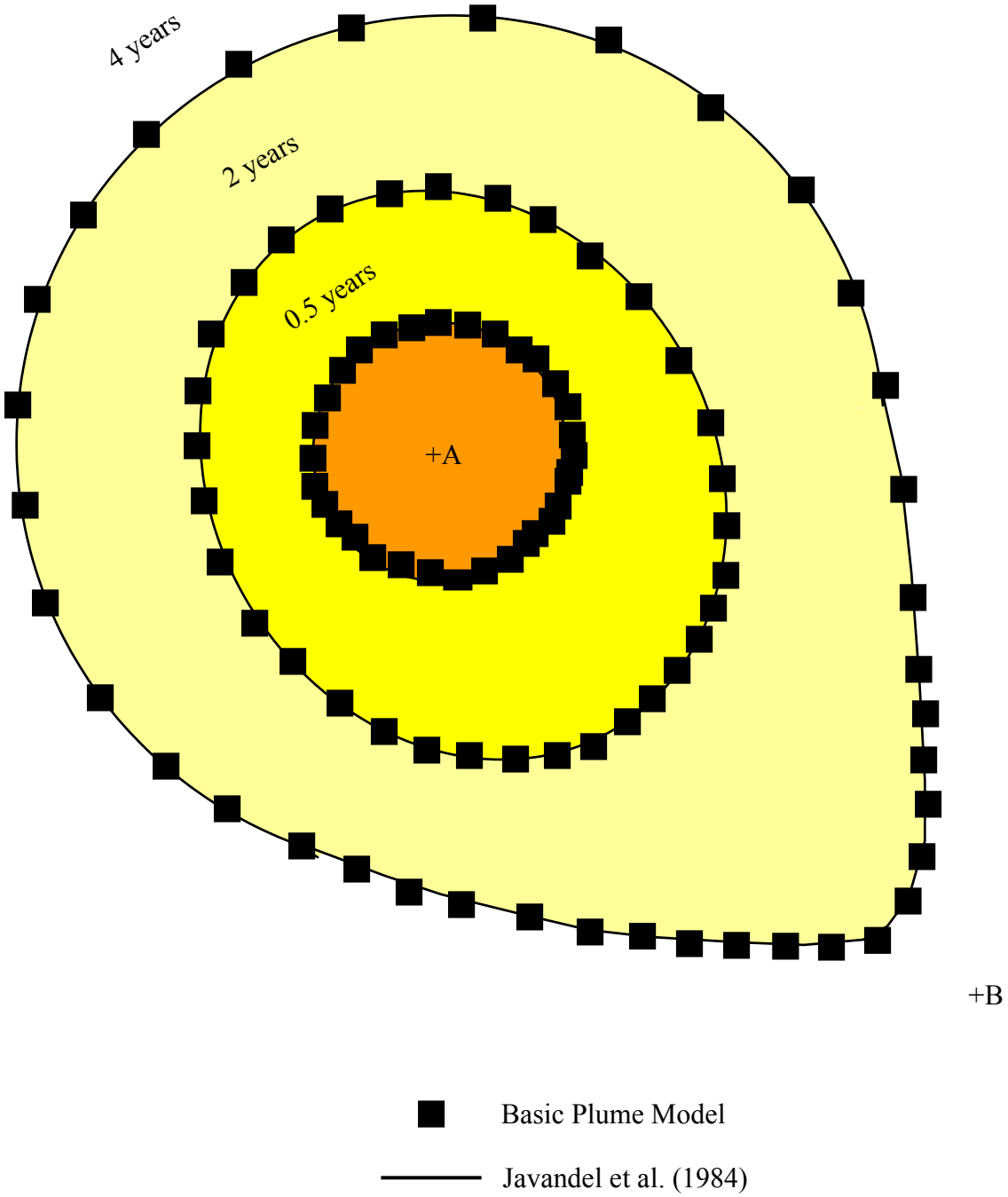

Figure 7
Comparison of Predicted Plume Shapes at Various Times for the Basic Plume Model and Results of Javandel et. al., 1984

APPENDIX VII-2

DUPONT MULTILAYER PRESSURE MODEL

Geostock Sandia

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1.0 MULTILAYER PRESSURE MODEL - GENERAL DESCRIPTION

This model has been developed to calculate the pressure increase produced within various permeable layers of an underground geological system as a result of waste injection. It is an extension of an earlier pressure model described in detail by Miller et al. (1986).

The earlier development considered only a single permeable injection layer bounded above and below by totally impermeable strata. The model was based on the well-known Theis equation (1935), originally formulated for a single well injecting at a constant rate. By making appropriate use of time and spatial superposition principles, the model was extended to account for multiple injection wells operating at variable injection rates (Thornhill et al., 1982).

The new development further improves the earlier model (Miller et al., 1986) by providing a more detailed and refined picture of system behavior. It recognizes the multiple layer nature of many geological environments, and the potential ability of the various permeable strata of such systems to communicate with one another in terms of both pressure and fluid flow.

At a well that is completed into more than one reservoir at a given time, the various perforated reservoirs can communicate with one another via the wellbore itself (Figure 1). Such an arrangement is referred to in the petroleum industry as a commingled or stratified reservoir (Raghaven, 1986; Shah et al., 1986). Considerable work has been done in quantifying the parameters that influence system response for simplified arrangements of commingled reservoirs (Raghaven, 1986).

Communication also may occur by slow vertical permeation of fluids through the low-permeability aquitards which separate the injection interval and other high-permeability layers from one another (Figure 2). The permeation rate through each aquitard is assumed to be proportional to the pressure differential across it. This discounts the compressive storage capacity of the aquitard, and is a conservative assumption, as discussed in further detail below. Models that are capable of analyzing slow vertical permeation through low-permeability aquitards are referred to in the petroleum industry as crossflow models (Raghaven, 1986).

2.0 MODEL UTILIZATION

There are two primary applications for the Multilayer Pressure Model. The first is in predicting the pressure distribution within the injection interval as a function of time and position, for use in Area of Review evaluations. The second is in predicting the time-dependent variations of pressure buildup at the injection wells. This pressure buildup is subsequently employed as an input to the Multilayer Vertical Permeation Model to predict the extent of waste permeation into the overlying aquitard both during and following the injection period. The Multilayer Pressure Model also provides certain input information to the Basic Plume Model which calculates the growth of the waste plume emerging from the wells at an injection site. For sites with at least one well perforated into more than one injection interval at a given time, the Multilayer Pressure Model calculates partitioning of the injection flow between the available intervals. It also determines interformational flow taking place at wells that are not injecting waste, but which are completed into more than one horizon.

Another application of the Multilayer Pressure Model is the iterative process of calibration between model-generated and observed pressure variations. This process includes determining transmissivities of the high permeability layers, as well as placing loose bounds on the aquitard layer permeabilities. The calibration process involves pressure history matching against observed bottom-hole pressure over the past operating life of the site. The calibrated parameter values thus obtained provide an increased degree of confidence for use in analysis of Area of Review and vertical fluid permeation calculations.

3.0 MODEL STRUCTURE

The model is structured as a general purpose generic tool, capable of being applied to a wide variety of site-specific geological arrangements. It consists of a series of alternating high- and low-permeability layers, numbered in sequence from the top of the layer stack to the bottom (Figure 3). The high-permeability units are assigned even numbers in the sequence, while the low permeability aquitard layers are assigned odd numbers. Each layer corresponds to an identifiable stratigraphic unit at the site.

4.0 MODEL INPUTS

Model inputs refer to data that must be supplied to the computer program to perform a site-specific calculation, together with the potential sources of these data. Inputs to the model are given in the form of fundamental physical properties for the geological strata and fluids. These differ from the reservoir properties used as input to some models, which are specially defined combinations of the fundamental properties.

4.1 Well Locations

The geographical coordinates of the well are specified in terms of an X-Y coordinate system inscribed onto a map of the site locale. Data on the location of the well are readily available from historical records and maps of the plant vicinity. For a deviated wellbore, the borehole is projected downward to its intersection with the injection horizon.

4.2 Geological Data

4.2.1 Average Thickness of Layers

The average thicknesses of the geological units in the model are determined by analyzing resistivity and spontaneous potential logs. Special geological surveys by experienced consulting organizations are often used as additional data sources.

Predicted pressure buildup within an injection interval typically will vary in inverse proportion to the thickness of the injection interval. Thicknesses of the aquitard layers have only a very slight influence on the pressure response of an underground injection system, as evidenced by the ability of single-layer models which do not even include the aquitard layers to predict the pressure response.

4.2.2 High-permeability Layer Properties

4.2.2.1 Average Horizontal Permeability

The average horizontal permeability of these layers can be determined from conventional and sidewall core samples, injectivity/falloff tests, interwell interference tests, or may be estimated from regional geological studies if no site data exist. A large number of core sample data is desirable to obtain a representative average. The core-derived permeability values can be improved by calibrating the model to historic data at shut-in wells and injecting wells.

Horizontal permeabilities of the strata used for injection constitute first-order parameters in determining the pressure response of the system. Predicted pressure buildup within each injection interval will vary in nearly inverse proportion to the permeability of that layer. For relatively permeable layers not used for injection, model results are quite insensitive to the choice of permeability, since a significant amount of fluid must first pass through the aquitards before the effects of these layers are felt.

4.2.2.2 Average Layer Porosity

Average layer porosities are determined from core samples, geophysical porosity logs, or regional geological studies of the injection interval. Porosity enters into the model only through the contribution of fluid compressibility to the overall layer storativities. Storativity is a reservoir parameter which expresses the combined effects of layer porosity and compressibility. Model results are quite insensitive to the layer storativities, and therefore, also to the porosity values used. Typically, a 10 percent change in porosity will result in less than a 0.5 percent change in predicted pressure buildup.

4.2.2.3 Rock Compressibility

Compressibilities of strata are rarely measured for the geological layers at an underground injection site. Input values for these parameters can be estimated using information from the literature (Freeze and Cherry, 1979) for similar strata. In the model, compressibilities enter into the calculation only by combining with a fluid compressibility term in determining the layer storativities. Since, as mentioned above, model results are very insensitive to layer storativities, they also will be quite insensitive to the values chosen for the compressibilities. The predicted pressure buildup will typically change by less than 10 percent for a factor of 10 change in compressibility.

4.2.3 Low-permeability Layer Properties

Properties required by the model for aquitard (low permeability) layers are vertical permeability and porosity. Actually, porosity is not used in the Multilayer Pressure Model calculation, but it is employed in the Vertical Permeation Model which adopts the same input format. Therefore, in supplying the Multilayer Pressure Model with these input data, these data are actually stored for later use by the Vertical Permeation Model.

Values of aquitard permeability and porosity rarely have been measured at underground injection sites. It would be unlikely to find data on these parameters, however, their measurement is becoming more frequent under new well installation requirements. Without site-specific measurements, it is necessary to make reasonably conservative estimates based on general information in the literature on similar aquitard materials (Freeze and Cherry, 1979; Neuzil, 1986) or from information for the same geological region.

Predicted pressure buildups are found to be very insensitive to the values selected for aquitard permeabilities, since these permeabilities are generally very low and do not allow for much fluid bleed-off from the injection interval into the aquitards. The ability to calibrate the results of the Multilayer Pressure Model against historic site-specific operating data suggests that the actual aquitard permeability values do not grossly exceed estimates from regional data.

4.3 Well Radius

The model requires data specifying the radius of each active well at an underground injection site. The well radius can be determined from caliper logs for the well. The model results are virtually independent of these parameters at all locations other than very near the wells. Even directly at the wells, the results are very insensitive to the values specified for the radii. Typically, a 10 percent change in well radius will result in less than a one percent change in the predicted pressure buildup.

4.4 Fluid Viscosity

A separate fluid viscosity value is specified for each layer in the model. If fluid samples were taken during drilling, the viscosity can be measured directly with appropriate corrections made for the temperature at depth. When no fluid samples are available, viscosity can be estimated accurately from property data in the literature (Lobo, 1984; Suryanarayana and Venkatesan, 1958; Perry and Chilton, 1973), which give saline brine viscosity as a function of temperature and salinity.

After the model has been calibrated against site-specific operating data, the value of the transmissivity for each of the injection layers in the model will be known more accurately. Since transmissivity is proportional to the ratio of permeability to viscosity, this ratio will be better characterized. It is actually the ratio, and not individual parameters, that determines the pressure response in the model. Therefore, even if the individual parameters are not known very accurately, their ratio can be calibrated and used to accurately predict pressure buildup.

4.5 Site Operating History

The history of the injection rates into each well and the history of well completions into each injection interval must be specified. This information is available from site operating records. The information can be supplied to the model on an average annual basis, or, preferably, on an average monthly basis.

5.0 MODEL OUTPUTS

5.1 Reservoir Properties

Reservoir parameters are special mathematical combinations of the fundamental physical properties of geological strata and fluids. They include the permeable layer transmissivities and storativities and the aquitard leakances. It is these parameters alone which appear as the coefficients in the hydrological flow equations and govern the pressure response in the model. Therefore, in calibrating the model to site-specific operating data, it is appropriate to calibrate with respect to the reservoir properties rather than the fundamental physical input parameters.

5.2 Injection Rate at Each Well into Each Interval Over Time

If wells are operated such that only one horizon is perforated at any one time, flow into the injection interval will be identical to the injection rate at the wellhead. For a well perforated into more than one horizon at a time, the total injection flow rate at the wellhead is known but typically not the partitioning of the flow between the receiving horizons (unless flow meter logs have been frequently run). This partitioning is calculated in the Multilayer Pressure Model, together with the interformational flow taking place at wells not injecting waste but which are completed into more than one horizon. These calculated injection rates into the individual layers are subsequently employed as inputs to the Multilayer Vertical Permeation Model and the Basic Plume Model.

5.3 Pressure Buildup as a Function of Location and Time

The spatial distribution of pressure buildup with time is the primary output from the Multilayer Pressure Model. It can be displayed graphically by plotting pressure buildup as a function of time at a given location, or on a contour plot, showing lines of constant pressure (isopleths) at any given time. Contour plots are very useful in evaluating Area of Review, since they can include the locations of all boreholes in the region of the injection site.

6.0 ASSUMPTIONS, VALIDATION, AND MARGINS OF SAFETY

This section describes the key assumptions in the model, and evaluates particular site-specific conditions under which the assumptions are valid. Also summarized are various margins of safety built into the Multilayer Pressure Model to guarantee a conservative, upper-bound prediction of the pressure buildup within an underground injection system.

6.1 Flow is Horizontal in the High-permeability Layers, and Vertical in the Low-permeability Layers

According to Neuman and Witherspoon (1969a, b), this assumption is valid whenever the permeability of the high permeability layer is at least 100 times greater than that of the adjacent aquitards (low permeability layers). This condition is virtually always satisfied at underground injection sites.

6.2 Properties and Thicknesses of the Layers do not Vary with Position

Miller et al, (1986) and Collins (1986) have discussed the insensitivity of the pressure distribution developed as a result of injection to vertical variations in hydrogeologic properties (primarily permeability) through the thickness of the injection interval. They have indicated that pressure response is determined mainly by the thickness weighted average of layer properties. The ability of classical “Reservoir Analysis” to predict pressure buildup and drawdown in geological formations known to be highly nonuniform in the vertical direction is direct evidence of this insensitivity.

Properties of the layers, as well as their thicknesses, also can vary in the horizontal direction. The pressure response of an injection interval is determined by the product of the permeability and layer thickness, expressed as the transmissivity. The model includes the capability of handling large, sudden lateral variations in transmissivity, such as a fault blockage, using the method of image wells (Freeze and Cherry, 1979). Effects of gradual changes, such as pinch-outs, can be simulated by modeling these changes as sudden variations imposed at an appropriate location.

6.3 Density of the Waste is the Same as that of the Formation Fluid

The effect on pressure distribution of a density difference between the waste and formation fluid has been analyzed by Miller et al. (1986). They have shown that for a single injection interval,

the inaccuracy in discounting this effect approaches zero in the center of the injection interval and is extremely small elsewhere within the waste plume, amounting to no more than half the product of the density difference (gm/cm^3) and injection interval height (feet), where the inaccuracy is expressed in feet of head. Outside the waste plume, the effect decreases very rapidly with distance away from the well. Density therefore has virtually no bearing on the Area of Review evaluation.

6.4 Viscosities of the Waste and Formation Fluid are Equal

In the high-permeability injection interval, the fluid viscosity varies from that of the waste in the region near the well to that of the formation fluid viscosity at distances further out. Since the injected waste temperature is normally lower than the temperature of the formation fluid, its viscosity may be expected to be slightly higher. This viscosity variation typically will amount to no more than a factor of two. The effect of assuming that the waste viscosity is equal to the formation fluid viscosity will be relevant only within the borders of the waste plume. Outside the plume, the predicted pressure distribution will be virtually unaffected.

If the value of the injection interval permeability is calibrated to pressure data at shut-in wells contained within the plume, the permeability value so determined will be underestimated. Use of this underestimated permeability value in predicting the pressure distribution throughout the injection interval will lead to an overestimate of the pressures at locations within the Area of Review, such as at abandoned boreholes. Thus, the assumption that the waste viscosity is the same as the formation fluid viscosity provides an added margin of safety in the Area of Review calculations.

In predicting vertical waste permeation into the overlying aquitard, use of the formation brine viscosity in the calculation will result in a slight underestimate of the permeation distance. However, the extent of this underestimate typically will be quite minimal compared to the uncertainty associated with the choice of the aquitard permeability value input to the Multilayer Vertical Permeation Model. This choice is normally very conservative by several orders of magnitude. Therefore, the inaccuracy associated with the viscosity assumption can be absorbed into the margin of safety factor for aquitard permeability.

6.5 Compressive Storage in the Low-Permeability Layers is Negligible

The ability of aquitard layers to compressively store fluids is assumed to be negligible in the Multilayer Pressure Model. Under this assumption, the pressure profile within the aquitards will

reach an instantaneous steady state, varying linearly with vertical position and determined by pressure values at the boundaries with the two permeable layers immediately underlying and overlying the aquitard. Moreover, fluid permeation rates across the top and bottom boundaries of the aquitard will be equal and proportional to the pressure difference between the underlying and overlying permeable layers.

Use of this assumption consistently will lead to an overestimate of the pressure within the injection interval during injection. This is because compressive storage of fluids in the aquitards would provide an added sink for bleed-off of fluids and pressure from the injection interval. Therefore, discounting storage provides an added margin of safety in terms of using the Multilayer Pressure Model to calculate both Area of Review and vertical waste permeation into the overlying aquitard.

6.6 The Injection Interval is Fully Perforated

Not all injection wells are perforated over the full height of the injection interval. Effects of partial perforation are important only in the region relatively near the injection well, up to radial distances on the order of a few thicknesses of the injection interval, at most. The actual radial region of influence depends on the fraction of the height perforated and, to a minor extent, on the ratio of vertical to horizontal permeability. Within this region, the pressure buildup will vary both with vertical position through the formation as well as radial position away from the well.

The nature of this variation was studied extensively by Hantush (1964), who provided analytical relationships for quantifying the behavior. Hantush (1964) found that for constant injection rate after a short initial transient period, the contribution of partial perforation effects to the pressure distribution will approach steady state.

Hantush's steady-state equations (Hantush, 1964) have been employed to assess the influence of partial perforation on the pressures at an injection well and at the base of the overlying aquitard. In general, at the well, the effects will be analogous to those associated with well inefficiency or "skin effect." They will increase the pressure in the wellbore during injection in proportion to the injection rate and will have essentially no influence on shut-in pressures (after the initial transients have died out). Since the Multilayer Pressure Model is normally calibrated to shut-in pressures, the calibration results will not be affected by partial perforation. In cases where the model is calibrated to flowing bottomhole pressures, these calculated flowing pressures are corrected for skin and partial penetration (spherical flow) effects. Furthermore, since the effects

of partial perforation are important only in the region near the wells, the Area of Review results also will be unaffected.

The influence of partial well perforation on the pressure at the base of the overlying aquitard is important in estimating vertical permeation. In general, Hantush's results (Hantush, 1964) have shown that, if the perforations are located in the lower portion of the injection interval, as is often the case, the pressure at the base of the overlying aquitard actually will be lower than if the full interval were perforated. Therefore, discounting the partial perforation effect will result in an overestimate of the pressure at the base of the overlying aquitard, and will thus provide an added margin of safety in calculating vertical permeation.

7.0 FORMULATION AND SOLUTION

Based on fundamental freshwater the assumptions discussed in the previous section, the partial differential equation describing the buildup of head (h_i)(which is proportional to the pressure buildup) within each permeable layer i of an underground hydrological system as a function of time and radial distance from an isolated injection well(s) given by Hunt, 1985:

$$S_i \frac{\partial h_i}{\partial t} = T_i \frac{1}{r} \frac{\partial}{\partial r}\left(r \frac{\partial h_i}{\partial r} \right) + R_{i+1}\left(h_{i+2} - h_i \right) + R_{i-1}\left(h_{i-2} - h_i \right) \quad (1)$$

where T_i and S_i are the transmissivity and storativity of permeable layer i, and R_{i+1} and R_{i-1} are the leakances for the overlying and underlying aquitards. These parameters are defined as follows:

$$T_i = \frac{\rho g k_i \, b_i}{\mu_i}$$

$$S_i = \rho g b_i \left(\alpha_i + \phi_i \beta_i \right)$$

$$R_i = \left(\frac{\rho g k_i}{\mu_i \, b_i} \right)$$

Where:

ρ	=	Density of fresh water,
g	=	Gravitational acceleration constant,
k_i	=	Permeability of Layer i,
μ_i	=	Fluid viscosity in Layer i,
b_i	=	Thickness of Layer i.
α_i	=	Compressibility of Layer i,
ϕ_i	=	Porosity of Layer i,
β_i	=	Compressibility of water.

The horizontal boundary conditions on the flow are given by

$$h_i = 0 \, at \; r \to \infty \quad (2)$$

And

$$2\pi r\, T_i \frac{\partial h_i}{\partial r} = -Q_i \text{ at } r = r_o \qquad (3)$$

Where r_o is the well radius and Q_i is the volumetric injection rate into Layer i. Equation 2 implies that the layers are infinite in lateral extent. However, bounded reservoir conditions, and other lateral blockages, can be included by superposition techniques using the method of image wells.

In the vertical direction, no flow is permitted across the lower boundary of the model (downward out of the lowest layer in the stack), while the upper boundary is treated as a zero-head-buildup layer. The location of this boundary typically is taken as the depth of the lowest underground source of drinking water (USDW). This is very conservative from the standpoint of estimating vertical permeation effects, since the actual location of the zero-head-buildup boundary is at the ground surface (water table); thus, the model takes no credit for the vertical flow resistance provided by the aquitard layers overlying the lowermost USDW. In the Multilayer Pressure Model, the choice of the USDW as the zero-head-buildup boundary does not significantly influence the accuracy of the calculations, since this location typically is separated from the injection zone by several intervening aquitard layers, which effectively prevent the pressure variations from propagating to the USDW depth during the operating lifetime of a site.

For a multiple-well site injecting waste at variable rates into wells that are perforated into more than one interval simultaneously, the model makes use of well-established spatial- and time-superposition principles (Freeze and Cherry, 1979) to determine the head buildup. These superposition principles take advantage of the linearity of the basic partial differential equations and boundary conditions with respect to head buildup, together with the assumed spatial independence of layer properties, to calculate the solution for more complex situations by adding together the results for simpler spatial and time arrangements.

The first step in the solution procedure is to generate a set of time-dependent solutions to the response of a single isolated well injecting at a constant unit injection rate, into a specified injection interval. A separate solution is generated for each permeable interval used for injection. This involves solving the basic partial differential equation and boundary conditions given above numerically, and storing the results of the calculations in a set of tables of head buildup as a function of time, radial position, permeable layer index, and injection interval index.

The equations are solved by discretizing the partial differential equations with respect to the radial coordinate using a finite difference approach and solving the resulting set of ordinary differential equations (ODEs) in time by means of a commercially available stiff ODE package. The discretization scheme is carried out in the logarithm of the radius, rather than the radius itself, to achieve an added degree of accuracy, since the head buildup is approximately linear in log(r). The boundary condition at large radial distances from the well (zero-head-buildup) is applied at the final grid point, which is typically placed at a radius of about 200 miles.

Tables of solutions generated for the case of a single isolated well injecting at a constant unit injection rate into a specified injection interval are used to construct the solutions for the actual injection conditions of variable pumping rates and multiple-wells, by applying the principles of spatial- and time-superposition. The only complicated step in this process is accounting for wells that are perforated into several intervals simultaneously. The total injection rates into these wells are known in advance, but typically not the apportionment of the total flow among the available injection intervals. In the Multilayer Pressure Model, this apportionment is calculated by applying an additional boundary condition at all wells completed into more than one horizon. This boundary condition is that the head buildups for all perforated intervals at a given well location are the same.

The physical justification for this requirement is that the vertical flow resistance within the injection tubing is typically very low, so that head loss resulting from downward flow through the section of tubing connecting perforated intervals will be negligible. The well essentially acts as a high conductivity vertical pathway. Implementation of this boundary condition in the model requires the solution of a set of simultaneous linear equations for the flow rates into the individual injection intervals at each increment of time.

8.0 VERIFICATION

The computer model has been verified against a variety of solutions in the literature and with numerical tests to guarantee that it delivers reliable solutions to the model description as stated. In tests involving an isolated well injecting at constant rate into a single interval with impermeable aquitards, the model duplicated the results of the Theis (1935) equation to within 0.2 percent. Similar accuracy was obtained in comparisons against the Hantush and Jacob (1955) steady-state equation, which assumes the existence of a low permeability aquitard between the injection interval and the zero-head-buildup boundary.

A more comprehensive test of the single-well capabilities of the model was provided by a comparison with the results of Hunt (1985). Hunt solved for the head distribution in a multilayer stratigraphic system for the same set of equations as in the present model, but used an analytic solution technique. The geological arrangement in Hunt's example is shown in Figure 4, and the specific parameter values chosen are given in Table 1. Figure 5 compares the steady-state results from the present model with those of Hunt, while Figure 6 presents the corresponding comparison of the time-dependent behavior at a selected location. The two sets of results are identical, to within plotting accuracy. It is interesting to observe that El Didy and Contractor (1987) have performed this same intercomparison with Hunt's calculations to validate their two-dimensional finite element model of a multilayer system (El Didy, 1986).

The above tests fully verify the ability of the model to generate the response of a single isolated well injecting at constant rate into an individual interval, including the numerical discretization scheme employed for the radial coordinate.

The variable injection rate (time-superposition) aspect of the present model was verified by the following procedure. The radially discretized ordinary differential equations describing the time-dependent response of an isolated well injecting into a specified interval can be integrated numerically, not merely for the usual case of a constant injection rate (which is used to generate the tabulated well influence functions used in the model), but also for the case of fully variable injection rate history. On this basis, an integration was performed for a series of step changes in injection rate, and the results of the calculation were compared with output obtained directly from the model using the time-superposition software. Results from the two calculations were identical.

The multiple-well superposition feature of the model was checked using hand calculations for the case of two injection wells located at various coordinate positions injecting at constant rate

into a formation bounded above and below by impermeable aquitards. The single-well response for this situation is governed by the Theis equation.

Results from the model also were compared to the analytic solution for the steady-state head buildup distribution produced by a combination of an injection well and an adjacent withdrawal well, both operating at the same constant flow rate. This solution is given in Bear (1972). The model output agreed with the analytic results to considerably better than 0.1 percent.

It also has been verified that at a well perforated into multiple horizons, the calculated apportionment of injection flow to the individual receiving horizons is consistently determined correctly. This was accomplished by confirming, in all instances, that the head-buildups within the various perforated intervals were identical in agreement with the required boundary condition, and that the sum of the flow rates to the perforated intervals precisely matched the total injection rate at the wellhead.

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Table 1
Parameters Used In Hunt's Multiaquifer Example

Aquifer	Injection Rate (m^3/s)	Transmissivity (m^2/s)	Storativity	Overlying Aquifer Leakance (s^{-1})
1	0	0.0004	0.00005	0
2	0	0.0009	0.0004	0.000003
3	0	0.0007	0.00008	0.000008
4	0.04	0.003	0.0002	0.00001
5	0	0.001	0.0001	0.00003

REFERENCES

Bear, J., 1972, Dynamics of Fluids in Porous Media: Elsevier, New York.

Collins, R. E., 1986, Technical Basis for Area of Review: prepared for Chemical Manufacturers Association, CMA Ref. No. 80-160-000-4.

El Didy, S. M., 1986, Two-dimensional Finite Element Programs for Water Flow and Water Quality in Multiaquifer Systems: Ph.D. dissertation, Dept. of Civil Eng. and Eng. Mech., Univ. of Ariz., Tucson.

El Didy, S. M., and D. N. Contractor, 1987, Comments on "Flow to a Well in a Multiaquifer System" by B. Hunt: Water Resources Research, Vol. 22, No. 6, pp. 1103-1104.

Freeze, R. A., and J. A. Cherry, 1979, Groundwater: Prentice-Hall, Englewood Cliffs, New Jersey.

Hantush, M. S., 1964, Hydraulics of Wells: in Advances in Hydroscience, Vol. 1, Academic Press, New York.

Hantush, M. S., and C. E. Jacob, 1955, Steady Three-dimensional Flow to a Well in a Two-layered Aquifer: Trans. Amer. Geophys. Union, Vol. 36, pp. 95-100.

Hunt, B., 1985, Flow to a Well in a Multiaquifer System: Water Resources Research, Vol. 21, No. 11, pp. 1637-1741.

Lobo, V. M., 1984, Electrolyte Solutions: Literature Data on Thermodynamic and Transport Properties: Coimbra, Portugal.

Miller, C., T. A. Fischer II, J. E. Clark, W. M. Porter, C. H. Hales, and J. R. Tilton, 1986, Flow and Containment of Injected Wastes: Groundwater Monitoring Review, Vol. 6, No. 3, pp. 37-48, 1986; in Proceedings of International Symposium on Subsurface Injection of Liquid Wastes, March 3 - 5, 1986, New Orleans, Louisiana, pp. 520-559.

Neuman, S. P., and P. A. Witherspoon, 1969a, Theory of Flow in a Confined Two-aquifer System: Water Resources Research, Vol. 5, No. 4, pp. 803-816.

Neuman, S. P., and P. A. Witherspoon, 1969b, Applicability of Current Theories of Flow in Leaky Aquifers: Water Resources Research, Vol. 5, No. 4, pp. 817-829.

Neuzil, C. E., 1986, Groundwater Flow in Low-permeability Environments: Water Resources Research, Vol. 22, No. 8, pp. 1163-1195.

Perry, R. H., and C. H. Chilton, Eds., 1973, Chemical Engineers' Handbook: Fifth Edition, pp. 3-112 to 3-113, McGraw Hill, New York.

Raghaven, R., 1986, Behavior of Wells Completed in Multiple Producing Zones: SPE Paper 14111, presented at SPE International Meeting on Petroleum Engineering, Beijing, China, March 17 - 20.

Suryanarayana, C. V., and V. K. Venkatesan, 1958, The Viscosity of Concentrated Aqueous Solutions of Sodium Chloride: Trans. Faraday Soc., Vol. 54, pp. 1709.

Theis, C. V., 1935, The Relation Between the Lowering of the Piezometric Surface and the Rate and Duration of Discharge of a Well using Groundwater Storage: Trans. Amer. Geophys. Union, Vol. 2, pp. 519-534.

Thornhill, J. T., T. D. Short, and L. Silka, 1982, Application of the Area of Review Concept: Groundwater, Vol. 20, No. 1, pp. 32-38.

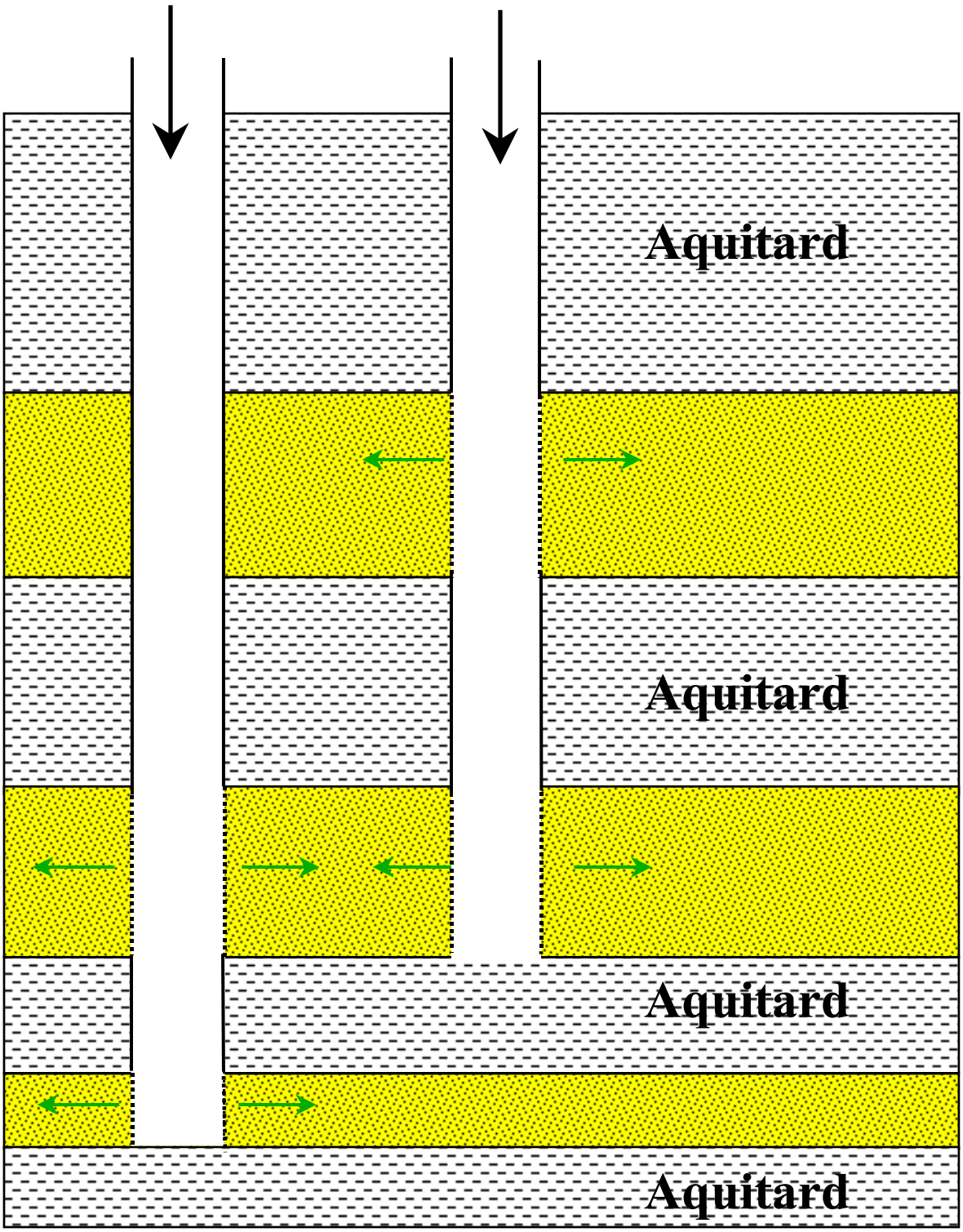

Figure 1
Injection Wells Perforated into More than One Horizon (Commingled)

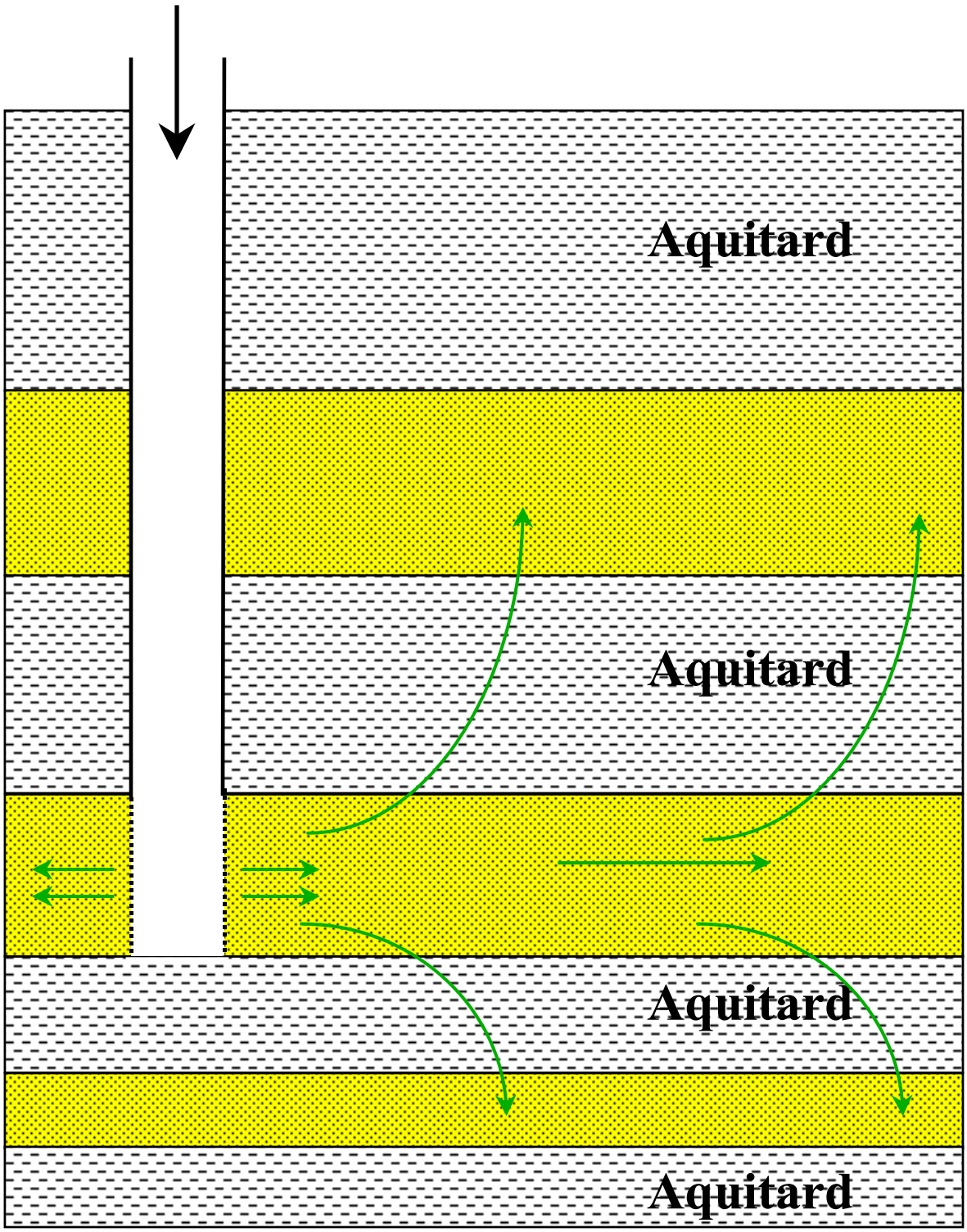

Figure 2
Fluid Seepage through Aquitards (Crossflow)

Geologic Column of Layers

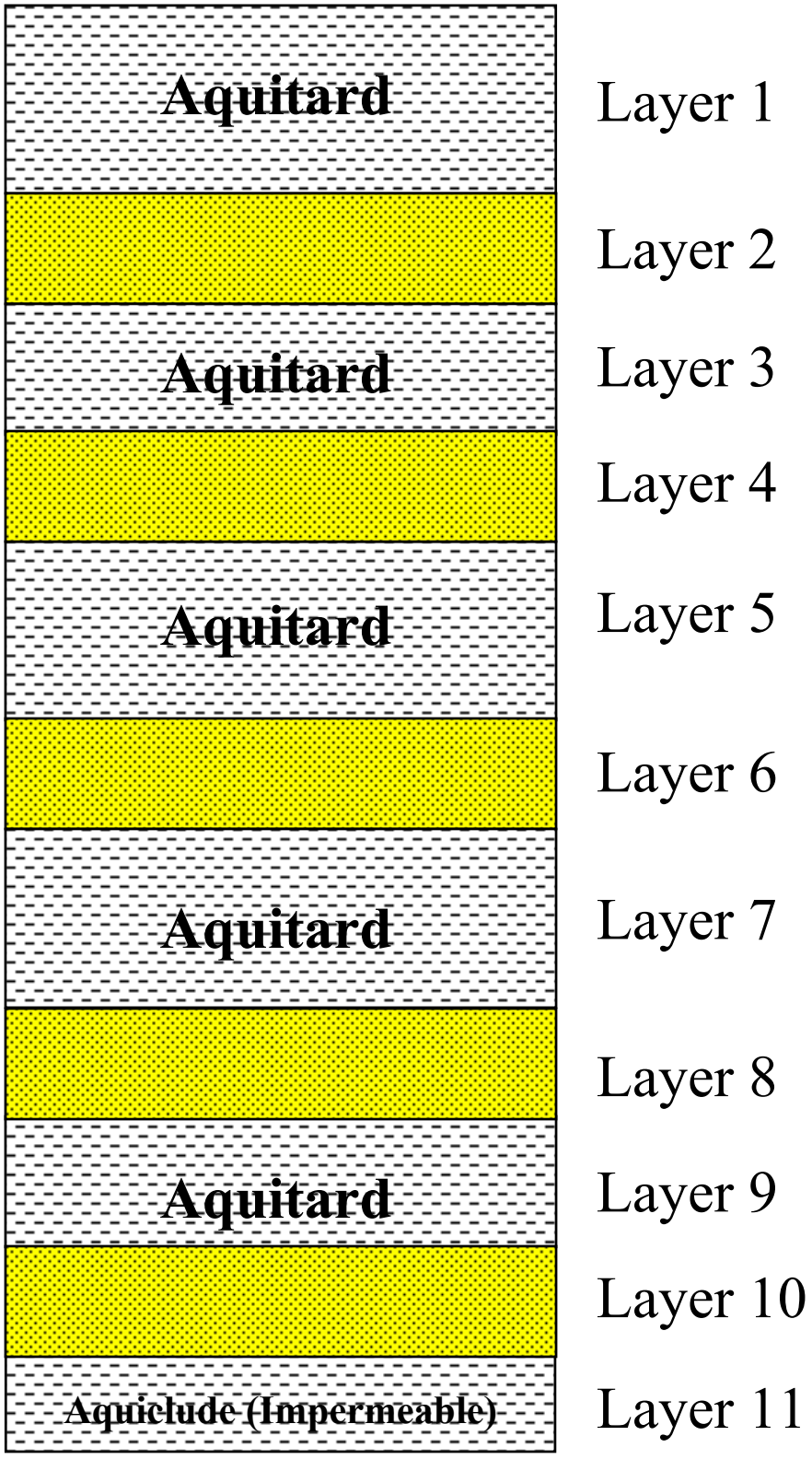

Figure 3
Model Structure for Typical Geological Arrangement

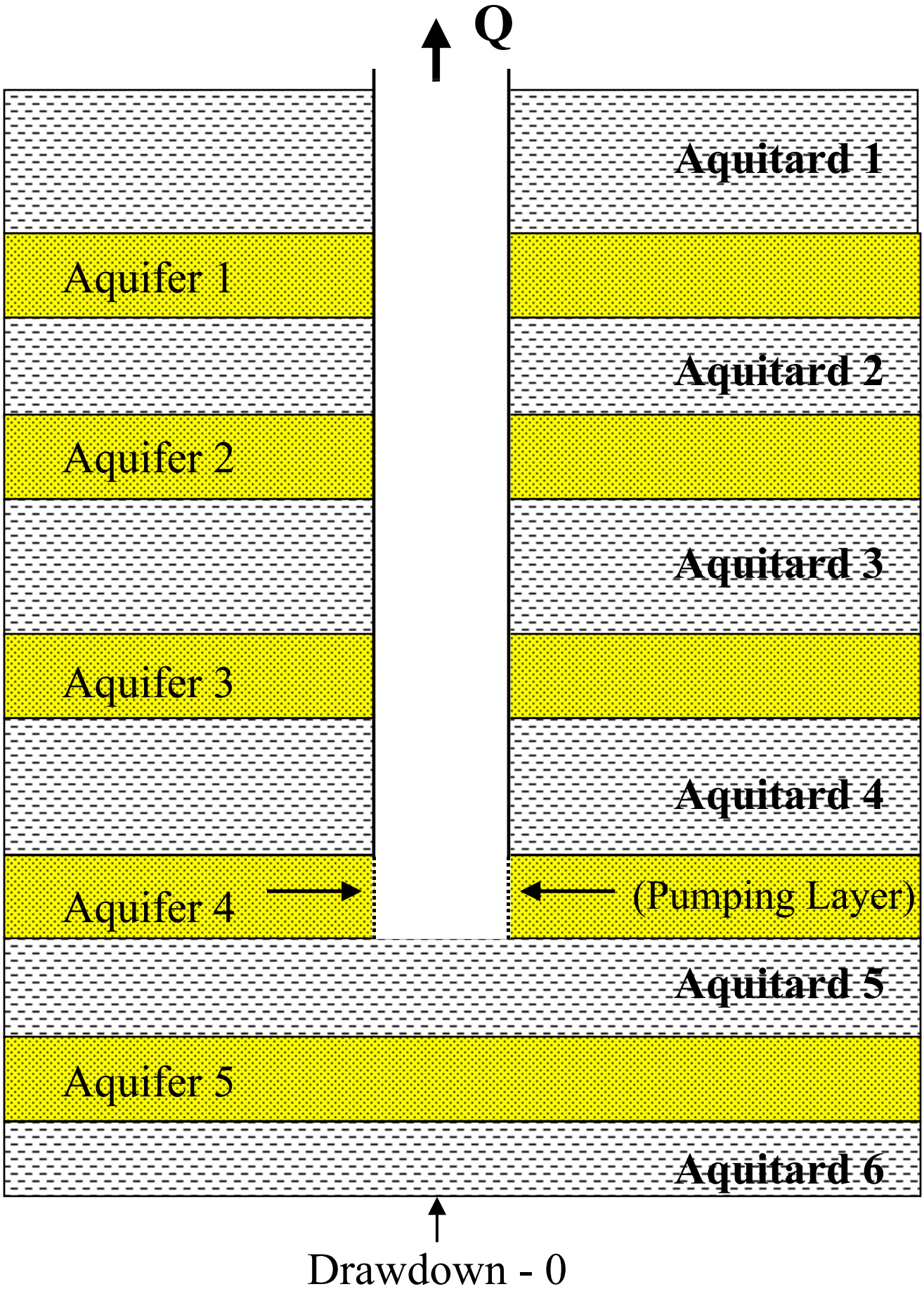

Figure 4
Geological Arrangement in Hunt's Example (1985)

deepwell\boilerpl\apx3-2.ppt

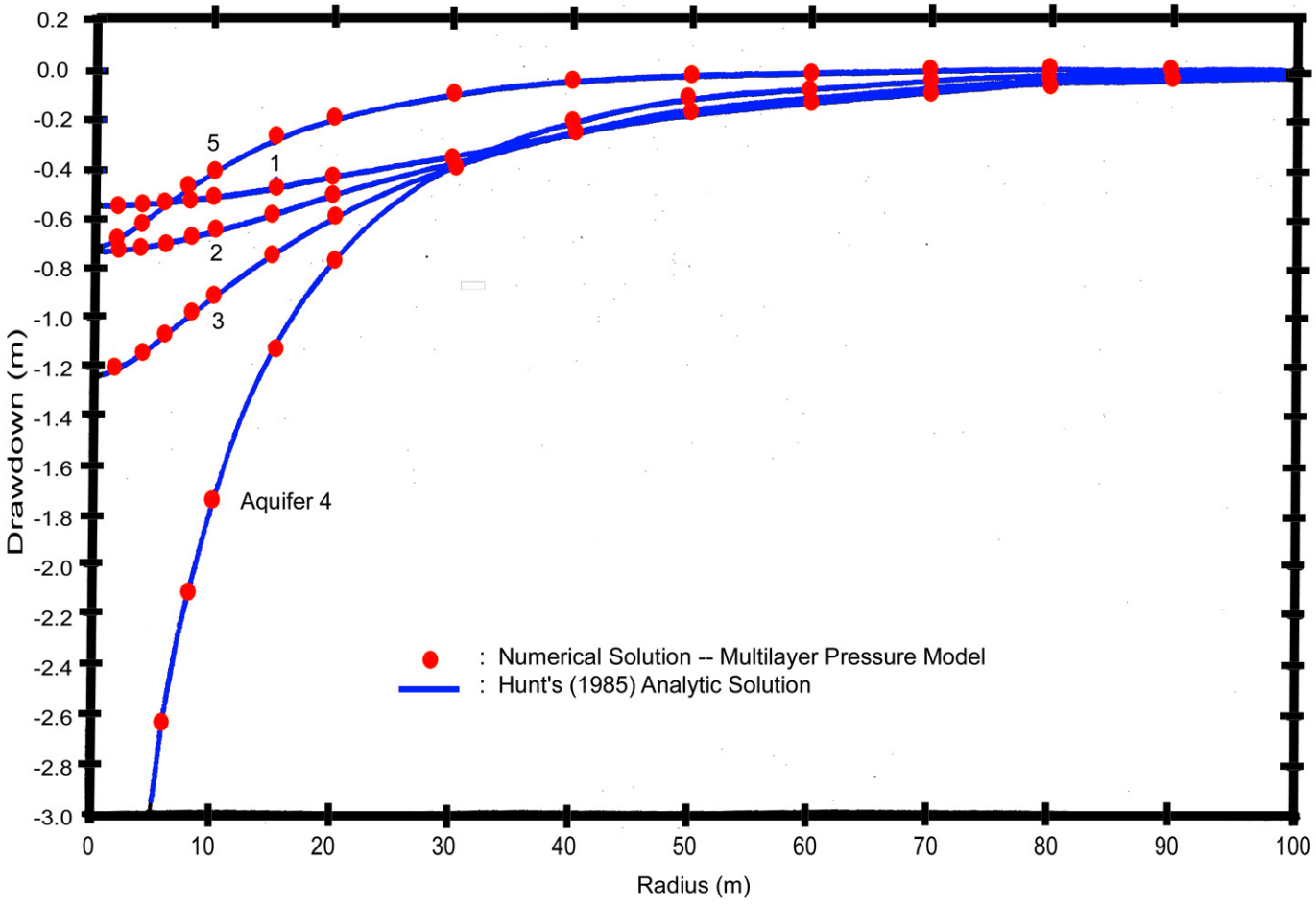

Figure 5: Steady State Drawdown Distribution in Each Aquifer.

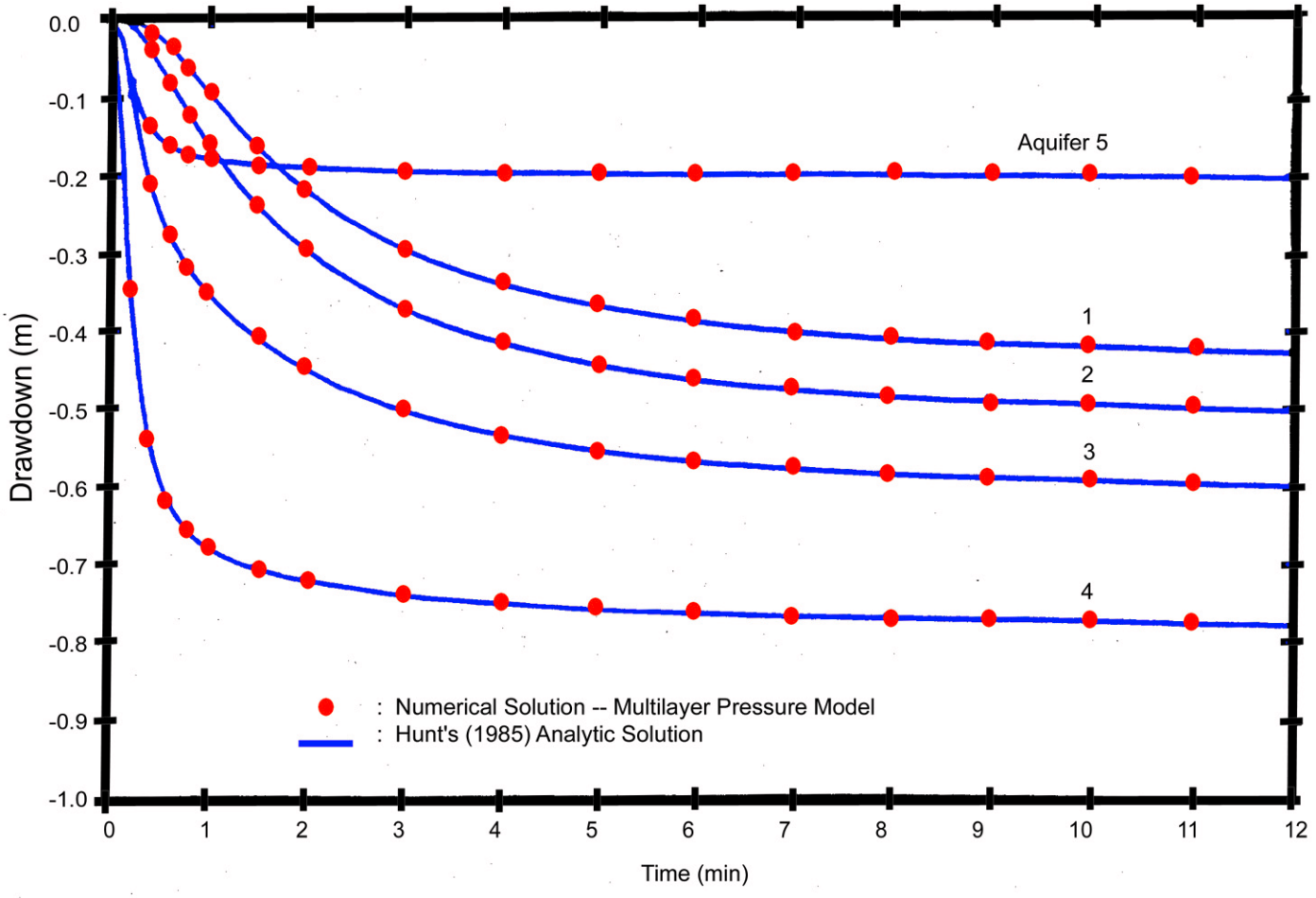

Figure 6: Time Dependent Drawdown Variations at r = 20m in Each Aquifer.

APPENDIX VII-3

DUPONT MULTILAYER PERMEATION MODEL

Geostock Sandia

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1.0 GENERAL DESCRIPTION – MULTILAYER VERTICAL PERMEATION MODEL

The Multilayer Vertical Permeation Model calculates the vertical extent of waste movement out of the injection interval, driven by pressure increases during the underground injection processes. It is an extension and refinement of an earlier model described by Miller et al. (1986).

The earlier model only included a single injection layer interacting with a single low-permeability aquitard and discounted the compressive storage properties of the aquitard material. The Vertical Permeation Model extends this description by:

- Recognizing the multilayer nature of many geological settings;
- The potential ability of the strata to communicate with one another by permeation through aquitards; and,
- Cross-talk through wellbores perforated into multiple zones.

The model also includes the storative effects of fluid compressibility and pore expansion within the aquitard layers. These effects can significantly influence the extent of vertical permeation on short time scales, and although they are not significant on a time scale of 10,000 years, discounting aquitard storage is fully justified.

The Vertical Permeation Model performs a separate calculation for each of the two key time scales for permeation behavior. The "Short-term Submodel" considers the injection process and the post-closure period immediately following. It completely accounts for compressive storage effects in the aquitards. The "Long-term Submodel" calculates the residual permeation distance remaining thousands of years after the injection operation has been discontinued.

Waste injection elevates pressure within the injection interval both during injection and for a period of time afterwards. This elevated pressure provides the driving force for vertical permeation of fluids into the overlying aquitard. Permeation is greatest immediately adjacent to the wellbores where the pressure buildup is largest and involves primarily waste. Further from the wells, the vertical permeation drops off dramatically and may consist of either original formation brine or waste, depending on the location of the waste plume.

At brief times, fluid moves into the base of the overlying aquitard from the injection interval below and compresses some of the native brine immediately above it. This compression raises the pressure within the lower portion of the aquitard, and expands the aquitard pores. Aquitard materials, such as shales, are known to exhibit significant pore expansion (Neuzil, 1986). The

combined effects of native brine compression and aquitard pore expansion will provide the necessary space to store the entering fluid.

This process will not occur uniformly throughout the aquitard. It will be confined to a narrow region very close to the lower boundary. Throughout the remainder of the aquitard, there will be virtually no indication that any changes have taken place. This narrow region near the base of the aquitard is referred to as the "compression boundary layer." The compression boundary layer will contain new fluid that has entered since the beginning of injection, as well as original formation brine that has been pushed upward into the expanded pores and compressed by the entering fluid. The great majority of the fluid within this layer will be original brine.

With continued injection, the compression boundary layer will increase in thickness and may eventually encompasses the entire aquitard thickness. Native fluid originally present at the top of the aquitard may then begin seeping out into the next overlying permeable layer. The time for this to occur is proportional to the square of the aquitard thickness and inversely proportional to the "hydraulic diffusivity" of the aquitard material (Bredehoeft and Pinder, 1970). Because the hydraulic diffusivity of many aquitard materials (such as shale) is very low (Neuzil, 1986; Neuman and Witherspoon, 1969a, b; and Hantush, 1960), the time is on the order of decades (Chen and Herrera, 1982). This is comparable to the operational lifetime of many underground injection facilities. Thus, compressive storage effects in the aquitard layers are important when calculating injection-induced waste permeation into an aquitard during injection and shortly after operation of the waste facility.

When injection is discontinued, some of the waste will seep back into the injection interval from the aquitard. This reverse permeation phenomenon always occurs when the pressure in the injection interval decreases.

The vertical permeation distance reaches an absolute maximum either sometime during injection (typically at the end of the injection period) or after an infinite time has passed since injection operations have stopped. The particular time that the maximum will be attained depends on the compressive storage properties of the aquitards. For highly storative aquitards, the maximum permeation distance occurs at the end of the injection period. For aquitards with low compressive storage capabilities, the maximum will occur at infinite time. In proving compliance with the no migration standard, both of these time frames must be considered.

At very long times after injection has stopped, the driving force for vertical permeation will dissipate, along with the compressive storage of fluids in the aquitards. The rate of fluid

movement into each aquitard layer will decrease to zero. The vertical permeation distance into each aquitard will approach some final residual value. Miller et al., (1986) showed that this residual permeation distance will be independent of both the compressive properties of the aquitards and the historic variations in waste injection rates. The only aspect of injection history determining the residual permeation distance is the total volume of waste injected at each well. This same result carries over into the more general case of systems with multiple layers of high- and low-permeability materials.

2.0 MODEL STRUCTURE

The Multilayer Vertical Permeation Model is structured in a fashion similar to the Multilayer Pressure Model, which is discussed in detail in its appendix (see Appendix VII-2). It consists of a series of alternating high- and low-permeability layers numbered in sequence from the top of a geological column of layers, to the bottom (see Figure 1). The high-permeability layers are assigned even numbers in the sequence and the low permeability aquitard layers are assigned odd numbers. Each layer corresponds to an identifiable functional hydrostratigraphic unit at the site. The model has been developed as a general-purpose tool, capable of describing a wide variety of geological arrangements.

The Short-term Submodel functions primarily as an appendage to the Multilayer Pressure Model, rather than a fully self-contained calculation. It utilizes the pressure histories generated by the Multilayer Pressure Model, together with the physical properties of low-permeability aquitard layers, to calculate the vertical permeation distance into each aquitard layer as a function of time. Therefore, the inputs to the Multilayer Vertical Permeation Model must include, at a minimum, all the inputs to the Multilayer Pressure Model.

The Multilayer Pressure Model discounts compressive storage of fluids in the aquitard layers, while the Short-term Multilayer Vertical Permeation Submodel was constructed specifically to include such storage effects. This suggests a possible inconsistency between the two simulations. However, discounting aquitard compressive storage in the Multilayer Pressure Model will always lead to an overestimate of the pressure buildup in the injection interval during operations. This is because inclusion of compressive storage of fluid in the aquitards would provide an additional sink for bleed-off of fluids and pressure. Since the primary driving force for vertical permeation is the pressure buildup in the injection interval, supplying the Vertical Permeation Model with an overestimate to the pressure buildup will always result in a corresponding overprediction of the vertical permeation distance. This overprediction is not expected to be very large in practice, however, since the volume of fluids permeating into the very low-permeability aquitard layers during injection operations will typically be small and provide only modest pressure relief.

The Long-term Submodel is structured as a stand-alone calculation that determines the residual permeation distance into each aquitard layer of a multilayer geological system thousands of years after injection has stopped. As shown below, this model is the mathematical analog of the steady-state version of the Multilayer Pressure Model.

3.0 MODEL INPUTS

The model inputs define the set of parameters that must be supplied to the computer program to perform a site-specific vertical permeation calculation.

3.1 Well Locations

The geographic coordinates of the well are specified in terms of an X-Y coordinate system inscribed onto a map of the site locale. Data on the location of the well are readily available from historical records and maps of the plant vicinity. For a non-vertical wellbore, the borehole is projected downward to its intersection with the injection interval.

3.2 Geological Data

3.2.1 Average Thickness of Layers

The average thicknesses of the geological units in the model are determined by analyzing resistivity and spontaneous potential logs. Special geological surveys by experienced consulting organizations are often utilized as additional data sources. The predicted vertical permeation distance into the overlying aquitard will vary in inverse proportion to the thickness of the injection interval. The permeation distance is quite insensitive to the overlying aquitard layer thickness at brief times and decreases with increasing aquitard thickness at long times. The functional dependence at long times is to a power less than or equal to one.

3.2.2 High-permeability Layer Properties

3.2.2.1 Average Horizontal Permeability

The predicted vertical permeation distance varies almost inversely with the horizontal permeabilities of the injection interval in both the Short-term and Long-term Submodels.

The average horizontal permeability of an injection interval can be determined from core samples, if core samples are available. A large number of cores is desirable to obtain a representative average. Another source of average permeability data is from injectivity/falloff or multi-well interference reservoir tests. If core data o reservoir tests are not available, values can be estimated using regional geological reports and reasonable geological judgment. The estimated permeability values can be improved by employing the Multilayer Pressure Model to

calibrate the permeability to historic shut-in pressure and operating pressure data at injection wells and monitoring wells.

3.2.2.2 Average Layer Porosities

The Short-term Vertical Permeation Submodel results are not sensitive to the porosity values used. These parameters enter into the calculation only through the contribution of fluid compression within the pores to the overall layer storativities. Average layer porosities can be determined from core samples taken from the injection interval, geophysical well logs, or can be estimated. Typically, for a 100 percent increase (factor of two) in the permeable layer porosity, the vertical permeation distance in the Short-term Submodel will increase by less than three percent.

The permeable layer porosities do not enter as parameters in the Long Term Vertical Permeation submodel. This is because the compressive storage properties of the layers are irrelevant to the permeation behavior over this time frame.

3.2.2.3 Rock Compressibility

The compressibility of the geological materials comprising the permeable layers is rarely directly measured at an underground injection site. Short-term Submodel predictions are fairly insensitive to the values specified for these parameters. Typically, a 100 percent increase in compressibility produces less than a three percent increase in vertical permeation distance. In the Long-term Submodel, the compressive properties of the layers have no bearing on the final distance of vertical permeation.

Values for compressibility can be estimated from information for similar geological materials in the literature (Freeze and Cherry, 1979). These estimates can sometimes be improved by using the Multilayer Pressure Model to calibrate the results of initial well tests and historic operating data. However, the degree of improvement will typically not be great, because of the basic insensitivity of the system pressure response to the values of these parameters.

3.2.3. Low-permeability Layer Properties

The permeabilities and porosities of the aquitard layers overlying the injection intervals are key parameters in both the Short-term and Long-term Submodels. Predicted vertical permeation distance typically varies in direct proportion to permeability in the Long-term Submodel and to

the square root of permeability in the Short-term Submodel. In both versions, predicted vertical permeation distance is inversely proportional to the porosity of the overlying aquitard.

Values of aquitard permeability and porosity have rarely been measured at underground injection sites in older wells. However, their measurement are becoming more frequent in newer wells. Without site-specific measurements, it is necessary to make reasonably conservative estimates based on general information in the literature on similar aquitard materials (Freeze and Cherry, 1979; Neuzil, 1986) or from information for the same geological region.

In the case of the Gulf Coast region, Newsom and Porter (1987) have developed conservative descriptions of shale aquitard permeabilities and porosities as a functions of depth, suitable for making worst-case estimates of injection-induced vertical permeation. They establish reasonable upper limits to the values for shale permeability and lower limits for shale porosity. Based on the general dependence of the vertical permeation distance on permeability and porosity as noted above, calculations using the Newsom and Porter (1987) parameterization will result in a significant margin of safety.

Values of aquitard compressibilities for underground injection sites have rarely, if ever, been measured. However, there is information in the literature on compressibilities of typical aquitard materials (Freeze and Cherry, 1979; Neuzil, 1986). This information can be used to establish reasonable upper limits on aquitard compressibilities for use in the Short-term Submodel. These will provide a worst-case estimate of the vertical permeation distance. For Gulf Coast shales at the depths of underground injection operations, this upper limit has been placed at 7×10^{-5} psi (Neuzil, 1987). This value is over 20 times the compressibility of water.

In the Long-term Submodel, the vertical permeation distance is independent of the compressible storative properties of the aquitard layers. The predicted permeation distance in the Short-term Submodel is roughly proportional to the square root of the overlying aquitard compressibility.

3.3 Well Radius

The well radius can be determined from caliper logs of the well. The calculated vertical permeation distance is insensitive to well radius. Typically, a factor of two decrease in radius will produce less than a six percent increase in permeation distance using either submodel.

3.4 Fluid Viscosity

A constant fluid viscosity is specified for each layer in the model. The value chosen is that of the original formation fluid for the temperature at depth. The formation fluid viscosity can be measured directly from samples, or it can be computed from property data in literature, which provide saline brine viscosity as a function of temperature and salinity (Lobo, 1984; Suryanarayana and Venkatesan, 1958; Perry and Chilton, 1973).

3.5 Site Operating History

In the Long-term Submodel, predictions of the vertical permeation distance at a specific site depend only on the total volume of waste injected into each zone at each well. However, when individual wells at a site are perforated into more than one zone simultaneously, the distribution of injection flow between zones will be affected by the history of the injection rates. This flow distribution is calculated using the Multilayer Pressure Model, which determines the injection flow splits between the various zones and interformational flows at shut-in wells open to multiple zones. Thus, the outputs from the Multilayer Pressure Model giving total flow volumes injected into each horizon are used as inputs to the Long-term Vertical Permeation Submodel.

The injection rate histories (gallons per minute) and known sequence of well completions are specified as functions of time in the model inputs. This information is available from the site operating records. The information can be provided on an average annual basis, or preferably, on an average monthly basis.

4.0 MODEL OUTPUTS

Outputs from the Short-term Submodel consist of the vertical permeation distances into the various aquitards at each of the injection wells as a function of time since site operation began. For a multiple well installation, this includes some original formation fluid which entered the aquitard prior to the startup of each well, for every well except the first. This initial permeation is the result of the pressure built up in the injection interval from the operation of previous wells. Thus, the permeation distance predicted by the model is an overestimate of the true vertical waste movement. This provides an added margin of safety in the vertical permeation calculation.

The Long-term Submodel delivers as output the final permeation distance into each aquitard, at each well, after an infinite time has passed since injection has been discontinued. This final permeation distance is calculated on the basis of waste injection up to the simulated end of the facility operation, followed by complete shutdown of the site. As with the Short-term Submodel, the initial portion of the permeation at each well except the first for a multiple well site consists of original formation fluid.

5.0 ASSUMPTIONS, VALIDATION, AND MARGINS OF SAFETY

This section describes the key assumptions in the model and evaluates the particular site-specific conditions under which the assumptions are valid. The assumptions provide the basis for the model formulations given in Section 6.0.

5.1 Flow is Horizontal in High-permeability Layers and Vertical in Low-permeability Layers

According to Neuman and Witherspoon (1969), this assumption is valid whenever the permeability of the high permeability layers is at least 100 times that of the adjacent aquitards. This condition is virtually always satisfied at underground injection sites.

5.2 The Properties and Thicknesses of the Layers do not Vary with Position

Miller et al., (1986) have shown that the pressure driving force for vertical permeation is insensitive to vertical variations of material properties within the injection interval. It is determined primarily by the vertically averaged properties. This same conclusion was reached by Collins (1986). The ability of classical "Reservoir Analysis" to describe the pressure distribution in geological formations that are known to be highly variable vertically is evidence of the validity of assuming constant average properties through the thickness of the layer.

The properties of the layers as well as their thickness can also vary in the horizontal direction. The pressure response of an injection layer is determined by the product of the permeability and layer thickness, expressed as the transmissivity. The model includes the capability of handling large, sudden lateral variations in transmissivity (such as a fault blockage) using the method of image wells (Freeze and Cherry, 1979). The effects of gradual changes, such as pinch-outs, can be simulated by modeling these changes as sudden variations imposed at an appropriate location.

5.3 Fluid Viscosity is Uniform Within Each Layer of the Model

In the high-permeability injection layer, the fluid viscosity varies from that of the waste in the region near the wells to the formation fluid viscosity at distances further out. These viscosity values will typically differ no more than a factor of two. Selecting either of the values as input to the model produces only a small inaccuracy in the predicted pressure buildup and associated vertical permeation. This difference is normally very small compared to the uncertainties inherent in many of the other input parameters to the model. It can therefore be discounted or

assumed to be incorporated into the margin of safety factors for the other parameters. For example, in the case of the aquitard layer permeabilities, the margin of safety is typically orders of magnitude, rather than the factor of two associated with viscosity.

5.4 The Injection Intervals are Fully Perforated

Not all injection wells are perforated over the full height of the injection interval. The effects of partial perforation are important only in the region near each well and will not affect the pressure buildup at other adjacent wells, provided the well spacing is sufficiently large. Near a partially perforated well, the pressure buildup will vary both with vertical position through the formation, as well as with radial position away from the well.

The nature of this variation was studied extensively by Hantush (1964), who found that for a constant injection rate, after a very short initial transient period has passed, the contribution of partial perforation to the pressure distribution will approach steady-state.

Hantush's steady-state equations were used to assess the influence of partial perforation on the pressure buildup at the base of the aquitard overlying the injection interval. Hantush's results showed that, if perforations are not present within the top portion of the injection interval (as is most often the case) the pressure at the base of the overlying aquitard will be lower than if the entire interval were perforated. Therefore, discounting partial perforation effects in such situations would result in an overestimate of the vertical permeation distance and would provide an added margin of safety in the calculation.

5.5 Hydrodynamic Dispersion can be Discounted in the Aquitard Layers

Dispersion in the direction of fluid flow on the field scale is caused primarily by heterogeneous permeability variations within a formation. This produces differences in the flow resistance from one parallel streamline to another (see the discussion of macrodispersion in the documentation of the Basic Plume Model).

In sedimentary geological settings, permeability variations normal to the bedding planes will typically be much greater than those parallel to the bedding. For horizontal flow in the direction parallel to the bedding, the fluid in the various sublayers of a formation will be subjected to very different flow resistances. Thus, the degree of dispersion can be expected to be relatively high for horizontal flow.

On the other hand, the flow within the aquitard layers is primarily vertical. This vertical flow takes place perpendicular to the bedding planes, with all fluid streamlines passing across nearly the same sequence of sublayer permeabilities. This will result in minimal vertical dispersion. Thus, it is valid to discount hydrodynamic dispersion in considering vertical flow within sedimentary aquitard layers.

6.0 FORMULATION AND SOLUTION

Extensive work has been reported in literature on the hydrology of multilayer geological systems. Simple three-layer arrangements were studied analytically by Hantush and Jacob (1955), Hantush (1960, 1964, and 1967), and Neuman and Witherspoon (1969).

Flow in more general multilayer geological systems featuring a number of high- and low-permeability layers has been modeled by Hunt (1985), for the case of negligible aquitard compressive storage and Hemker (1984), for steady-state conditions in which aquitard storage is irrelevant.

The most extensive work in the multi-aquifer flow problem has been carried out by Herrera and his coworkers at the Institute of Geophysics, National University of Mexico. Key references to this work are Herrera and Figueroa (1969), Herrera (1970 and 1974), Herrera and Rodarte (1973), Herrera and Yates (1977), Herrera and Minzoni (1978), Herrera et al. (1980), and Chen and Herrera (1982). These investigators recognized the importance of aquitard compressive storage and slow compression boundary layer buildup behavior in some geological systems and developed general techniques for including these effects in multilayer flow calculations. Key relationships derived in the Vertical Permeation Model are based largely on the results of these studies.

6.1 Short-term Submodel

The Short-term Submodel has been developed to calculate vertical permeation into the aquitards on a time scale of decades, which is comparable to the operational lifetime of many underground injection facilities. It includes the effects of compressible storage of fluids within the aquitard layers.

According to Chen and Herrera (1982), the rate of permeation of fluid across the lower boundary of aquitard layer i in a multilayer stack of geological strata is given by:

$$q_i(t) = R_i \int_o^t \left[h'_{i-1}(t-\tau) F\left(\frac{D_{i-1}\tau}{b_{i-1}^2}\right) - h'_{i+1}(t-\tau) G\left(\frac{D_{i+1}\tau}{b_{i+1}^2}\right) \right] d\tau \qquad (1)$$

Where the "head influence functions" F and G are expressed as:

$$F(\xi) = \frac{1}{(\pi\xi)^{1/2}}\left(1 + 2\sum_{n=1}^{\infty} e^{-n^{2}/\xi}\right) \tag{2-a}$$

$$= 1 + 2\sum_{n=1}^{\infty} e^{-n^{2}\pi^{2}\xi} \tag{2-b}$$

And:

$$G(\xi) = 2F(4\xi) - F(\xi) \tag{3}$$

And where:

$q_i(t)$ = Volumetric permeation rate per unit area (Darcy velocity),

$h'_{i-1}(t^*)$ = Time derivative of the freshwater head buildup $h_{i-1}(t)$ in the underlying permeable layer i-1 at arbitrary time $t^* < t$,

$h'_{i+1}(t^*)$ = Time derivative of the freshwater head buildup in the overlying permeable layer i+1,

R_i = Aquitard "leakance,"

b_i = Aquitard thickness,

D_i = Aquitard hydraulic diffusivity, and

τ = Dummy variable of integration, with:

$$D_i = \frac{k_i}{\mu_i(\alpha_i + \phi_i\beta)}$$

$$R_i = \frac{\rho g k_i}{(\mu_i b_i)}$$

And:

ρ = Density of freshwater,

g = Gravitational acceleration constant,

k_i = Permeability of aquitard i,

μ_i = Fluid viscosity in aquitard i,

α_i = Compressibility of aquitard i,

ϕ_i = Porosity of aquitard i, and

β = Compressibility of water.

The actual vertical velocity of fluid movement v_i at the base of the aquitard is related to the Darcy vertical permeation rate velocity q_i by the equation:

$$v_i = \frac{q_i}{\phi_i} \tag{4}$$

The distance of vertical fluid migration $\delta_i(t)$ into the aquitard, starting from the onset of injection until any arbitrary time "t" is obtained by integrating the vertical permeation velocity with respect to time:

$$\delta_i(t) = \int_o^t v_i(\tau) d\tau \tag{5}$$

An expression for the vertical permeation distance $\delta_i(t)$ can be obtained directly in terms of the head buildup histories in the overlying and underlying permeable layers by taking the Laplace transforms of Equations 1, 4, and 5, eliminating the transforms of the q_i and v_i and inverting the resulting Laplace transform for $\delta_i(t)$ to yield:

$$\delta_i(t) = \frac{R_i}{\phi_i} \int_o^t \left[h_{i-1}(t-\tau) F\left(\frac{D_{i-1}\tau}{b_{i-1}^2}\right) - h_{i+1}(t-\tau) G\left(\frac{D_{i+1}\tau}{b_{i+1}^2}\right) \right] d\tau \tag{6}$$

This is the relationship used in the Short-term Submodel to calculate vertical permeation into an aquitard layer during the injection phase of the operation and the first few decades post-closure. The largest permeation distance always occurs at one of the injection wells. Therefore, it is not necessary to calculate δ_i everywhere.

In performing the numerical integration of Equation 6, the infinite series given in Equations 2 and 3 for the influence functions F(ξ) and G(ξ) are approximated as follows:

$$F(\xi) = \frac{1}{\sqrt{\pi\xi}}\left(1 + 2e^{\frac{1}{\xi}}\right) \text{ for } \xi \le \frac{1}{\pi}$$

$$F(\xi) = \left(1 + 2e^{-\pi^2\xi}\right) \text{for} \xi \ge \frac{1}{\pi}$$

And:

$$G(\xi) = \frac{2}{\sqrt{\pi\xi}} e^{\frac{-1}{4\xi}} \text{ for } \xi \le \frac{1}{\pi}$$

$$G(\xi) = 1 - 2e^{-\pi^2\xi} \text{ for} \xi \ge \frac{1}{\pi}$$

These approximations are accurate to within 0.2 percent over the full range of variation for the argument ξ ($0 \le \xi < \infty$). The numerical integration procedure for Equation 6 employs the same "time superposition" coding as in the Multilayer Pressure Model. This approach makes use of the functions F(ξ) and G(ξ) and the integrals of these functions. The integrals of F(ξ) and G(ξ) have been obtained by analytically integrating the above approximate relationships to yield:

$$\int_0^{\xi} F(\xi')d\xi' = 2\left[\xi F(\xi) - 2erfc\left(\frac{1}{\sqrt{\xi}}\right)\right] \text{for} \xi \le \frac{1}{\pi}$$

$$= \frac{1}{3} + \xi - \frac{2e^{\pi^2\xi}}{\pi^2} \text{ for } \xi \ge \frac{1}{\pi}$$

And:

$$\int_0^{\xi} G(\xi')d\xi' = 2\left[\xi G(\xi) - erfc\left(\frac{1}{2\sqrt{\xi}}\right)\right] \text{ for } \xi \le \frac{1}{\pi}$$

$$= \frac{-1}{6} + \xi + \frac{2}{\pi^2} e^{-\pi^2\xi} \text{ for } \xi \ge \frac{1}{\pi}$$

As with the functions F(ξ) and G(ξ), these expressions are accurate to within 0.2 percent over the entire range of possible variation for the argument ξ.

In the numerical integration of Equation 6, the head buildup within the permeable layer underlying the aquitard during each finite time increment of the integration procedure is taken as a constant, equal to the value at either the beginning or the end of the time interval (as determined from the Multilayer Pressure Model), whichever is greater. In the case of the overlying permeable layer, the lower of the two values at the endpoints of the interval is used. This will automatically result in a conservative estimate of the upward permeation distance and provide an added margin of safety in the calculation.

6.2 Long-term Submodel

This submodel evaluates the residual fluid permeation distance within each aquitard layer after an infinite time has passed since injection was discontinued. For aquitards with relatively low compressive storage capabilities, this distance also represents the maximum permeation over all times. For more compressive aquitard layers, the maximum permeation occurs during injection and is calculated by the Short-term Submodel.

Under the assumption of horizontal flow in the high-permeability layers and vertical flow in the aquitard layers, the basic partial differential equations describing the freshwater head buildup within a multilayer geological system as a function of time and distance from an isolated injection well are given by (Neuman and Witherspoon, 1969a, b and Herrera and Rodarte, 1973):

$$S_i \frac{\partial h_i}{\partial t} = T_i \frac{1}{r} \frac{\partial}{\partial r}\left(r \frac{\partial h_i}{\partial r} \right) + K_{i+1}\left(\frac{\partial h_{i+1}}{\partial z} \right)_{z=0} - K_{i-1}\left(\frac{\partial h_{i-1}}{\partial z} \right)_{z=b_{i-1}} \tag{7}$$

for the high-permeability even numbered layers, and:

$$\frac{\partial h_i}{\partial t} = D_i \frac{\partial^2 h_i}{\partial z^2} \tag{8}$$

for the low-permeability odd numbered aquitard layers, where:

r = Radial distance from the well,

T_i = Transmissivity of the permeable layers,

S_i = Storativity of the permeable layers,

K_i = Vertical hydraulic conductivity of the aquitard layers (= $R_i b_i$), and

z = Local vertical coordinate within each aquitard layer,
(z = 0 at base of aquitard, and z = b_i at top of aquitard), with:

$$T_i = \frac{\rho g k_i b_i}{\mu_i}$$

$$S_i = \rho g b_i (\alpha_i + \phi_i \beta)$$

and where the other parameters are defined as above (under Short-term Submodel).

Equation 7 and Equation 8 differ from the corresponding relationships provided in the documentation of the Multilayer Pressure Model in that they include the effects of aquitard compressive storage. However, as demonstrated below, inclusion of this difference will have absolutely no bearing on the calculated residual permeation distance at long times.

Boundary conditions on the present multilayer flow system are given by:

$$h_i = 0 \ \ at\ r \to \infty \tag{9}$$

$$2\pi r\, T_i \frac{\partial h_i}{\partial r} = -\, Q_i(t)\ at\ r = r_o \tag{10}$$

For the high-permeability even numbered layers, and:

$$h_i = h_{i-1}\ \ at\ z = \ 0 \tag{11}$$

$$h_i = h_{i+1}\ at\ z = b_i \tag{12}$$

For the low-permeability odd numbered aquitard layers, where $Q_i(t)$ is the time-dependent volumetric injection rate into permeable layer i and r_o is the well radius.

Initial conditions on the system are that the head buildup in all layers is zero at time zero.

$$h_i = 0 \; at \; t = 0 \tag{13}$$

The vertical permeation velocity at the base of each aquitard layer can be obtained by applying Darcy's law to yield:

$$\frac{\partial \delta_i}{\partial t} = v_i = \frac{-K_i}{\phi_i}\left(\frac{\partial h_i}{\partial z}\right)_{z=0} \tag{14}$$

If Equations 7 through 12 and 14 are integrated with respect to time, from t = 0 to $t \rightarrow \infty$, and it is recognized that for a finite injection volume and operating lifetime for each well, $h \rightarrow 0$ as $t \rightarrow \infty$, one obtains:

$$T_i \frac{1}{r}\frac{\partial}{\partial r}\left(r\frac{\partial \psi_i}{\partial r}\right) + K_{i+1}\left(\frac{\partial \psi_{i+1}}{\partial z}\right)_{z=0} - K_{i-1}\left(\frac{\partial \psi_{i-1}}{\partial z}\right)_{z=b_{i-1}} = 0 \tag{15}$$

With:

$$2\pi r T_i\left(\frac{\partial \psi_i}{\partial r}\right) = -V_i \quad at \quad r = r_o \tag{16}$$

$$\psi_i = 0 \quad at \quad r \rightarrow \infty \tag{17}$$

For the high-permeability even numbered layers, and:

$$\frac{\partial^2 \psi_i}{\partial z^2} = 0 \tag{18}$$

With:

$$\psi_i = \psi_{i-1} \; at \; z = 0 \tag{19}$$

$$\psi_i = \psi_{i+1} \; ar \; z = b_i \tag{20}$$

And:

$$\delta_i(\infty) = -\frac{K_i}{\phi_i}\left(\frac{\partial \psi_i}{\partial z}\right)_{z=0} \tag{21}$$

for the low-permeability odd numbered aquitard layers, where:

V_i = total volume of waste injected into permeable layer i,

$\delta_i(\infty)$ = residual permeation distance into aquitard i at infinite time, and

ψ_i = integral under the head buildup curve with respect to time, from time zero to infinite time:

$$\psi_i = \int_o^\infty h_i(t)\partial t \tag{22}$$

Equations 18 through 20 can be solved analytically for the variation of ψ_i with vertical position within the aquitard layers to yield:

$$\psi_i = \left[\psi_{i+1} z - \psi_{i-1}(z - b_i)\right] \Big/ b_i \tag{23}$$

Substituting Equation 23 into Equations 15 and 21, one obtains:

$$T_i \frac{1}{r}\frac{\partial}{\partial r}\left(r\frac{\partial \psi_i}{\partial r}\right) + R_{i+1}(\psi_{i+2} - \psi_i) + R_{i-1}(\psi_{i-2} - \psi_i) = 0 \tag{24}$$

And:

$$\delta_i(\infty) = \frac{R_i}{\phi_i}(\psi_{i-1} - \psi_{i+1}) \tag{25}$$

Equation 24, together with the boundary conditions of Equations 16 and 1, provide a set of equations for calculating the variations of ψ_i with position within the high permeability layers. It is interesting to observe that these relationships no longer contain the ψ_i values for the aquitard layers; these have now been eliminated from the analysis.

Moreover, Equations 16, 17, and 24 are identical in form to the corresponding relationships for head buildup at final steady-state in a multilayer injection system operating at a constant injection rate, with ψ_i replacing h_i in the equations and V_i, the total volume of waste injected into each permeable layer i, replacing the injection rate Q_i. Thus, a computer model that calculates steady-state head buildup in a multilayer system can be employed to solve directly for the time integral of the head variations from the initial startup of injection to infinite time.

The present results are independent of whether compressive fluid storage in the various layers of the system (both high- and low-permeability) had been discounted from the outset. The compressive properties of the layers have dropped out as a result of the time integration.

Equation 25 provides a relationship for calculating the residual permeation distance into an aquitard layer as a function of the head/time integrals in the overlying and underlying permeable strata. This distance can be determined once Equations 24, 16, and 17 have been solved for ψ_i.

The model is set up to allow no vertical flow across the lower boundary of the sequence of layers being modeled. The upper boundary is typically chosen to coincide with the depth of the lowest underground source of drinking water (USDW) and is assumed to experience zero head buildup at all times. This assumption is very conservative from the standpoint of estimating vertical permeation, since the actual location of the zero-head-boundary is at the ground surface (water table). Thus, the model takes no credit for the resistance to vertical flow provided by the aquitard layers overlying the USDW.

The first step in the solution to the model equations is to generate a set of "base case" solutions for the behavior of a single isolated well injecting a unit volume of waste (over all time) into a specified injection horizon. A separate base case solution is generated for each permeable interval which receives waste. This involves solving Equations 16, 17, and 24 numerically for the head/time integrals ψ_i in all the permeable layers. Results of the calculations are stored in a set of tables of head/time integral as a function of radial position, permeable layer, and injection interval.

The differential equations and boundary conditions are solved by discretizing the spatial derivatives in these relationships with respect to the radial coordinate using a finite difference approach and solving the resulting set of linear algebraic equations by means of a commercially available matrix inversion routine. The discretization scheme is carried out in the logarithm of the radius, rather than the radius itself, to achieve an added degree of accuracy, since the head/time ψ_i integrals in the various permeable layers are approximately linear in log (r). The boundary condition at large radial distances from the well (Equation 17) is applied at the final radial grid point, which is typically placed at a distance of about 200 miles.

The tables of base case solutions generated for a single isolated well injecting into a specified interval are used to construct the solutions for more complex site-specific situations of multiple wells and multiple injection intervals. This is accomplished by applying the principle of linear spatial superposition (Freeze and Cherry, 1979). This principle takes advantage of the basic linearity of the differential equations and boundary conditions to express the results for the general multiple well/multiple horizon case as a linear combination (sum) of the simpler base case solutions.

7.0 VERIFICATION

The computer codes used to solve the Short-term and Long-term Submodels has been verified against a variety of analytic and numerical solutions in the literature, and with separate numerical tests, to guarantee that they deliver accurate solutions to the model descriptions as stated.

7.1 Short-term Submodel

The Short-term Submodel is essentially an appendage to the Multilayer Pressure Model. The latter has received extensive verification in a separate documentation package (see Appendix VII-2 DuPont Multilayer Pressure Model). This verification automatically carries over to the major portion of the Short-term Submodel calculation.

The key new feature not previously tested is the numerical integration of Equation 6 in Section 6.0, Formulation and Solution. This relationship determines the vertical permeation distance into each aquitard layer using the time-dependent head buildups calculated by the Multilayer Pressure Model. The computer coding used to perform this calculation is nearly identical to the “time-superposition” coding in the Multilayer Pressure Model, which is based on an equation of very similar form. The verification of the time-superposition coding of the Multilayer Pressure Model constitutes partial verification of the short-term vertical permeation code. Additional tests of the vertical permeation calculation involved the imposition of specially prescribed pressure histories, such as step head increases and decreases at specified times, which permitted analytic integration of the permeation equation. The results of hand calculations for the same pressure histories were found to be in precise agreement with the computer results.

7.2 Long-term Submodel

In Section 6.2, describing the formulation and solution of the Long-term Submodel, it was observed that the set of differential equations and boundary conditions are the direct analog of the equations for the steady-state pressure buildup in a multilayer injection system operating at constant injection rate at all wells. In this analogy, the time integrals of the head buildups (from the onset of operations to infinite time) replace the steady-state head buildups in the equations, and the total volumes injected at the wells into each horizon replace the constant injection rates. Therefore, it was advantageous to structure the computer code for the Long-term Submodel as a direct symbolic analog of the code in the Multilayer Pressure Model. This applies both to the finite difference discretization of the differential equations in the radial coordinate direction and to the spatial superposition of solutions for a multiple well site. The verification of most aspects the Multilayer Pressure Model computer code carry directly over to the verification of the Long-term Permeation Submodel.

The method of solving the linear algebraic finite difference equations for the integrals of the head buildups in the Long-term Submodel differs from that used for the final steady-state solution of the head buildup analog in the Multilayer Pressure Model. In the Long-term Submodel, the equations are solved directly using a matrix inversion routine; in the Multilayer Pressure Model, the ordinary differential equations for the time dependent pressure variations are integrated at constant injection rates out to long times. Verification of the computer coding in the Long-term Submodel was provided by comparing the two solutions and confirming that within the framework of the mathematical analogy, they are identical for a site-specific test case.

As a final check on the model computer code, the results of a single injection layer test were compared with the analytic solution presented in Miller et al. (1986). The two solutions were found to be virtually indistinguishable.

REFERENCES

Bredehoeft, J. D. and G. F. Pinder, 1970, Digital Analysis of Areal Flow in Multiaquifer Groundwater Systems: A Quasi-three-dimensional Model: Water Resources Research, Vol. 6, No. 3, pp. 883-888.

Chen, B., and I. Herrera, 1982, Numerical Treatment of Leaky Aquifers in the Short Time Range: Water Resources Research, Vol. 18, No. 3, pp. 557-562.

Collins, R. E., 1986, Technical Basis for Area of Review: prepared for Chemical Manufacturers Association, CMA Ref. No. 80-160-000-4.

Freeze, R. A., and J. A. Cherry, 1979, Groundwater: Prentice-Hall, Englewood Cliffs, New Jersey.

Hantush, M. S., 1960, Modification of the Theory of Leaky Aquifers: Journal Geophys. Res., Vol. 65, No. 11, pp. 3713-3725.

Hantush, M. S., 1964, Hydraulics of Wells: in Advances in Hydroscience, Vol. 1, Academic Press, New York.

Hantush, M. S., 1967, Flow to Wells in Aquifers Separated by a Semipervious Layer: Jour. Geophys. Res., Vol. 72, No. 6, pp. 1709-1720.

Hantush, M. S., and C. E. Jacob, 1955, Steady Three-dimensional Flow to a Well in a Two-layered Aquifer: Trans. Amer . Geophys. Union, Vol. 36, pp. 95-100.

Hemker, C. J., 1984, Steady Groundwater Flow in Leaky Multiple-aquifer Systems: H. Hydrol., Vol. 72, pp. 355-374.

Herrera, I., 1970, Theory of Multiple Leaky Aquifers: Water Resources Research, Vol. 6, No. 1, pp. 185-193.

Herrera, I., 1974, Integrodifferential Equations for Systems of Leaky Aquifers and Applications, 2. Error Analysis of Approximate Theories: Water Resources Research, Vol. 10, No. 4, pp. 811-820.

Herrera, I., and G. E. Figueroa, 1969, A Correspondence Principle for the Theory of Leaky Aquifers, Water Resources Research, Vol. 5, No. 4, pp. 900-904.

Herrera, I., and L. Rodarte, 1973, Integrodifferential Equations for Systems of Leaky Aquifers and Applications, 1. The Nature of Approximate Theories: Water Resources Research, Vol. 9, No. 4, pp. 995-1005.

Herrera, I., and R. Yates, 1977, Integrodifferential Equations for Systems of Leaky Aquifers and Applications, 3. A Numerical Method of Unlimited Applicability: Water Resources Research, Vol. 13, No. 4, pp. 725-732.

REFERENCES (CONTINUED)

Herrera, I., and A. Minzoni, 1978, Theory of Flow in Unconfined Aquifers by Integrodifferential Equations: : Water Resources Research, Vol. 14, No. 2, pp. 291-297.

Herrera, I., J. P. Hennert, and R. Yates, 1980, A Critical Discussion of Numerical Models for Multiaquifer Systems: Advances in Water Resources, Vol. 3, pp. 159-164.

Hunt, B., 1985, Flow to a Well in a Multiaquifer System: Water Resources Research, Vol. 21, No. 11, pp. 1637-1741.

Miller, C., T. A. Fischer II, J. E. Clark, W. M. Porter, C. H. Hales, and J. R. Tilton, 1986, Flow and Containment of Injected Wastes: Groundwater Monitoring Review, Vol. 6, No. 3, pp. 37-48, 1986; in Proceedings of International Symposium on Subsurface Injection of Liquid Wastes, March 3 - 5, 1986, New Orleans, Louisiana, pp. 520-559.

Neuman, S. P., and P. A. Witherspoon, 1969a, Theory of Flow in a Confined Two-aquifer System: Water Resources Research, Vol. 5, No. 4, pp. 803-816.

Neuman, S. P., and P. A. Witherspoon, 1969b, Applicability of Current Theories of Flow in Leaky Aquifers: Water Resources Research., Vol. 5, No. 4, pp. 817-829.

Neuzil, C. E., 1987, Private phone conversation with C. Miller.

Neuzil, C. E., 1986, Groundwater Flow in Low-permeability Environments: Water Resources Research, Vol. 22, No. 8, pp. 1163-1195.

Perry, R. H., and C. H. Chilton, Eds., 1973, Chemical Engineers' Handbook: Fifth Edition, pp. 3-112 to 3-113, McGraw Hill, New York.

Suryanarayana, C. V., and V. K. Venkatesan, 1958, The Viscosity of Concentrated Aqueous Solutions of Sodium Chloride: Trans. Faraday Soc., Vol. 54, pp. 1709.

Geologic Column of Layers

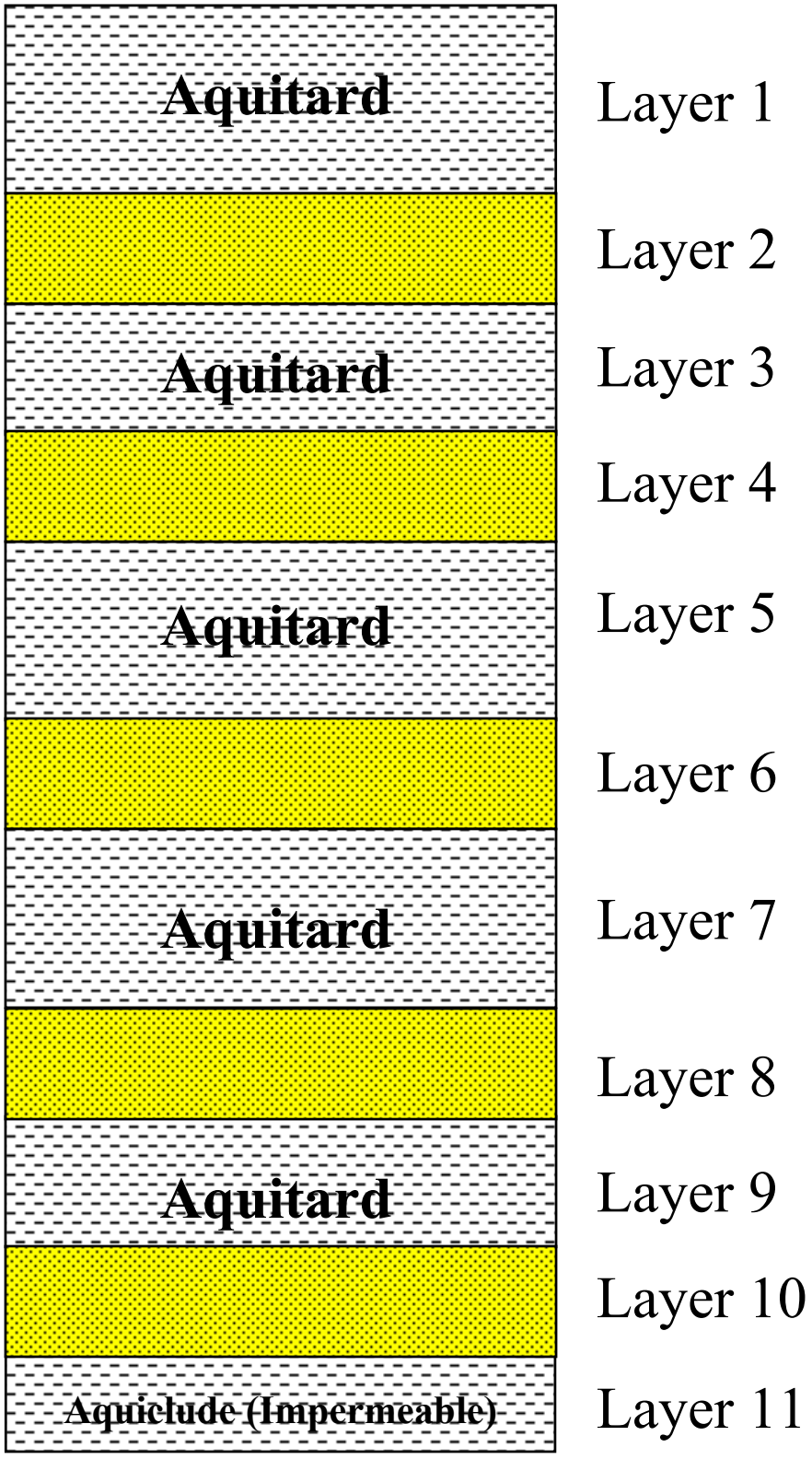

Figure 1
Model Structure for Typical Geological Arrangement

APPENDIX VII-4

MODEL INPUT AND OUTPUT FILES

Geostock Sandia

APPENDIX VII-4
DUPONT MODEL
INPUT AND OUTPUT FILES

APPENDIX CONTENTS

A. DUPONT MULTILAYER PRESSURE MODEL

A.1 Orange Sand Layer Projected Pressure – Max Rates 975 gpm

- Annual Projected Pressure Input .RCV File
- Annual Projected Pressure Input .PRM File
- Annual Projected Pressure Output .SUM Summary File

A.2 Yellow Sand Layer Projected Pressure – Max Rates 1,200 gpm

- Annual Projected Pressure Input .RCV File
- Annual Projected Pressure Input .PRM File
- Annual Projected Pressure Output .SUM Summary File

B. DUPONT MULTILAYER VERTICAL PERMEATION MODEL

- Annual Permeation Input .PRM File
- Annual Permeation Input .RCV File
- Annual Permeation Output .SUM Summary File

C. DUPONT BASIC PLUME MODEL (MAX RATES)

C.1 Orange Sand Layer

- Projected Plumes (MF = 3.5) Input .RCV File
- Projected Plumes (MF = 3.5) Output .INJ File

C.2 Yellow Sand Layer

- Projected Plumes (MF = 3.7) Input .RCV File
- Projected Plumes (MF = 3.7) Output .INJ File

APPENDIX VII-4

A. DUPONT MULTILAYER PRESSURE MODEL

Geostock Sandia

A.1 ORANGE SAND LAYER PROJECTED PRESSURES

MAX RATES 975 GPM

Geostock Sandia

ANNUAL PROJECTED PRESSURE

INPUT .RCV FILE

Geostock Sandia

```
TITLE    BLUEBONNET ORANGE SAND Job to Generate Pressure
YEAR  74.       30.              TINJ, TPC
34    -6    24   34              NLEV, NINJ, & INJECTION LEVELS
0                                NSKIP & SKIPPED LEVELS
FAULT                            FAULT CALCULATED
-8762. -18951., 21346. -4329.
PCNT                             PRESSURE CONTOUR PLOT DATA CALCULATED
20.                              RANGE FOR GRID (MI)
3    44     54     74            CONTOUR TIME PERIODS
    120.    .114  1.E-15  .748    7.00E-05  Top Confining Zone Shale
     22.     .25   1.000  .746    1.00E-05  Sand
     45.    .114  1.E-15  .744    7.00E-05  Shale
     67.     .25   1.000  .742    1.00E-05  Sand
     54.    .114  1.E-15  .740    7.00E-05  Shale
     26.     .25   1.000  .737    9.86E-06  Sand
     70.    .114  1.E-15  .735    7.00E-05  Shale
     10.     .25   1.000  .733    9.74E-06  Sand
    146.    .113  1.E-15  .729    7.00E-05  Shale
     18.     .25   1.000  .724    9.55E-06  Sand
     59.    .113  1.E-15  .722    7.00E-05  Shale
     73.     .25   1.000  .719    9.47E-06  Sand
    125.    .113  1.E-15  .715    7.00E-05  Shale
     45.     .25   1.000  .710    9.25E-06  Sand
    130.    .112  1.E-15  .706    7.00E-05  Shale
     77.     .25   1.000  .702    9.07E-06  Top of Injection Zone
     29.    .111  1.E-15  .701    7.00E-05  Containment Int Shale
     12.     .25   1.000  .699    8.96E-06  Sand
    108.    .111  1.E-15  .694    7.00E-05  Containment Int Shale
     80.     .25   1.000  .689    8.84E-06  Sand
     68.    .110  1.E-15  .686    7.00E-05  Containment Int Shale
     51.     .25   1.000  .682    8.70E-06  Sand
     67.    .110  1.E-15  .688    7.00E-05  Containment Int Shale
     55.     .27   4.000  .694    10.4E-06  Miocene Orange Sand L1
     24.    .109  1.E-15  .690    7.00E-05  Shale
     70.     .27   4.000  .686    10.4E-06  Miocene Orange Sand L2
     79.    .109  1.E-15  .682    7.00E-05  Shale
     45.     .31   4.000  .678    10.4E-06  Miocene Orange Sand L3
     64.    .109  1.E-15  .672    7.00E-05  Shale
     85.     .29   4.000  .666    9.58E-06  Miocene Yellow Sand L1
     66.    .109  1.E-15  .662    7.00E-05  Shale
     45.     .30   4.000  .657    9.96E-06  Miocene Yellow Sand L2
     54.    .109  1.E-15  .654    7.00E-05  Shale
     60.     .30   4.000  .652    9.86E-06  Miocene Yellow Sand L3
```

```
5  INJECTION WELLS
  M1          0.         0.
  M2     -15217.     11583.
 TD3     -14487.     -1953.
 LD3       -959.     13856.
 LD1      -1135.     15284.
30  MONITOR LOCATIONS
    1     -2511.      7955.
    2     -2552.      7821.
    3     -4406.      7663.
    4     -7372.      7307.
    5     -5018.     11507.
    6     -2402.     12915.
    7       -49.     12046.
    8      1882.      9723.
    9      8870.      8697.
   10     -1782.       982.
   11      -739.      -461.
   12      3292.     -2427.
   13      7214.     -6088.
   14      9544.     -6488.
   15      9522.     -8192.
   16       176.     -7992.
   17      -725.     -5054.
   18     -2755.     -6811.
   19     -5185.     -7659.
   20     -7777.     -8418.
   22     -8947.     -7320.
   23     -9854.     -6023.
   24     -7418.     -3254.
   25     -8940.     -3132.
   26    -12825.     -2139.
   30    -15996.      -889.
   31    -12103.      -368.
   32     -9731.      1882.
   33    -11509.      3152.
   34    -14725.      1379.
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1984     0.     0.  80.8     0.     0.
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1985     0.     0.  74.9     0.     0.
      24-28  24-28  24-28  24-28  24-28
1986     0.     0.  42.2     0.     0.
      24-28  24-28  24-28  24-28  24-28
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1991    0.    0. 148.5    0.    0.
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1992    0.    0. 141.3    0.    0.
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1998    0.    0.  90.0    0.    0.
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2000    0.    0.  37.7    0.    0.
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2001    0.    0.  16.2    0.    0.
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2002    0.    0.   2.0    0.    0.
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```

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2012    0.    0.    0.    0.    0.
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2013    0.    0.    0.    0.   3.0
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2014    0.    0.    0.   5.2   9.8
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2016    0.    0.    0.  18.1   9.0
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2017    0.    0.    0.  20.2   5.5
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2018    0.    0.    0.  22.4   8.9
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2019    0.    0.    0.  20.9   9.4
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2020    0.    0.    0.   6.9   9.5
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2021    0.    0.    0.  16.4   0.6
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2023    0.    0.    0.   7.4   3.7
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2024    0.    0.    0.   10.    4.
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2025  975.  00.0    0.   10.    4.
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```

ANNUAL PROJECTED PRESSURE

INPUT .PRM FILE

Geostock Sandia

```
      PARAMETER (NLEV=34)
C     NLEV IS THE TOTAL NUMBER OF LAYERS (AQUIFER+CONFINING)
C     NLEV MUST = NLEVEL READ FROM INPUT FILE
C
      PARAMETER (MXWELL=5)
C     MXWELL IS THE NUMBER OF INJECTION WELLS TO BE CALCULATED
C     MXWELL MUST = NWELL READ FROM INPUT FILE
C
      PARAMETER (MXINJ=6)
C     MXINJ IS THE NUMBER OF INJECTION LEVELS TO BE INCLUDED
C     MXINJ MUST = NINJ READ FROM INPUT FILE
C
      PARAMETER (MXTM=110)
C     MXTM IS THE MAXIMUM ALLOWABLE NUMBER OF TIME PERIODS FOR CALC
C     MXTM MUST BE >= NUMBER OF TIME PERIODS FROM INPUT FILE
C
      PARAMETER (MXMON=100)
C     MXMON IS THE MAXIMUM ALLOWABLE NUMBER OF MONITOR COORDIATES
C     MXMON MUST BE >= NMON READ FORM INPUT FILE
C
      PARAMETER (MXMONC=100)
C     MXMONC IS THE MAXIMUM NUMBER OF MONITOR COORDIATES
C       TO WILL BE CALCULATED
C     MXMONC MUST BE >= THE NUMBER OF UNSTARRED MONITOR COORD
C       READ FORM INPUT FILE
C
      PARAMETER (NTPSCL=50)
C     NTPSCL IS THE NUMBER OF TIME PERIODS INTO THE INJECTION HISTORY
C     WHICH WILL BE USED BEFORE CHANGING TO A MORE COARSE TIME SCALE (10
C     NTPSCL SHOULD BE AS LARGE AS POSSIBLE WITHOUT EXAUSTING THE
C     AVAILABLE MEMORY.  VALUES DOWN TO ABOUT 40 SHOULD WORK.
C
      PARAMETER (NTPTEN=50)
C     NTPTEN IS THE MAXIMUM NUMBER OF COARSE TIME PERIODS ALLOWED
C     THE VALUE OF NTPSCL+10*NTPTEN MUST BE >= NUMBER OF TIME
C     PERIODS FROM INPUT FILE
C
      PARAMETER (MXCTP=10)
C     MXCTP IS THE MAXIMUM NUMBER OF TIME PERIODS THAT CAN BE SPECIFIED
C     FOR OUTPUT INTO THE (.PCNT) FILE FOR PRESSURE CONTOUR PLOTS
```

ANNUAL PROJECTED PRESSURE

OUTPUT .SUM FILE

Geostock Sandia

```
* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

 INJECTION PERIOD    ---      74.00  YEAR
 POST CLOSURE PERIOD ---      30.00  YEAR

CALCULATED INJECTION LEVELS IN INJECTION RANGE
 24  26  28  30  32  34
SKIPPED LEVELS IN INJECTION RANGE


 TOTAL BLOCKAGE FAULT INCLUDED IN CALCULATION WITH COORDINATES:
-8762.0,-18951.0         21346.0, -4329.0

 DEFAULT BORE RADIUS (0.5 FT) USED FOR ALL WELLS

 NO SKIN FACTORS APPLIED TO INJECTION WELLS

 PRESSURES CALCULATED ON A GRID FOR CONTOUR PLOTTING

 CONTOURS CALCULATED OUT TO   20.0     MILES

 THE CONTOUR PLOT DATA WILL BE CENTERED AT THE CENTROID
  OF ACTIVE WELLS IN EACH INJECTION LAYER

  CONTOURS CALCULATED FOR THE FOLLOWING YEAR :
  44     2026
  54     2036
  74     2056

 INJECTION HISTORY
    YEAR          WELL ID
             (M1 ) (M2 ) (D3 ) (D3 ) (D1 )
   1 1983     0.0   0.0  58.3   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   2 1984     0.0   0.0  80.8   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   3 1985     0.0   0.0  74.9   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   4 1986     0.0   0.0  42.2   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   5 1987     0.0   0.0  23.7   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   6 1988     0.0   0.0   5.2   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   7 1989     0.0   0.0 145.2   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   8 1990     0.0   0.0 159.1   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   9 1991     0.0   0.0 148.5   0.0   0.0
```

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           24-28 24-28 24-28 24-28 24-28
10 1992      0.0   0.0 141.3   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
11 1993      0.0   0.0 102.6   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
12 1994      0.0   0.0 104.7   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
13 1995      0.0   0.0 161.8   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
14 1996      0.0   0.0 155.4   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
15 1997      0.0   0.0 217.4   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
16 1998      0.0   0.0  90.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
17 1999      0.0   0.0  16.7   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
18 2000      0.0   0.0  37.7   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
19 2001      0.0   0.0  16.2   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
20 2002      0.0   0.0   2.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
21 2003      0.0   0.0  10.4   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
22 2004      0.0   0.0   2.7   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
23 2005      0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
24 2006      0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
25 2007      0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
26 2008      0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
27 2009      0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
28 2010      0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
29 2011      0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
30 2012      0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
31 2013      0.0   0.0   0.0   0.0   3.0
           24-28 24-28 24-28 24-28 24-28
32 2014      0.0   0.0   0.0   5.2   9.8
           24-28 24-28 24-28 24-28 24-28
33 2015      0.0   0.0   0.0  30.7   9.3
           24-28 24-28 24-28 24-28 24-28
34 2016      0.0   0.0   0.0  18.1   9.0
```

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            24-28 24-28 24-28 24-28 24-28
 35 2017      0.0   0.0   0.0  20.2   5.5
            24-28 24-28 24-28 24-28 24-28
 36 2018      0.0   0.0   0.0  22.4   8.9
            24-28 24-28 24-28 24-28 24-28
 37 2019      0.0   0.0   0.0  20.9   9.4
            24-28 24-28 24-28 24-28 24-28
 38 2020      0.0   0.0   0.0   6.9   9.5
            24-28 24-28 24-28 24-28 24-28
 39 2021      0.0   0.0   0.0  16.4   0.6
            24-28 24-28 24-28 24-28 24-28
 40 2022      0.0   0.0   0.0  40.5   0.0
            24-28 24-28 24-28 24-28 24-28
 41 2023      0.0   0.0   0.0   7.4   3.7
            24-28 24-28 24-28 24-28 24-28
 42 2024      0.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 43 2025    975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 44 2026*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 45 2027*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 46 2028*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 47 2029*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 48 2030*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 49 2031*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 50 2032*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 51 2033*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 52 2034*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 53 2035*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 54 2036*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 55 2037*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 56 2038*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 57 2039*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 58 2040*   975.0   0.0   0.0  10.0   4.0
            24-28 24-28 24-28 24-28 24-28
 59 2041*   975.0   0.0   0.0  10.0   4.0
```

		24-28	24-28	24-28	24-28	24-28
60	2042*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
61	2043*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
62	2044*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
63	2045*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
64	2046*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
65	2047*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
66	2048*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
67	2049*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
68	2050*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
69	2051*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
70	2052*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
71	2053*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
72	2054*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
73	2055*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
74	2056*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
75	PC 1#	0.0	0.0	0.0	0.0	0.0
		24-28	24-28	24-28	24-28	24-28
76	PC 2#	0.0	0.0	0.0	0.0	0.0
		24-28	24-28	24-28	24-28	24-28
77	PC 3#	0.0	0.0	0.0	0.0	0.0
		24-28	24-28	24-28	24-28	24-28
78	PC 4#	0.0	0.0	0.0	0.0	0.0
		24-28	24-28	24-28	24-28	24-28
79	PC 5#	0.0	0.0	0.0	0.0	0.0
		24-28	24-28	24-28	24-28	24-28
80	PC 6#	0.0	0.0	0.0	0.0	0.0
		24-28	24-28	24-28	24-28	24-28
81	PC 7#	0.0	0.0	0.0	0.0	0.0
		24-28	24-28	24-28	24-28	24-28
82	PC 8#	0.0	0.0	0.0	0.0	0.0
		24-28	24-28	24-28	24-28	24-28
83	PC 9#	0.0	0.0	0.0	0.0	0.0
		24-28	24-28	24-28	24-28	24-28
84	PC10#	0.0	0.0	0.0	0.0	0.0

```
            24-28 24-28 24-28 24-28 24-28
  85 PC11#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  86 PC12#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  87 PC13#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  88 PC14#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  89 PC15#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  90 PC16#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  91 PC17#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  92 PC18#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  93 PC19#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  94 PC20#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  95 PC21#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  96 PC22#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  97 PC23#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  98 PC24#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
  99 PC25#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
 100 PC26#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
 101 PC27#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
 102 PC28#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
 103 PC29#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
 104 PC30#    0.0   0.0   0.0   0.0   0.0
            24-28 24-28 24-28 24-28 24-28
   * 2025 INJECTION RATES PROJECTED FORWARD
   # YEAR  POST CLOSURE

  INJECTION IN AQUIFER LEVELS   24  26  28  30  32  34
1

 * * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *
```

		INPUT PARAMETERS				
LEVEL		THICKNESS	POROSITY	PERMEABILITY	VISCOSITY	COMPRESSIBILITY*
		FT		DARCY	CP	1/PSI
1	Top Confining Zone Shale	120.00	0.114	0.1000E-14	0.748	0.700E-04
2	Sand	22.00	0.250	1.000	0.746	0.100E-04
3	Shale	45.00	0.114	0.1000E-14	0.744	0.700E-04
4	Sand	67.00	0.250	1.000	0.742	0.100E-04
5	Shale	54.00	0.114	0.1000E-14	0.740	0.700E-04
6	Sand	26.00	0.250	1.000	0.737	0.986E-05
7	Shale	70.00	0.114	0.1000E-14	0.735	0.700E-04
8	Sand	10.00	0.250	1.000	0.733	0.974E-05
9	Shale	146.00	0.113	0.1000E-14	0.729	0.700E-04
10	Sand	18.00	0.250	1.000	0.724	0.955E-05
11	Shale	59.00	0.113	0.1000E-14	0.722	0.700E-04
12	Sand	73.00	0.250	1.000	0.719	0.947E-05
13	Shale	125.00	0.113	0.1000E-14	0.715	0.700E-04
14	Sand	45.00	0.250	1.000	0.710	0.925E-05
15	Shale	130.00	0.112	0.1000E-14	0.706	0.700E-04
16	Top of Injection Zone	77.00	0.250	1.000	0.702	0.907E-05
17	Containment Int Shale	29.00	0.111	0.1000E-14	0.701	0.700E-04
18	Sand	12.00	0.250	1.000	0.699	0.896E-05
19	Containment Int Shale	108.00	0.111	0.1000E-14	0.694	0.700E-04
20	Sand	80.00	0.250	1.000	0.689	0.884E-05
21	Containment Int Shale	68.00	0.110	0.1000E-14	0.686	0.700E-04
22	Sand	51.00	0.250	1.000	0.682	0.870E-05
23	Containment Int Shale	67.00	0.110	0.1000E-14	0.688	0.700E-04
24	Miocene Orange Sand L1	55.00	0.270	4.000	0.694	0.104E-04
25	Shale	24.00	0.109	0.1000E-14	0.690	0.700E-04
26	Miocene Orange Sand L2	70.00	0.270	4.000	0.686	0.104E-04
27	Shale	79.00	0.109	0.1000E-14	0.682	0.700E-04
28	Miocene Orange Sand L3	45.00	0.310	4.000	0.678	0.104E-04
29	Shale	64.00	0.109	0.1000E-14	0.672	0.700E-04
30	Miocene Yellow Sand L1	85.00	0.290	4.000	0.666	0.958E-05
31	Shale	66.00	0.109	0.1000E-14	0.662	0.700E-04
32	Miocene Yellow Sand L2	45.00	0.300	4.000	0.657	0.996E-05
33	Shale	54.00	0.109	0.1000E-14	0.654	0.700E-04
34	Miocene Yellow Sand L3	60.00	0.300	4.000	0.652	0.986E-05

* Alpha as defined in Groundwater, Freeze and Cherry, Eqn. 2.52, pg. 54
== (porosity) * (oilfield formation compressibility)

		DERIVED PARAMETERS		
LEVEL		STORATIVITY	VERT. LEAKANCE	TRANSMISSIVITY
			1/YEAR	DARCY-FT
1	Top Confining Zone Shale	0.3658E-02	0.1111E-13	0.1200E-12
2	Sand	0.1026E-03	60.76	22.00
3	Shale	0.1372E-02	0.2978E-13	0.4500E-13
4	Sand	0.3124E-03	20.06	67.00

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   5  Shale                          0.1646E-02        0.2495E-13      0.5400E-13
   6  Sand                           0.1196E-03         52.04           26.00
   7  Shale                          0.2134E-02        0.1938E-13      0.7000E-13
   8  Sand                           0.4549E-04         136.0           10.00
   9  Shale                          0.4450E-02        0.9368E-14      0.1460E-12
  10  Sand                           0.8041E-04         76.51           18.00
  11  Shale                          0.1798E-02        0.2341E-13      0.5900E-13
  12  Sand                           0.3236E-03         19.00           73.00
  13  Shale                          0.3810E-02        0.1116E-13      0.1250E-12
  14  Sand                           0.1952E-03         31.21           45.00
  15  Shale                          0.3962E-02        0.1086E-13      0.1300E-12
  16  Top of Injection Zone          0.3279E-03         18.45           77.00
  17  Containment Int Shale          0.8839E-03        0.4905E-13      0.2900E-13
  18  Sand                           0.5054E-04         118.9           12.00
  19  Containment Int Shale          0.3292E-02        0.1330E-13      0.1080E-12
  20  Sand                           0.3328E-03         18.09           80.00
  21  Containment Int Shale          0.2073E-02        0.2138E-13      0.6800E-13
  22  Sand                           0.2090E-03         28.67           51.00
  23  Containment Int Shale          0.2042E-02        0.2163E-13      0.6700E-13
  24  Miocene Orange Sand L1         0.2674E-03         104.5           220.0
  25  Shale                          0.7314E-03        0.6021E-13      0.2400E-13
  26  Miocene Orange Sand L2         0.3403E-03         83.06           280.0
  27  Shale                          0.2408E-02        0.1851E-13      0.7900E-13
  28  Miocene Orange Sand L3         0.2211E-03         130.7           180.0
  29  Shale                          0.1951E-02        0.2318E-13      0.6400E-13
  30  Miocene Yellow Sand L1         0.3853E-03         70.45           340.0
  31  Shale                          0.2011E-02        0.2282E-13      0.6600E-13
  32  Miocene Yellow Sand L2         0.2120E-03         134.9           180.0
  33  Shale                          0.1646E-02        0.2823E-13      0.5400E-13
  34  Miocene Yellow Sand L3         0.2800E-03         102.0           240.0


   INJECTION WELL             DIST TO OTHER INJ WELLS  (FT)
#  ID    COORDINATES       (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
1 (M1 )      0.      0.       0.0 19123.9 14618.0 13889.1 15326.1
2 (M2 ) -15217.  11583.   19123.9     0.0 13555.7 14438.0 14560.2
3 (D3 ) -14487.  -1953.   14618.0 13555.7     0.0 20807.0 21803.4
4 (D3 )   -959.  13856.   13889.1 14438.0 20807.0     0.0  1438.8
5 (D1 )  -1135.  15284.   15326.1 14560.2 21803.4  1438.8     0.0


COORDINATES OF MODEL GENERATED IMAGE WELLS
        BASED ON FAULT COORDINATES: (-8762.,******),   (21346.,-4329.)
    # &  IMAGE COORDINATES
    1   11550.  -23782.       2   11245.  -42904.       3    1057.  -33961.       4   21847.  -33103.       5   22860.  -34125.


PRESS MONITOR POINTS           DIST TO INJ WELLS  (FT)
#  ID    COORDINATES       (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
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```
 1 (  1)  -2511.   7955.    8341.9 13213.8 15543.3  6101.7  7457.1
 2 (  2)  -2552.   7821.    8226.8 13211.9 15426.4  6241.7  7596.3
 3 (  3)  -4406.   7663.    8839.4 11499.7 13931.8  7087.7  8293.3
 4 (  4)  -7372.   7307.   10379.7  8934.7 11677.8  9166.0 10125.8
 5 (  5)  -5018.  11507.   12553.5 10199.3 16457.0  4689.7  5417.0
 6 (  6)  -2402.  12915.   13136.5 12884.0 19160.0  1722.7  2686.5
 7 (  7)    -49.  12046.   12046.1 15175.1 20110.4  2025.9  3415.3
 8 (  8)   1882.   9723.    9903.5 17199.9 20106.5  5015.3  6326.7
 9 (  9)   8870.   8697.   12422.3 24259.3 25670.4 11100.7 11978.7
10 ( 10)  -1782.    982.    2034.7 17113.7 13039.6 12900.3 14316.6
11 ( 11)   -739.   -461.     871.0 18832.7 13828.7 14318.7 15750.0
12 ( 12)   3292.  -2427.    4089.9 23213.4 17785.3 16828.8 18255.9
13 ( 13)   7214.  -6088.    9439.6 28555.5 22091.4 21553.7 22944.9
14 ( 14)   9544.  -6488.   11540.5 30654.0 24455.2 22895.2 24250.0
15 ( 15)   9522.  -8192.   12560.9 31671.3 24806.4 24412.4 25781.7
16 ( 16)    176.  -7992.    7993.9 24902.3 15857.9 21877.5 23312.9
17 ( 17)   -725.  -5054.    5105.7 22063.7 14107.0 18911.4 20342.1
18 ( 18)  -2755.  -6811.    7347.1 22218.0 12698.0 20744.9 22154.3
19 ( 19)  -5185.  -7659.    9249.0 21700.1 10912.6 21926.1 23297.7
20 ( 20)  -7777.  -8418.   11460.6 21340.0  9317.7 23294.1 24615.1
21 ( 22)  -8947.  -7320.   11559.9 19915.7  7713.4 22632.5 23915.9
22 ( 23)  -9854.  -6023.   11548.9 18404.7  6166.8 21778.3 23021.9
23 ( 24)  -7418.  -3254.    8100.3 16761.9  7187.7 18288.5 19573.8
24 ( 25)  -8940.  -3132.    9472.8 15997.9  5670.9 18769.4 20001.7
25 ( 26) -12825.  -2139.   13002.2 13928.9  1672.4 19915.9 20981.3
26 ( 30) -15996.   -889.   16020.7 12496.3  1846.4 21060.1 21964.0
27 ( 31) -12103.   -368.   12108.6 12350.0  2862.8 18069.6 19112.4
28 ( 32)  -9731.   1882.    9911.3 11144.8  6109.6 14843.3 15921.8
29 ( 33) -11509.   3152.   11932.8  9210.4  5910.1 15029.2 15962.6
30 ( 34) -14725.   1379.   14789.4 10215.9  3340.5 18579.0 19443.2


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-------------------------------------------------------------YEAR    1 (1983)-----------------------------------------------------
                                                              PRESSURES AT INJECTION WELL COORD (PSI)
                                    WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                      0.00     0.00     0.00     0.00     0.00
 4  Sand                                      0.00     0.00     0.00     0.00     0.00
 6  Sand                                      0.00     0.00     0.00     0.00     0.00
 8  Sand                                      0.00     0.00     0.00     0.00     0.00
10  Sand                                      0.00     0.00     0.00     0.00     0.00
12  Sand                                      0.00     0.00     0.00     0.00     0.00
14  Sand                                      0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                     0.00     0.00     0.00     0.00     0.00
18  Sand                                      0.00     0.00     0.00     0.00     0.00
20  Sand                                      0.00     0.00     0.00     0.00     0.00
22  Sand                                      0.00     0.00     0.00     0.00     0.00
```

24	Miocene Orange Sand L1	0.52*	0.47*	3.45*	0.36*	0.34*
26	Miocene Orange Sand L2	0.52*	0.47*	3.45*	0.36*	0.34*
28	Miocene Orange Sand L3	0.52*	0.47*	3.45*	0.36*	0.34*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.01	0.01	18.66	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	24.02	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	15.62	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	30.7	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.45	0.46	0.48	0.53	0.43	0.38	0.37	0.38	0.32	0.55
		0.54	0.48	0.45	0.42	0.43	0.56	0.56	0.60	0.65	0.70
		0.74	0.79	0.73	0.80	1.13	1.09	0.97	0.75	0.74	0.90
26	Miocene Orange Sand L2	0.46	0.46	0.49	0.53	0.43	0.38	0.37	0.38	0.32	0.55
		0.54	0.49	0.45	0.42	0.43	0.57	0.57	0.61	0.65	0.70
		0.74	0.79	0.74	0.80	1.13	1.09	0.97	0.75	0.74	0.90
28	Miocene Orange Sand L3	0.46	0.46	0.49	0.53	0.43	0.38	0.37	0.38	0.32	0.55
		0.54	0.49	0.45	0.42	0.43	0.57	0.57	0.61	0.65	0.70
		0.74	0.79	0.74	0.80	1.13	1.09	0.97	0.75	0.74	0.90
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 2 (1984)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.90*	0.82*	4.96*	0.66*	0.63*
26	Miocene Orange Sand L2	0.90*	0.82*	4.96*	0.66*	0.63*
28	Miocene Orange Sand L3	0.90*	0.82*	4.96*	0.66*	0.63*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.01	0.01	25.87	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	33.28	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	21.65	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	73.2	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.80	0.81	0.85	0.91	0.76	0.69	0.68	0.69	0.61	0.94
		0.93	0.85	0.80	0.76	0.78	0.97	0.97	1.03	1.09	1.15
		1.21	1.28	1.20	1.29	1.75	1.69	1.53	1.21	1.20	1.43
26	Miocene Orange Sand L2	0.81	0.81	0.85	0.92	0.76	0.69	0.68	0.70	0.61	0.94
		0.93	0.85	0.81	0.77	0.78	0.97	0.97	1.03	1.09	1.16
		1.21	1.28	1.20	1.29	1.75	1.69	1.53	1.21	1.20	1.43
28	Miocene Orange Sand L3	0.81	0.81	0.85	0.92	0.76	0.69	0.68	0.70	0.61	0.94
		0.93	0.85	0.81	0.77	0.78	0.97	0.97	1.03	1.09	1.16

		1.21	1.28	1.20	1.29	1.75	1.69	1.53	1.21	1.20	1.43
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 3 (1985)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.03*	0.94*	4.79*	0.79*	0.77*
26	Miocene Orange Sand L2	1.03*	0.94*	4.79*	0.79*	0.77*
28	Miocene Orange Sand L3	1.03*	0.94*	4.79*	0.79*	0.77*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.01	0.01	23.98	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	30.85	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	20.07	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
	CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	112.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.93	0.94	0.97	1.04	0.89	0.82	0.81	0.83	0.74	1.06
		1.05	0.98	0.94	0.90	0.91	1.09	1.09	1.15	1.21	1.27
		1.32	1.39	1.31	1.39	1.82	1.76	1.61	1.32	1.31	1.52
26	Miocene Orange Sand L2	0.93	0.94	0.97	1.04	0.89	0.82	0.81	0.83	0.75	1.06
		1.05	0.98	0.94	0.90	0.92	1.09	1.10	1.15	1.21	1.27
		1.32	1.39	1.31	1.39	1.82	1.76	1.61	1.32	1.31	1.52
28	Miocene Orange Sand L3	0.93	0.94	0.97	1.04	0.89	0.83	0.81	0.83	0.75	1.06
		1.06	0.98	0.94	0.90	0.92	1.09	1.10	1.15	1.21	1.27
		1.32	1.39	1.31	1.39	1.82	1.76	1.61	1.32	1.31	1.52
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 4 (1986)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.84*	0.78*	2.96*	0.69*	0.67*
26	Miocene Orange Sand L2	0.84*	0.78*	2.96*	0.69*	0.67*
28	Miocene Orange Sand L3	0.84*	0.78*	2.96*	0.69*	0.67*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

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34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00
                                 * PERFORATED INJECTION ZONE

                                                                   INJECTION RATES (GPM)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                 0.00     0.00    13.51     0.00     0.00
26  Miocene Orange Sand L2                 0.00     0.00    17.38     0.00     0.00
28  Miocene Orange Sand L3                 0.00     0.00    11.31     0.00     0.00
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)        0.0      0.0    134.7      0.0      0.0


                                                                PRESSURES AT MONITOR COORD (PSI)
                              MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                          ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                          ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                 0.78     0.78     0.80     0.84     0.75     0.71     0.71     0.72     0.67     0.86
                                           0.85     0.81     0.79     0.77     0.78     0.88     0.88     0.92     0.95     0.98
                                           1.01     1.05     1.00     1.05     1.29     1.25     1.17     1.00     1.00     1.12
26  Miocene Orange Sand L2                 0.78     0.78     0.80     0.84     0.75     0.71     0.71     0.72     0.67     0.86
                                           0.85     0.81     0.79     0.77     0.78     0.88     0.88     0.92     0.95     0.99
                                           1.01     1.05     1.00     1.05     1.29     1.25     1.17     1.00     1.00     1.12
28  Miocene Orange Sand L3                 0.78     0.78     0.80     0.84     0.75     0.71     0.71     0.72     0.67     0.86
                                           0.85     0.81     0.79     0.77     0.78     0.88     0.88     0.92     0.95     0.99
                                           1.01     1.05     1.00     1.05     1.29     1.25     1.17     1.00     1.00     1.12
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR    5 (1987)-----------------------------------------------------
                                                              PRESSURES AT INJECTION WELL COORD (PSI)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                   0.00     0.00     0.00     0.00     0.00
```

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.65*	0.61*	1.85*	0.56*	0.55*
26	Miocene Orange Sand L2	0.65*	0.61*	1.85*	0.56*	0.55*
28	Miocene Orange Sand L3	0.65*	0.61*	1.85*	0.56*	0.55*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	7.59	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	9.76	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	6.35	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	147.2	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.62	0.62	0.63	0.65	0.60	0.58	0.57	0.58	0.55	0.66
		0.66	0.64	0.63	0.61	0.62	0.68	0.68	0.70	0.72	0.74
		0.76	0.77	0.75	0.77	0.91	0.88	0.84	0.74	0.74	0.81
26	Miocene Orange Sand L2	0.62	0.62	0.63	0.65	0.60	0.58	0.57	0.58	0.55	0.66
		0.66	0.64	0.63	0.61	0.62	0.68	0.68	0.70	0.72	0.74
		0.76	0.77	0.75	0.77	0.91	0.88	0.84	0.74	0.74	0.81
28	Miocene Orange Sand L3	0.62	0.62	0.63	0.65	0.60	0.58	0.57	0.58	0.55	0.66
		0.66	0.64	0.63	0.61	0.62	0.68	0.68	0.70	0.72	0.74
		0.76	0.77	0.75	0.77	0.91	0.88	0.84	0.74	0.75	0.81
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 6 (1988)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.44*	0.42*	0.70*	0.40*	0.40*
26	Miocene Orange Sand L2	0.44*	0.42*	0.70*	0.40*	0.40*
28	Miocene Orange Sand L3	0.44*	0.42*	0.70*	0.40*	0.40*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	1.66	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	2.14	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	1.39	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	149.9	0.0	0.0					

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.43	0.43	0.43	0.43	0.42	0.41	0.41	0.41	0.40	0.44
		0.44	0.43	0.43	0.43	0.43	0.45	0.45	0.45	0.46	0.46
		0.47	0.47	0.46	0.47	0.49	0.49	0.48	0.46	0.46	0.47
26	Miocene Orange Sand L2	0.43	0.43	0.43	0.43	0.42	0.41	0.41	0.41	0.40	0.44
		0.44	0.43	0.43	0.43	0.43	0.45	0.45	0.45	0.46	0.46
		0.47	0.47	0.46	0.47	0.49	0.49	0.48	0.46	0.46	0.47
28	Miocene Orange Sand L3	0.43	0.43	0.43	0.43	0.42	0.41	0.41	0.41	0.40	0.44
		0.44	0.43	0.43	0.43	0.43	0.45	0.45	0.45	0.46	0.46
		0.47	0.47	0.46	0.47	0.49	0.49	0.48	0.46	0.46	0.47
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 7 (1989)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.61*	1.48*	8.91*	1.19*	1.15*
26	Miocene Orange Sand L2	1.61*	1.48*	8.91*	1.19*	1.15*
28	Miocene Orange Sand L3	1.61*	1.48*	8.91*	1.19*	1.15*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.02	0.02	46.48	0.01	0.01
26	Miocene Orange Sand L2	-0.01	-0.01	59.81	-0.01	-0.01
28	Miocene Orange Sand L3	-0.01	-0.01	38.90	-0.01	-0.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 0.0 0.0 226.3 0.0 0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.44	1.45	1.51	1.64	1.37	1.25	1.23	1.25	1.10	1.67
		1.66	1.52	1.43	1.36	1.38	1.72	1.72	1.82	1.94	2.05
		2.15	2.28	2.14	2.30	3.13	3.02	2.73	2.17	2.14	2.56
26	Miocene Orange Sand L2	1.44	1.45	1.52	1.64	1.37	1.25	1.23	1.25	1.10	1.67
		1.66	1.52	1.43	1.37	1.39	1.72	1.73	1.83	1.94	2.05
		2.16	2.29	2.15	2.30	3.14	3.03	2.73	2.17	2.15	2.56
28	Miocene Orange Sand L3	1.44	1.45	1.52	1.64	1.37	1.25	1.23	1.25	1.10	1.67
		1.66	1.52	1.43	1.37	1.39	1.72	1.73	1.83	1.94	2.05
		2.16	2.29	2.15	2.30	3.14	3.03	2.73	2.17	2.15	2.56
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 8 (1990)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.12*	1.95*	10.12*	1.63*	1.58*
26	Miocene Orange Sand L2	2.12*	1.95*	10.12*	1.63*	1.58*
28	Miocene Orange Sand L3	2.12*	1.95*	10.12*	1.63*	1.58*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.02	0.02	50.93	0.01	0.01
26	Miocene Orange Sand L2	-0.01	-0.01	65.54	-0.01	-0.01
28	Miocene Orange Sand L3	-0.01	-0.01	42.63	-0.01	-0.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	310.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.92	1.93	2.00	2.14	1.83	1.70	1.67	1.70	1.53	2.19
		2.17	2.02	1.93	1.85	1.88	2.25	2.26	2.37	2.50	2.62
		2.73	2.87	2.71	2.89	3.79	3.67	3.35	2.73	2.71	3.16
26	Miocene Orange Sand L2	1.92	1.93	2.01	2.14	1.83	1.70	1.67	1.71	1.53	2.19
		2.18	2.03	1.93	1.85	1.88	2.26	2.26	2.38	2.51	2.63
		2.74	2.88	2.72	2.89	3.80	3.67	3.35	2.73	2.71	3.16
28	Miocene Orange Sand L3	1.92	1.93	2.01	2.14	1.83	1.70	1.68	1.71	1.53	2.19
		2.18	2.03	1.93	1.85	1.88	2.26	2.26	2.38	2.51	2.63
		2.74	2.88	2.72	2.89	3.80	3.67	3.35	2.73	2.71	3.16
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR    9 (1991)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   2.30*    2.12*    9.77*    1.82*    1.77*
26  Miocene Orange Sand L2                   2.30*    2.12*    9.77*    1.82*    1.77*
28  Miocene Orange Sand L3                   2.30*    2.12*    9.77*    1.82*    1.77*
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.02     0.02    47.54     0.01     0.01
26  Miocene Orange Sand L2                  -0.01    -0.01    61.17    -0.01    -0.01
28  Miocene Orange Sand L3                  -0.01    -0.01    39.79    -0.01    -0.01
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)         0.0      0.0    388.1      0.0      0.0


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   2.11     2.12     2.19     2.31     2.01     1.89     1.87     1.90     1.73     2.36
                                             2.35     2.21     2.12     2.05     2.08     2.43     2.44     2.55     2.67     2.78
                                             2.89     3.01     2.86     3.02     3.86     3.75     3.45     2.87     2.85     3.28
```

26	Miocene Orange Sand L2	2.11	2.12	2.19	2.32	2.02	1.89	1.87	1.90	1.74	2.37
		2.35	2.21	2.13	2.05	2.08	2.43	2.44	2.55	2.67	2.79
		2.89	3.02	2.86	3.02	3.87	3.75	3.45	2.87	2.86	3.28
28	Miocene Orange Sand L3	2.11	2.12	2.19	2.32	2.02	1.89	1.87	1.90	1.74	2.37
		2.35	2.21	2.13	2.05	2.08	2.43	2.44	2.55	2.67	2.79
		2.89	3.02	2.86	3.02	3.87	3.75	3.45	2.87	2.86	3.28
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 10 (1992)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.40*	2.22*	9.50*	1.93*	1.88*
26	Miocene Orange Sand L2	2.40*	2.22*	9.50*	1.93*	1.88*
28	Miocene Orange Sand L3	2.40*	2.22*	9.50*	1.93*	1.88*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.01	0.01	45.23	0.01	0.01
26	Miocene Orange Sand L2	-0.01	-0.01	58.21	-0.01	-0.01
28	Miocene Orange Sand L3	-0.01	-0.01	37.86	0.00	-0.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	462.4	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	2.21	2.22	2.29	2.41	2.12	2.00	1.98	2.01	1.85	2.46
		2.45	2.31	2.23	2.16	2.19	2.52	2.53	2.64	2.75	2.86
		2.96	3.08	2.93	3.09	3.89	3.77	3.49	2.94	2.93	3.33
26	Miocene Orange Sand L2	2.22	2.22	2.29	2.41	2.12	2.00	1.98	2.02	1.85	2.46
		2.45	2.32	2.23	2.16	2.19	2.53	2.53	2.64	2.76	2.86
		2.96	3.08	2.94	3.09	3.89	3.78	3.49	2.94	2.93	3.33
28	Miocene Orange Sand L3	2.22	2.22	2.29	2.41	2.12	2.00	1.98	2.02	1.85	2.46
		2.45	2.32	2.23	2.16	2.19	2.53	2.53	2.64	2.76	2.86
		2.96	3.08	2.94	3.09	3.89	3.78	3.49	2.94	2.93	3.33
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 11 (1993)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	2.16*	2.02*	7.32*	1.81*	1.77*
26	Miocene Orange Sand L2	2.16*	2.02*	7.32*	1.81*	1.77*
28	Miocene Orange Sand L3	2.16*	2.02*	7.32*	1.81*	1.77*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.01	0.01	32.84	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	42.27	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	27.49	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	516.4	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	2.02	2.03	2.08	2.17	1.95	1.86	1.84	1.87	1.75	2.21
		2.20	2.10	2.04	1.99	2.01	2.26	2.26	2.35	2.43	2.51
		2.58	2.66	2.56	2.67	3.25	3.16	2.95	2.55	2.55	2.84
26	Miocene Orange Sand L2	2.02	2.03	2.08	2.17	1.95	1.86	1.84	1.87	1.75	2.21
		2.20	2.10	2.05	1.99	2.01	2.26	2.27	2.35	2.43	2.51
		2.58	2.67	2.56	2.67	3.25	3.16	2.96	2.56	2.55	2.84
28	Miocene Orange Sand L3	2.02	2.03	2.08	2.17	1.95	1.86	1.84	1.87	1.75	2.21
		2.20	2.10	2.05	1.99	2.01	2.26	2.27	2.35	2.43	2.51
		2.58	2.67	2.56	2.67	3.25	3.16	2.96	2.56	2.55	2.84
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 12 (1994)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID / FORMATION LEVEL	(M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.16*	2.02*	7.42*	1.80*	1.77*
26	Miocene Orange Sand L2	2.16*	2.02*	7.42*	1.80*	1.77*
28	Miocene Orange Sand L3	2.16*	2.02*	7.42*	1.80*	1.77*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID / INJECTION LEVEL	(M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.01	0.01	33.51	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	43.13	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	28.05	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	571.4	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID / FORMATION LEVEL	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	2.02	2.02	2.08	2.16	1.95	1.86	1.84	1.87	1.75	2.20
		2.19	2.10	2.04	1.98	2.00	2.26	2.26	2.34	2.43	2.51
		2.58	2.67	2.56	2.67	3.26	3.18	2.97	2.56	2.55	2.85
26	Miocene Orange Sand L2	2.02	2.03	2.08	2.17	1.95	1.86	1.84	1.87	1.75	2.20
		2.20	2.10	2.04	1.98	2.00	2.26	2.26	2.34	2.43	2.51
		2.58	2.67	2.56	2.67	3.26	3.18	2.97	2.56	2.55	2.85
28	Miocene Orange Sand L3	2.02	2.03	2.08	2.17	1.95	1.86	1.84	1.87	1.75	2.20
		2.20	2.10	2.04	1.98	2.01	2.26	2.26	2.34	2.43	2.51

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                                    2.58     2.67     2.56     2.67     3.26     3.18     2.97     2.56     2.55     2.85
30  Miocene Yellow Sand L1          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-------------------------------------------------------------YEAR   13 (1995)-------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                            0.00     0.00     0.00     0.00     0.00
 4  Sand                            0.00     0.00     0.00     0.00     0.00
 6  Sand                            0.00     0.00     0.00     0.00     0.00
 8  Sand                            0.00     0.00     0.00     0.00     0.00
10  Sand                            0.00     0.00     0.00     0.00     0.00
12  Sand                            0.00     0.00     0.00     0.00     0.00
14  Sand                            0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone           0.00     0.00     0.00     0.00     0.00
18  Sand                            0.00     0.00     0.00     0.00     0.00
20  Sand                            0.00     0.00     0.00     0.00     0.00
22  Sand                            0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1          2.69*    2.50*   10.82*    2.18*    2.12*
26  Miocene Orange Sand L2          2.69*    2.50*   10.82*    2.18*    2.12*
28  Miocene Orange Sand L3          2.69*    2.50*   10.82*    2.18*    2.12*
30  Miocene Yellow Sand L1          0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2          0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00
                                * PERFORATED INJECTION ZONE

                                                                INJECTION RATES (GPM)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1          0.02     0.02    51.79     0.01     0.01
26  Miocene Orange Sand L2         -0.01    -0.01    66.65    -0.01    -0.01
28  Miocene Orange Sand L3         -0.01    -0.01    43.35    -0.01    -0.01
30  Miocene Yellow Sand L1          0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2          0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)    0.0      0.0    656.5      0.0      0.0
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		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	2.48	2.49	2.57	2.71	2.38	2.25	2.22	2.26	2.08	2.76
		2.74	2.59	2.49	2.41	2.44	2.83	2.83	2.95	3.08	3.21
		3.32	3.46	3.29	3.47	4.39	4.26	3.94	3.31	3.29	3.75
26	Miocene Orange Sand L2	2.49	2.49	2.57	2.71	2.39	2.25	2.23	2.26	2.08	2.76
		2.74	2.59	2.50	2.42	2.45	2.83	2.83	2.95	3.09	3.21
		3.32	3.46	3.30	3.47	4.39	4.27	3.94	3.31	3.29	3.75
28	Miocene Orange Sand L3	2.49	2.49	2.57	2.71	2.39	2.25	2.23	2.26	2.08	2.76
		2.74	2.59	2.50	2.42	2.45	2.83	2.83	2.96	3.09	3.21
		3.32	3.46	3.30	3.47	4.39	4.27	3.94	3.31	3.29	3.75
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 14 (1996)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.84*	2.64*	10.65*	2.32*	2.27*
26	Miocene Orange Sand L2	2.84*	2.64*	10.65*	2.32*	2.27*
28	Miocene Orange Sand L3	2.84*	2.64*	10.65*	2.32*	2.27*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

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34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                   INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                 0.01     0.02    49.74     0.01     0.01
26  Miocene Orange Sand L2                -0.01    -0.01    64.02    -0.01    -0.01
28  Miocene Orange Sand L3                -0.01    -0.01    41.64    -0.01    -0.01
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)        0.0      0.0    738.3      0.0      0.0


                                                                PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                 2.63     2.64     2.71     2.85     2.53     2.40     2.37     2.41     2.23     2.90
                                           2.89     2.74     2.65     2.57     2.60     2.97     2.98     3.10     3.22     3.34
                                           3.45     3.58     3.42     3.59     4.47     4.35     4.03     3.43     3.41     3.86
26  Miocene Orange Sand L2                 2.63     2.64     2.72     2.85     2.53     2.40     2.38     2.41     2.24     2.90
                                           2.89     2.74     2.65     2.57     2.60     2.98     2.98     3.10     3.23     3.35
                                           3.45     3.58     3.42     3.59     4.47     4.35     4.04     3.43     3.42     3.86
28  Miocene Orange Sand L3                 2.63     2.64     2.72     2.85     2.53     2.40     2.38     2.41     2.24     2.90
                                           2.89     2.74     2.65     2.57     2.60     2.98     2.98     3.10     3.23     3.35
                                           3.45     3.58     3.42     3.59     4.47     4.35     4.04     3.43     3.42     3.86
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   15 (1997)-----------------------------------------------------
                                                                PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                   0.00     0.00     0.00     0.00     0.00
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4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	3.51*	3.26*	14.43*	2.82*	2.75*
26	Miocene Orange Sand L2	3.51*	3.26*	14.43*	2.82*	2.75*
28	Miocene Orange Sand L3	3.51*	3.26*	14.43*	2.82*	2.75*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.02	0.02	69.59	0.02	0.02
26	Miocene Orange Sand L2	-0.01	-0.01	89.56	-0.01	-0.01
28	Miocene Orange Sand L3	-0.01	-0.01	58.25	-0.01	-0.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	852.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	3.23	3.24	3.35	3.53	3.10	2.91	2.88	2.93	2.69	3.60
		3.58	3.37	3.24	3.13	3.18	3.69	3.70	3.86	4.03	4.20
		4.35	4.54	4.32	4.56	5.79	5.62	5.18	4.34	4.31	4.93
26	Miocene Orange Sand L2	3.23	3.25	3.35	3.53	3.10	2.92	2.89	2.93	2.69	3.60
		3.58	3.38	3.25	3.14	3.18	3.70	3.70	3.86	4.04	4.21
		4.36	4.55	4.33	4.56	5.80	5.63	5.19	4.34	4.32	4.94
28	Miocene Orange Sand L3	3.23	3.25	3.35	3.53	3.10	2.92	2.89	2.93	2.69	3.60
		3.58	3.38	3.25	3.14	3.18	3.70	3.70	3.86	4.04	4.21
		4.36	4.55	4.33	4.56	5.80	5.63	5.19	4.34	4.32	4.94
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 16 (1998)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.65*	2.50*	7.18*	2.31*	2.26*
26	Miocene Orange Sand L2	2.65*	2.50*	7.18*	2.31*	2.26*
28	Miocene Orange Sand L3	2.65*	2.50*	7.18*	2.31*	2.26*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.01	28.80	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	37.08	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	24.12	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 0.0 0.0 900.0 0.0 0.0

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	2.52	2.52	2.57	2.65	2.44	2.36	2.34	2.38	2.26	2.69
		2.69	2.60	2.55	2.50	2.53	2.75	2.76	2.84	2.91	2.98
		3.04	3.11	3.01	3.10	3.61	3.53	3.35	2.99	3.00	3.26
26	Miocene Orange Sand L2	2.52	2.52	2.57	2.65	2.44	2.36	2.35	2.38	2.26	2.69
		2.69	2.60	2.56	2.50	2.53	2.75	2.76	2.84	2.91	2.98
		3.04	3.11	3.01	3.11	3.61	3.53	3.35	3.00	3.00	3.26
28	Miocene Orange Sand L3	2.52	2.52	2.57	2.65	2.44	2.36	2.35	2.38	2.26	2.69
		2.69	2.60	2.56	2.50	2.53	2.75	2.76	2.84	2.91	2.98
		3.04	3.11	3.01	3.11	3.61	3.53	3.35	3.00	3.00	3.26
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 17 (1999)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.80*	1.73*	2.65*	1.69*	1.67*
26	Miocene Orange Sand L2	1.80*	1.73*	2.65*	1.69*	1.67*
28	Miocene Orange Sand L3	1.80*	1.73*	2.65*	1.69*	1.67*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	5.34	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	6.88	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	4.48	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 0.0 0.0 908.7 0.0 0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.76	1.76	1.77	1.79	1.73	1.71	1.71	1.72	1.69	1.81
		1.81	1.80	1.79	1.78	1.79	1.84	1.84	1.87	1.88	1.90
		1.90	1.91	1.88	1.90	1.99	1.96	1.93	1.86	1.87	1.93
26	Miocene Orange Sand L2	1.76	1.76	1.77	1.79	1.73	1.71	1.71	1.72	1.69	1.81
		1.81	1.80	1.79	1.78	1.79	1.84	1.84	1.86	1.88	1.89
		1.90	1.91	1.88	1.90	1.99	1.96	1.93	1.86	1.87	1.93
28	Miocene Orange Sand L3	1.76	1.76	1.77	1.79	1.73	1.71	1.71	1.72	1.69	1.81
		1.81	1.80	1.79	1.78	1.79	1.84	1.84	1.86	1.88	1.89
		1.90	1.91	1.88	1.90	1.99	1.96	1.93	1.86	1.87	1.93
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 18 (2000)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.68*	1.62*	3.58*	1.54*	1.52*
26	Miocene Orange Sand L2	1.68*	1.62*	3.58*	1.54*	1.52*
28	Miocene Orange Sand L3	1.68*	1.62*	3.58*	1.54*	1.52*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	12.06	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	15.53	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	10.10	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	928.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.63	1.63	1.65	1.68	1.59	1.56	1.55	1.57	1.52	1.70
		1.70	1.66	1.64	1.62	1.63	1.72	1.73	1.76	1.79	1.82
		1.84	1.87	1.83	1.87	2.08	2.05	1.97	1.82	1.83	1.94
26	Miocene Orange Sand L2	1.63	1.63	1.65	1.68	1.59	1.56	1.55	1.57	1.52	1.70
		1.70	1.66	1.64	1.62	1.63	1.72	1.73	1.76	1.79	1.82
		1.84	1.87	1.83	1.87	2.08	2.05	1.97	1.82	1.83	1.94
28	Miocene Orange Sand L3	1.63	1.63	1.65	1.68	1.59	1.56	1.55	1.57	1.52	1.70
		1.70	1.66	1.64	1.62	1.63	1.72	1.73	1.76	1.79	1.82
		1.84	1.87	1.83	1.87	2.08	2.05	1.97	1.82	1.83	1.94
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   19 (2001)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00     0.00     0.00     0.00     0.00
 4  Sand                                    0.00     0.00     0.00     0.00     0.00
 6  Sand                                    0.00     0.00     0.00     0.00     0.00
 8  Sand                                    0.00     0.00     0.00     0.00     0.00
10  Sand                                    0.00     0.00     0.00     0.00     0.00
12  Sand                                    0.00     0.00     0.00     0.00     0.00
14  Sand                                    0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00     0.00     0.00     0.00     0.00
18  Sand                                    0.00     0.00     0.00     0.00     0.00
20  Sand                                    0.00     0.00     0.00     0.00     0.00
22  Sand                                    0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  1.37*    1.33*    2.19*    1.29*    1.28*
26  Miocene Orange Sand L2                  1.37*    1.33*    2.19*    1.29*    1.28*
28  Miocene Orange Sand L3                  1.37*    1.33*    2.19*    1.29*    1.28*
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                              INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                  0.00     0.00     5.18     0.00     0.00
26  Miocene Orange Sand L2                  0.00     0.00     6.68     0.00     0.00
28  Miocene Orange Sand L3                  0.00     0.00     4.34     0.00     0.00
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)         0.0      0.0    937.1      0.0      0.0


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  1.34     1.35     1.35     1.37     1.32     1.31     1.30     1.31     1.29     1.38
                                            1.38     1.37     1.36     1.35     1.35     1.40     1.40     1.42     1.43     1.44
                                            1.45     1.46     1.44     1.46     1.55     1.53     1.50     1.43     1.44     1.49
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26	Miocene Orange Sand L2	1.34	1.35	1.35	1.37	1.32	1.31	1.30	1.31	1.29	1.38
		1.38	1.37	1.36	1.35	1.35	1.40	1.40	1.42	1.43	1.44
		1.45	1.46	1.44	1.46	1.55	1.53	1.50	1.43	1.44	1.49
28	Miocene Orange Sand L3	1.34	1.35	1.35	1.37	1.32	1.31	1.30	1.31	1.29	1.38
		1.38	1.37	1.36	1.35	1.35	1.40	1.40	1.42	1.43	1.44
		1.45	1.46	1.44	1.46	1.55	1.53	1.50	1.43	1.44	1.49
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 20 (2002)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.10*	1.07*	1.20*	1.07*	1.06*
26	Miocene Orange Sand L2	1.10*	1.07*	1.20*	1.07*	1.06*
28	Miocene Orange Sand L3	1.10*	1.07*	1.20*	1.07*	1.06*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.64	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.83	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.54	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	938.1	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.09	1.09	1.09	1.09	1.08	1.07	1.07	1.08	1.07	1.10
		1.10	1.10	1.10	1.10	1.10	1.11	1.11	1.12	1.12	1.12
		1.12	1.12	1.11	1.11	1.12	1.12	1.11	1.10	1.11	1.12
26	Miocene Orange Sand L2	1.09	1.09	1.09	1.09	1.08	1.07	1.07	1.08	1.07	1.10
		1.10	1.10	1.10	1.10	1.10	1.11	1.11	1.11	1.12	1.12
		1.12	1.12	1.11	1.11	1.12	1.12	1.11	1.10	1.11	1.12
28	Miocene Orange Sand L3	1.09	1.09	1.09	1.09	1.08	1.07	1.07	1.08	1.07	1.10
		1.10	1.10	1.10	1.09	1.10	1.11	1.11	1.11	1.12	1.12
		1.12	1.12	1.11	1.11	1.12	1.12	1.11	1.10	1.11	1.12
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 21 (2003)

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	1.03*	1.00*	1.55*	0.98*	0.98*
26	Miocene Orange Sand L2	1.03*	1.00*	1.55*	0.98*	0.98*
28	Miocene Orange Sand L3	1.03*	1.00*	1.55*	0.98*	0.98*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	3.33	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	4.29	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	2.79	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	943.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.01	1.01	1.02	1.03	1.00	0.99	0.99	0.99	0.98	1.03
		1.03	1.02	1.02	1.01	1.02	1.04	1.04	1.05	1.06	1.07
		1.08	1.08	1.07	1.08	1.14	1.13	1.11	1.07	1.07	1.10
26	Miocene Orange Sand L2	1.01	1.01	1.02	1.03	1.00	0.99	0.99	0.99	0.98	1.03
		1.03	1.02	1.02	1.01	1.01	1.04	1.04	1.05	1.06	1.07
		1.08	1.08	1.07	1.08	1.14	1.13	1.11	1.07	1.07	1.10
28	Miocene Orange Sand L3	1.01	1.01	1.02	1.03	1.00	0.99	0.99	0.99	0.98	1.03
		1.03	1.02	1.02	1.01	1.01	1.04	1.04	1.05	1.06	1.07
		1.08	1.08	1.07	1.08	1.14	1.13	1.11	1.07	1.07	1.10
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 22 (2004)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.88*	0.87*	1.02*	0.86*	0.86*
26	Miocene Orange Sand L2	0.88*	0.87*	1.02*	0.86*	0.86*
28	Miocene Orange Sand L3	0.88*	0.87*	1.02*	0.86*	0.86*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.86	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	1.11	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.72	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.88	0.88	0.88	0.88	0.87	0.86	0.86	0.87	0.86	0.88
		0.89	0.88	0.88	0.88	0.88	0.89	0.89	0.90	0.90	0.90
		0.90	0.90	0.90	0.90	0.91	0.91	0.90	0.89	0.90	0.90
26	Miocene Orange Sand L2	0.88	0.88	0.88	0.88	0.87	0.86	0.86	0.87	0.86	0.88
		0.88	0.88	0.88	0.88	0.88	0.89	0.89	0.90	0.90	0.90
		0.90	0.90	0.90	0.90	0.91	0.91	0.90	0.89	0.90	0.90
28	Miocene Orange Sand L3	0.88	0.88	0.88	0.88	0.87	0.86	0.86	0.87	0.86	0.88
		0.88	0.88	0.88	0.88	0.88	0.89	0.89	0.90	0.90	0.90

		0.90	0.90	0.90	0.90	0.91	0.91	0.90	0.89	0.90	0.90
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 23 (2005)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.77*	0.76*	0.77*	0.76*	0.76*
26	Miocene Orange Sand L2	0.77*	0.76*	0.77*	0.76*	0.76*
28	Miocene Orange Sand L3	0.77*	0.76*	0.77*	0.76*	0.76*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
	CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	945.0	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.77	0.77	0.77	0.77	0.77	0.76	0.76	0.77	0.76	0.77
		0.77	0.77	0.78	0.77	0.78	0.78	0.78	0.78	0.78	0.78
		0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.78	0.78
26	Miocene Orange Sand L2	0.77	0.77	0.77	0.77	0.76	0.76	0.76	0.77	0.76	0.77
		0.77	0.77	0.77	0.77	0.77	0.78	0.78	0.78	0.78	0.78
		0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.78	0.78
28	Miocene Orange Sand L3	0.77	0.77	0.77	0.77	0.76	0.76	0.76	0.77	0.76	0.77
		0.77	0.77	0.77	0.77	0.77	0.78	0.78	0.78	0.78	0.78
		0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.78	0.78
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 24 (2006)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.70*	0.69*	0.70*	0.69*	0.69*
26	Miocene Orange Sand L2	0.70*	0.69*	0.70*	0.69*	0.69*
28	Miocene Orange Sand L3	0.70*	0.69*	0.70*	0.69*	0.69*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

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34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00
                           * PERFORATED INJECTION ZONE

                                                                 INJECTION RATES (GPM)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)       0.0      0.0    945.0      0.0      0.0


                                                  PRESSURES AT MONITOR COORD (PSI)
                               MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                           ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                           ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                0.70     0.70     0.70     0.70     0.69     0.69     0.69     0.69     0.69     0.70
                                          0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70
                                          0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70
26  Miocene Orange Sand L2                0.70     0.70     0.70     0.70     0.69     0.69     0.69     0.69     0.69     0.70
                                          0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70
                                          0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70
28  Miocene Orange Sand L3                0.70     0.70     0.70     0.70     0.69     0.69     0.69     0.69     0.69     0.70
                                          0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70
                                          0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70     0.70
30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-------------------------------------------------------YEAR   25 (2007)-------------------------------------------------
                                                 PRESSURES AT INJECTION WELL COORD (PSI)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                  0.00     0.00     0.00     0.00     0.00
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4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.64*	0.63*	0.64*	0.63*	0.63*
26	Miocene Orange Sand L2	0.64*	0.63*	0.64*	0.63*	0.63*
28	Miocene Orange Sand L3	0.64*	0.63*	0.64*	0.63*	0.63*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.65
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
26	Miocene Orange Sand L2	0.64	0.64	0.64	0.64	0.64	0.63	0.64	0.64	0.64	0.64
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.65
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
28	Miocene Orange Sand L3	0.64	0.64	0.64	0.64	0.64	0.63	0.64	0.64	0.64	0.64
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.65
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-------------------------------------------------------------YEAR   26 (2008)-----------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                            0.00     0.00     0.00     0.00     0.00
 4  Sand                            0.00     0.00     0.00     0.00     0.00
 6  Sand                            0.00     0.00     0.00     0.00     0.00
 8  Sand                            0.00     0.00     0.00     0.00     0.00
10  Sand                            0.00     0.00     0.00     0.00     0.00
12  Sand                            0.00     0.00     0.00     0.00     0.00
14  Sand                            0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone           0.00     0.00     0.00     0.00     0.00
18  Sand                            0.00     0.00     0.00     0.00     0.00
20  Sand                            0.00     0.00     0.00     0.00     0.00
22  Sand                            0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1          0.59*    0.59*    0.59*    0.59*    0.59*
26  Miocene Orange Sand L2          0.59*    0.59*    0.59*    0.59*    0.59*
28  Miocene Orange Sand L3          0.59*    0.59*    0.59*    0.59*    0.59*
30  Miocene Yellow Sand L1          0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2          0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00
                                * PERFORATED INJECTION ZONE

                                                                 INJECTION RATES (GPM)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1          0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2          0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3          0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1          0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2          0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)      0.0      0.0    945.0      0.0      0.0


                                                             PRESSURES AT MONITOR COORD (PSI)
                               MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                           ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
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		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
		0.59	0.59	0.59	0.59	0.59	0.60	0.60	0.60	0.60	0.60
		0.60	0.60	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
26	Miocene Orange Sand L2	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
		0.59	0.59	0.59	0.59	0.59	0.59	0.60	0.60	0.60	0.60
		0.60	0.60	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
28	Miocene Orange Sand L3	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
		0.59	0.59	0.59	0.59	0.59	0.59	0.60	0.60	0.60	0.60
		0.60	0.60	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 27 (2009)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.55*	0.55*	0.55*	0.55*	0.55*
26	Miocene Orange Sand L2	0.55*	0.55*	0.55*	0.55*	0.55*
28	Miocene Orange Sand L3	0.55*	0.55*	0.55*	0.55*	0.55*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.56	0.56	0.56
		0.56	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
26	Miocene Orange Sand L2	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.56	0.56	0.56
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
28	Miocene Orange Sand L3	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.56	0.56	0.56
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 28 (2010)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.52*	0.51*	0.52*	0.51*	0.51*
26	Miocene Orange Sand L2	0.52*	0.51*	0.52*	0.51*	0.51*
28	Miocene Orange Sand L3	0.52*	0.51*	0.52*	0.51*	0.51*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.52	0.52	0.52	0.52	0.51	0.51	0.51	0.52	0.51	0.52
		0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
		0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
26	Miocene Orange Sand L2	0.52	0.52	0.52	0.52	0.51	0.51	0.51	0.52	0.51	0.52
		0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
		0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
28	Miocene Orange Sand L3	0.52	0.52	0.52	0.52	0.51	0.51	0.51	0.51	0.51	0.52
		0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
		0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   29 (2011)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00     0.00     0.00     0.00     0.00
 4  Sand                                    0.00     0.00     0.00     0.00     0.00
 6  Sand                                    0.00     0.00     0.00     0.00     0.00
 8  Sand                                    0.00     0.00     0.00     0.00     0.00
10  Sand                                    0.00     0.00     0.00     0.00     0.00
12  Sand                                    0.00     0.00     0.00     0.00     0.00
14  Sand                                    0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00     0.00     0.00     0.00     0.00
18  Sand                                    0.00     0.00     0.00     0.00     0.00
20  Sand                                    0.00     0.00     0.00     0.00     0.00
22  Sand                                    0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  0.49*    0.48*    0.49*    0.48*    0.48*
26  Miocene Orange Sand L2                  0.49*    0.48*    0.49*    0.48*    0.48*
28  Miocene Orange Sand L3                  0.49*    0.48*    0.49*    0.48*    0.48*
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                              INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                  0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                  0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                  0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)         0.0      0.0    945.0      0.0      0.0


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  0.49     0.49     0.49     0.49     0.48     0.48     0.48     0.49     0.48     0.49
                                            0.49     0.49     0.49     0.49     0.49     0.49     0.49     0.49     0.49     0.49
                                            0.49     0.49     0.49     0.49     0.49     0.49     0.49     0.49     0.49     0.49
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26	Miocene Orange Sand L2	0.49	0.49	0.49	0.49	0.48	0.48	0.48	0.48	0.48	0.49
		0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
		0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
28	Miocene Orange Sand L3	0.49	0.49	0.49	0.49	0.48	0.48	0.48	0.48	0.48	0.49
		0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
		0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 30 (2012)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.46*	0.46*	0.46*	0.46*	0.46*
26	Miocene Orange Sand L2	0.46*	0.46*	0.46*	0.46*	0.46*
28	Miocene Orange Sand L3	0.46*	0.46*	0.46*	0.46*	0.46*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
26	Miocene Orange Sand L2	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
28	Miocene Orange Sand L3	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 31 (2013)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.46*	0.45*	0.45*	0.49*	0.61*
26	Miocene Orange Sand L2	0.46*	0.45*	0.45*	0.49*	0.61*
28	Miocene Orange Sand L3	0.46*	0.45*	0.45*	0.49*	0.61*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.96
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	1.24
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.80
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	1.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.47	0.47	0.47	0.46	0.47	0.48	0.48	0.47	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.45	0.45	0.46	0.46	0.46	0.46
26	Miocene Orange Sand L2	0.47	0.47	0.47	0.46	0.47	0.48	0.48	0.47	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.45	0.45	0.46	0.46	0.46	0.46
28	Miocene Orange Sand L3	0.47	0.47	0.47	0.46	0.47	0.48	0.48	0.47	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.45	0.45	0.46	0.46	0.46	0.46
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 32 (2014)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.55*	0.53*	0.51*	0.91*	1.08*
26	Miocene Orange Sand L2	0.55*	0.53*	0.51*	0.91*	1.08*
28	Miocene Orange Sand L3	0.55*	0.53*	0.51*	0.91*	1.08*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	1.66	3.14
26	Miocene Orange Sand L2	0.00	0.00	0.00	2.14	4.04
28	Miocene Orange Sand L3	0.00	0.00	0.00	1.39	2.63
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	2.8	6.7

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.59	0.59	0.58	0.57	0.61	0.67	0.65	0.60	0.56	0.55
		0.54	0.54	0.53	0.53	0.53	0.53	0.53	0.53	0.52	0.51
		0.51	0.52	0.53	0.52	0.52	0.51	0.52	0.53	0.53	0.52
26	Miocene Orange Sand L2	0.59	0.59	0.58	0.57	0.61	0.67	0.65	0.60	0.56	0.55
		0.54	0.54	0.53	0.53	0.53	0.53	0.53	0.53	0.52	0.51
		0.51	0.52	0.53	0.52	0.52	0.51	0.52	0.54	0.53	0.52
28	Miocene Orange Sand L3	0.59	0.59	0.58	0.57	0.61	0.67	0.65	0.60	0.56	0.55
		0.54	0.54	0.53	0.53	0.53	0.53	0.53	0.53	0.52	0.51

		0.51	0.52	0.53	0.52	0.52	0.51	0.52	0.54	0.53	0.52
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 33 (2015)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.78*	0.72*	0.69*	2.39*	1.55*
26	Miocene Orange Sand L2	0.78*	0.72*	0.69*	2.39*	1.55*
28	Miocene Orange Sand L3	0.78*	0.72*	0.69*	2.39*	1.55*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	9.83	2.98
26	Miocene Orange Sand L2	0.00	0.00	0.00	12.65	3.83
28	Miocene Orange Sand L3	0.00	0.00	0.00	8.23	2.49
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
	CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	945.0	18.9	11.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.91	0.91	0.88	0.83	0.95	1.14	1.11	0.95	0.81	0.79
		0.77	0.77	0.74	0.74	0.74	0.73	0.74	0.73	0.71	0.69
		0.69	0.69	0.72	0.71	0.70	0.68	0.71	0.75	0.74	0.70
26	Miocene Orange Sand L2	0.91	0.91	0.88	0.83	0.96	1.14	1.11	0.95	0.81	0.79
		0.78	0.77	0.75	0.74	0.74	0.73	0.74	0.73	0.71	0.69
		0.69	0.69	0.72	0.72	0.70	0.68	0.71	0.75	0.74	0.70
28	Miocene Orange Sand L3	0.91	0.91	0.88	0.83	0.96	1.14	1.11	0.95	0.81	0.79
		0.78	0.77	0.75	0.74	0.74	0.73	0.74	0.73	0.71	0.69
		0.69	0.69	0.72	0.72	0.70	0.68	0.71	0.75	0.74	0.70
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 34 (2016)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.76*	0.71*	0.68*	1.74*	1.38*
26	Miocene Orange Sand L2	0.76*	0.71*	0.68*	1.74*	1.38*
28	Miocene Orange Sand L3	0.76*	0.71*	0.68*	1.74*	1.38*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	5.79	2.88
26	Miocene Orange Sand L2	0.00	0.00	0.00	7.46	3.71
28	Miocene Orange Sand L3	0.00	0.00	0.00	4.85	2.41
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	28.4	16.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.84	0.84	0.82	0.78	0.87	0.99	0.96	0.86	0.77	0.76
		0.75	0.75	0.73	0.73	0.73	0.72	0.73	0.72	0.71	0.69
		0.69	0.69	0.72	0.71	0.69	0.68	0.70	0.73	0.72	0.69
26	Miocene Orange Sand L2	0.84	0.84	0.82	0.78	0.87	0.99	0.96	0.86	0.77	0.76
		0.75	0.75	0.73	0.73	0.73	0.72	0.73	0.72	0.71	0.70
		0.69	0.69	0.72	0.71	0.69	0.68	0.70	0.73	0.72	0.69
28	Miocene Orange Sand L3	0.84	0.84	0.82	0.78	0.87	0.99	0.96	0.86	0.77	0.76
		0.75	0.75	0.73	0.73	0.73	0.72	0.73	0.72	0.71	0.70
		0.69	0.69	0.72	0.71	0.69	0.68	0.70	0.73	0.72	0.69
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 35 (2017)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.76*	0.71*	0.69*	1.80*	1.22*
26	Miocene Orange Sand L2	0.76*	0.71*	0.69*	1.80*	1.22*
28	Miocene Orange Sand L3	0.76*	0.71*	0.69*	1.80*	1.22*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	6.47	1.76
26	Miocene Orange Sand L2	0.00	0.00	0.00	8.32	2.27
28	Miocene Orange Sand L3	0.00	0.00	0.00	5.41	1.47
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	39.0	19.3

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.84	0.83	0.82	0.78	0.86	0.98	0.96	0.86	0.77	0.76
		0.75	0.75	0.74	0.73	0.73	0.72	0.73	0.72	0.71	0.70
		0.70	0.70	0.72	0.71	0.70	0.68	0.71	0.73	0.72	0.70
26	Miocene Orange Sand L2	0.84	0.83	0.82	0.78	0.86	0.98	0.96	0.86	0.77	0.76
		0.75	0.75	0.74	0.73	0.73	0.72	0.73	0.72	0.71	0.70
		0.70	0.70	0.72	0.71	0.70	0.68	0.71	0.73	0.72	0.70
28	Miocene Orange Sand L3	0.84	0.83	0.82	0.78	0.86	0.98	0.96	0.86	0.77	0.76
		0.75	0.75	0.74	0.73	0.73	0.72	0.73	0.72	0.71	0.70
		0.70	0.70	0.72	0.71	0.70	0.68	0.71	0.73	0.72	0.70
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

```
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-------------------------------------------------------------YEAR   36 (2018)-----------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                             0.00     0.00     0.00     0.00     0.00
 4  Sand                             0.00     0.00     0.00     0.00     0.00
 6  Sand                             0.00     0.00     0.00     0.00     0.00
 8  Sand                             0.00     0.00     0.00     0.00     0.00
10  Sand                             0.00     0.00     0.00     0.00     0.00
12  Sand                             0.00     0.00     0.00     0.00     0.00
14  Sand                             0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone            0.00     0.00     0.00     0.00     0.00
18  Sand                             0.00     0.00     0.00     0.00     0.00
20  Sand                             0.00     0.00     0.00     0.00     0.00
22  Sand                             0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1           0.81*    0.75*    0.73*    2.00*    1.47*
26  Miocene Orange Sand L2           0.81*    0.75*    0.73*    2.00*    1.47*
28  Miocene Orange Sand L3           0.81*    0.75*    0.73*    2.00*    1.47*
30  Miocene Yellow Sand L1           0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2           0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3           0.00     0.00     0.00     0.00     0.00
                                * PERFORATED INJECTION ZONE

                                                                INJECTION RATES (GPM)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1           0.00     0.00     0.00     7.17     2.85
26  Miocene Orange Sand L2           0.00     0.00     0.00     9.23     3.67
28  Miocene Orange Sand L3           0.00     0.00     0.00     6.00     2.38
30  Miocene Yellow Sand L1           0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2           0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3           0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)      0.0      0.0    945.0     50.8     23.9


                                                                PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
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	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.91	0.90	0.88	0.84	0.94	1.08	1.05	0.94	0.83	0.81
		0.80	0.80	0.78	0.78	0.78	0.77	0.78	0.77	0.75	0.74
		0.74	0.74	0.76	0.75	0.74	0.72	0.75	0.78	0.77	0.74
26	Miocene Orange Sand L2	0.91	0.90	0.88	0.84	0.94	1.08	1.05	0.94	0.83	0.81
		0.80	0.80	0.78	0.78	0.78	0.77	0.78	0.77	0.75	0.74
		0.74	0.74	0.76	0.76	0.74	0.72	0.75	0.78	0.77	0.74
28	Miocene Orange Sand L3	0.91	0.90	0.88	0.84	0.94	1.08	1.05	0.94	0.83	0.81
		0.80	0.80	0.78	0.78	0.78	0.77	0.78	0.77	0.75	0.74
		0.74	0.74	0.76	0.76	0.74	0.72	0.75	0.78	0.77	0.74
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 37 (2019)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.82*	0.77*	0.74*	1.94*	1.49*
26	Miocene Orange Sand L2	0.82*	0.77*	0.74*	1.94*	1.49*
28	Miocene Orange Sand L3	0.82*	0.77*	0.74*	1.94*	1.49*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	6.69	3.01
26	Miocene Orange Sand L2	0.00	0.00	0.00	8.61	3.87
28	Miocene Orange Sand L3	0.00	0.00	0.00	5.60	2.52
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	61.8	28.9

					PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.92	0.91	0.89	0.85	0.94	1.08	1.06	0.94	0.84	0.83
		0.82	0.81	0.80	0.79	0.79	0.78	0.79	0.78	0.77	0.75
		0.75	0.75	0.78	0.77	0.75	0.73	0.76	0.79	0.78	0.75
26	Miocene Orange Sand L2	0.92	0.91	0.89	0.85	0.95	1.08	1.06	0.94	0.84	0.83
		0.82	0.81	0.80	0.80	0.79	0.78	0.79	0.78	0.77	0.75
		0.75	0.75	0.78	0.77	0.75	0.73	0.76	0.79	0.79	0.75
28	Miocene Orange Sand L3	0.92	0.91	0.89	0.85	0.95	1.08	1.06	0.94	0.84	0.83
		0.82	0.81	0.80	0.80	0.79	0.78	0.79	0.78	0.77	0.75
		0.75	0.75	0.78	0.77	0.75	0.73	0.76	0.79	0.79	0.75
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 38 (2020)----------

				PRESSURES AT INJECTION WELL COORD (PSI)		
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.72*	0.68*	0.67*	1.15*	1.25*
26	Miocene Orange Sand L2	0.72*	0.68*	0.67*	1.15*	1.25*
28	Miocene Orange Sand L3	0.72*	0.68*	0.67*	1.15*	1.25*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	2.21	3.04
26	Miocene Orange Sand L2	0.00	0.00	0.00	2.84	3.91
28	Miocene Orange Sand L3	0.00	0.00	0.00	1.85	2.55
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	65.4	33.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.76	0.76	0.75	0.73	0.78	0.84	0.83	0.78	0.73	0.72
		0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.69	0.69	0.68
		0.68	0.68	0.69	0.69	0.67	0.66	0.68	0.70	0.69	0.67
26	Miocene Orange Sand L2	0.76	0.76	0.75	0.73	0.78	0.84	0.83	0.78	0.73	0.72
		0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.69	0.69	0.68
		0.68	0.68	0.69	0.69	0.67	0.66	0.68	0.70	0.69	0.67
28	Miocene Orange Sand L3	0.76	0.76	0.75	0.73	0.78	0.84	0.83	0.78	0.73	0.72
		0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.69	0.69	0.68
		0.68	0.68	0.69	0.69	0.67	0.66	0.68	0.70	0.69	0.67
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   39 (2021)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00     0.00     0.00     0.00     0.00
 4  Sand                                    0.00     0.00     0.00     0.00     0.00
 6  Sand                                    0.00     0.00     0.00     0.00     0.00
 8  Sand                                    0.00     0.00     0.00     0.00     0.00
10  Sand                                    0.00     0.00     0.00     0.00     0.00
12  Sand                                    0.00     0.00     0.00     0.00     0.00
14  Sand                                    0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00     0.00     0.00     0.00     0.00
18  Sand                                    0.00     0.00     0.00     0.00     0.00
20  Sand                                    0.00     0.00     0.00     0.00     0.00
22  Sand                                    0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  0.69*    0.66*    0.64*    1.50*    0.88*
26  Miocene Orange Sand L2                  0.69*    0.66*    0.64*    1.50*    0.88*
28  Miocene Orange Sand L3                  0.69*    0.66*    0.64*    1.50*    0.88*
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                              INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                  0.00     0.00     0.00     5.25     0.19
26  Miocene Orange Sand L2                  0.00     0.00     0.00     6.76     0.25
28  Miocene Orange Sand L3                  0.00     0.00     0.00     4.39     0.16
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)         0.0      0.0    945.0     74.1     34.2


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  0.75     0.74     0.73     0.71     0.76     0.84     0.83     0.76     0.70     0.70
                                            0.69     0.69     0.68     0.68     0.68     0.67     0.68     0.67     0.66     0.65
                                            0.65     0.65     0.67     0.66     0.65     0.64     0.66     0.67     0.67     0.65
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26	Miocene Orange Sand L2	0.75	0.74	0.73	0.71	0.76	0.84	0.83	0.76	0.70	0.70
		0.69	0.69	0.68	0.68	0.68	0.67	0.68	0.67	0.66	0.65
		0.65	0.65	0.67	0.66	0.65	0.64	0.66	0.67	0.67	0.65
28	Miocene Orange Sand L3	0.75	0.74	0.73	0.71	0.76	0.84	0.83	0.76	0.70	0.70
		0.69	0.69	0.68	0.68	0.68	0.67	0.68	0.67	0.66	0.65
		0.65	0.65	0.67	0.66	0.65	0.64	0.66	0.67	0.67	0.65
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 40 (2022)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.88*	0.81*	0.77*	2.87*	1.28*
26	Miocene Orange Sand L2	0.88*	0.81*	0.77*	2.87*	1.28*
28	Miocene Orange Sand L3	0.88*	0.81*	0.77*	2.87*	1.28*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	12.96	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	16.68	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	10.85	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	95.4	34.2

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.01	1.01	0.98	0.92	1.05	1.25	1.22	1.05	0.91	0.88
		0.87	0.86	0.84	0.84	0.83	0.82	0.84	0.82	0.81	0.78
		0.78	0.78	0.82	0.81	0.78	0.76	0.80	0.84	0.83	0.79
26	Miocene Orange Sand L2	1.01	1.01	0.98	0.93	1.05	1.25	1.22	1.05	0.91	0.88
		0.87	0.86	0.84	0.84	0.83	0.82	0.84	0.82	0.81	0.78
		0.78	0.78	0.82	0.81	0.78	0.76	0.80	0.84	0.83	0.79
28	Miocene Orange Sand L3	1.01	1.01	0.98	0.93	1.05	1.25	1.22	1.05	0.91	0.89
		0.87	0.86	0.84	0.84	0.83	0.83	0.84	0.82	0.81	0.78
		0.78	0.78	0.82	0.81	0.78	0.76	0.80	0.84	0.83	0.79
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 41 (2023)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.69*	0.65*	0.65*	1.08*	0.93*
26	Miocene Orange Sand L2	0.69*	0.65*	0.65*	1.08*	0.93*
28	Miocene Orange Sand L3	0.69*	0.65*	0.65*	1.08*	0.93*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	2.37	1.18
26	Miocene Orange Sand L2	0.00	0.00	0.00	3.05	1.52
28	Miocene Orange Sand L3	0.00	0.00	0.00	1.98	0.99
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	99.3	36.1

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.71	0.71	0.70	0.69	0.72	0.77	0.76	0.72	0.69	0.69
		0.68	0.68	0.68	0.68	0.68	0.67	0.67	0.67	0.66	0.66
		0.66	0.66	0.67	0.66	0.65	0.64	0.66	0.67	0.66	0.65
26	Miocene Orange Sand L2	0.71	0.71	0.70	0.69	0.72	0.77	0.76	0.72	0.69	0.69
		0.68	0.68	0.68	0.68	0.68	0.67	0.67	0.67	0.66	0.66
		0.66	0.66	0.67	0.66	0.65	0.64	0.66	0.67	0.66	0.65
28	Miocene Orange Sand L3	0.71	0.71	0.70	0.69	0.72	0.77	0.76	0.72	0.69	0.69
		0.68	0.68	0.68	0.68	0.68	0.67	0.67	0.67	0.66	0.66
		0.66	0.66	0.67	0.66	0.65	0.64	0.66	0.67	0.66	0.65
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 42 (2024)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.66*	0.63*	0.61*	1.18*	0.95*
26	Miocene Orange Sand L2	0.66*	0.63*	0.61*	1.18*	0.95*
28	Miocene Orange Sand L3	0.66*	0.63*	0.61*	1.18*	0.95*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	3.20	1.28
26	Miocene Orange Sand L2	0.00	0.00	0.00	4.12	1.65
28	Miocene Orange Sand L3	0.00	0.00	0.00	2.68	1.07
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	104.5	38.3

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.70	0.69	0.69	0.67	0.71	0.77	0.76	0.71	0.66	0.66
		0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.63	0.62
		0.62	0.62	0.63	0.63	0.62	0.61	0.63	0.64	0.63	0.62
26	Miocene Orange Sand L2	0.70	0.69	0.69	0.67	0.71	0.77	0.76	0.71	0.66	0.66
		0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.63	0.62
		0.62	0.62	0.63	0.63	0.62	0.61	0.63	0.64	0.63	0.62
28	Miocene Orange Sand L3	0.70	0.69	0.69	0.67	0.71	0.77	0.76	0.71	0.66	0.66
		0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.63	0.62

		0.62	0.62	0.63	0.63	0.62	0.61	0.63	0.64	0.63	0.62
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 43 (2025)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	59.39*	7.12*	9.34*	9.43*	8.66*
26	Miocene Orange Sand L2	59.39*	7.12*	9.34*	9.43*	8.66*
28	Miocene Orange Sand L3	59.39*	7.12*	9.34*	9.43*	8.66*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.13	0.12	0.13	3.30	1.38
26	Miocene Orange Sand L2	401.63	-0.06	-0.07	4.06	1.59
28	Miocene Orange Sand L3	261.23	-0.05	-0.06	2.63	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
	CUMULATIVE INJECTION TO DATE (MMGAL)	512.8	0.0	945.0	109.8	40.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	11.95	12.03	11.60	10.73	9.43	9.28	10.01	11.14	10.27	19.37
		23.78	16.95	13.92	13.25	13.29	14.43	15.98	14.29	13.00	11.74
		11.44	11.13	12.79	11.90	10.00	8.72	10.28	11.22	10.14	9.03
26	Miocene Orange Sand L2	11.98	12.05	11.62	10.75	9.46	9.30	10.03	11.16	10.30	19.40
		23.80	16.98	13.96	13.29	13.32	14.47	16.01	14.32	13.03	11.77
		11.47	11.16	12.82	11.93	10.02	8.75	10.31	11.24	10.16	9.06
28	Miocene Orange Sand L3	11.98	12.05	11.63	10.75	9.46	9.30	10.03	11.16	10.31	19.40
		23.80	16.98	13.96	13.29	13.32	14.47	16.01	14.32	13.03	11.78
		11.47	11.16	12.82	11.93	10.02	8.75	10.31	11.25	10.16	9.06
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 44 (2026)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	62.57*	9.95*	12.33*	12.40*	11.58*
26	Miocene Orange Sand L2	62.57*	9.95*	12.33*	12.40*	11.58*
28	Miocene Orange Sand L3	62.57*	9.95*	12.33*	12.40*	11.58*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

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34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00
                                 * PERFORATED INJECTION ZONE

                                                                   INJECTION RATES (GPM)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1               312.11     0.11     0.12     3.30     1.38
26  Miocene Orange Sand L2               401.64    -0.06    -0.07     4.07     1.59
28  Miocene Orange Sand L3               261.24    -0.05    -0.05     2.64     1.03
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)     1025.6      0.0    945.0    115.0     42.5


                                                                PRESSURES AT MONITOR COORD (PSI)
                              MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                          ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                          ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                14.96    15.04    14.60    13.70    12.43    12.26    12.95    14.14    13.30    22.52
                                          26.91    20.13    17.15    16.45    16.51    17.65    19.17    17.46    16.15    14.87
                                          14.55    14.25    15.93    15.01    13.03    11.67    13.30    14.25    13.12    11.98
26  Miocene Orange Sand L2                14.98    15.06    14.63    13.72    12.45    12.28    12.97    14.16    13.33    22.54
                                          26.93    20.16    17.18    16.48    16.53    17.68    19.19    17.49    16.18    14.89
                                          14.57    14.28    15.95    15.03    13.05    11.69    13.32    14.27    13.14    12.00
28  Miocene Orange Sand L3                14.98    15.06    14.63    13.72    12.46    12.28    12.97    14.16    13.33    22.54
                                          26.93    20.16    17.18    16.48    16.54    17.68    19.19    17.49    16.18    14.89
                                          14.57    14.28    15.95    15.04    13.05    11.69    13.32    14.27    13.14    12.01
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   45 (2027)-------------------------------------------------
                                                            PRESSURES AT INJECTION WELL COORD (PSI)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                   0.00     0.00     0.00     0.00     0.00
```

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	64.46*	11.71*	14.15*	14.21*	13.38*
26	Miocene Orange Sand L2	64.46*	11.71*	14.15*	14.21*	13.38*
28	Miocene Orange Sand L3	64.46*	11.71*	14.15*	14.21*	13.38*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.10	0.11	0.11	3.29	1.37
26	Miocene Orange Sand L2	401.65	-0.06	-0.06	4.07	1.60
28	Miocene Orange Sand L3	261.25	-0.05	-0.05	2.64	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		1538.4	0.0	945.0	120.3	44.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	16.79	16.87	16.43	15.51	14.27	14.09	14.76	15.96	15.13	24.40
		28.78	22.02	19.06	18.34	18.41	19.55	21.05	19.35	18.03	16.74
		16.41	16.12	17.80	16.88	14.87	13.47	15.13	16.08	14.93	13.79
26	Miocene Orange Sand L2	16.81	16.89	16.45	15.53	14.29	14.11	14.77	15.98	15.16	24.42
		28.80	22.04	19.09	18.37	18.43	19.57	21.08	19.37	18.06	16.76
		16.43	16.15	17.82	16.90	14.89	13.49	15.15	16.10	14.95	13.81
28	Miocene Orange Sand L3	16.81	16.89	16.45	15.53	14.29	14.11	14.78	15.98	15.16	24.42
		28.80	22.04	19.09	18.37	18.43	19.57	21.08	19.37	18.06	16.76
		16.43	16.15	17.82	16.90	14.89	13.50	15.15	16.10	14.96	13.81
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 46 (2028)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	65.81*	13.00*	15.46*	15.53*	14.69*
26	Miocene Orange Sand L2	65.81*	13.00*	15.46*	15.53*	14.69*
28	Miocene Orange Sand L3	65.81*	13.00*	15.46*	15.53*	14.69*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	312.10	0.10	0.10	3.29	1.37
26	Miocene Orange Sand L2	401.65	-0.06	-0.06	4.07	1.60
28	Miocene Orange Sand L3	261.25	-0.05	-0.05	2.64	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		2051.2	0.0	945.0	125.6	46.7

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	18.10	18.18	17.74	16.82	15.59	15.41	16.06	17.28	16.45	25.74
		30.12	23.37	20.42	19.69	19.76	20.90	22.40	20.70	19.38	18.07
		17.74	17.46	19.14	18.21	16.19	14.78	16.45	17.40	16.24	15.09
26	Miocene Orange Sand L2	18.12	18.20	17.76	16.84	15.60	15.42	16.08	17.30	16.48	25.76
		30.14	23.39	20.44	19.72	19.79	20.93	22.42	20.72	19.40	18.10
		17.76	17.48	19.16	18.23	16.21	14.80	16.47	17.42	16.26	15.11
28	Miocene Orange Sand L3	18.12	18.20	17.76	16.84	15.61	15.43	16.08	17.30	16.48	25.76
		30.14	23.39	20.44	19.72	19.79	20.93	22.42	20.72	19.40	18.10
		17.76	17.48	19.16	18.23	16.21	14.80	16.47	17.42	16.26	15.12
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 47 (2029)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	66.86*	14.01*	16.49*	16.56*	15.71*
26	Miocene Orange Sand L2	66.86*	14.01*	16.49*	16.56*	15.71*
28	Miocene Orange Sand L3	66.86*	14.01*	16.49*	16.56*	15.71*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID (M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.09	0.10	0.10	3.28	1.37
26	Miocene Orange Sand L2	401.66	-0.05	-0.06	4.07	1.60
28	Miocene Orange Sand L3	261.25	-0.05	-0.04	2.64	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		2564.0	0.0	945.0	130.8	48.8

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	19.13	19.21	18.77	17.85	16.62	16.44	17.08	18.31	17.48	26.79
		31.17	24.41	21.47	20.74	20.81	21.95	23.45	21.74	20.42	19.12
		18.78	18.50	20.19	19.25	17.22	15.80	17.48	18.43	17.27	16.12
26	Miocene Orange Sand L2	19.15	19.23	18.79	17.87	16.64	16.45	17.10	18.32	17.51	26.81
		31.18	24.43	21.49	20.77	20.84	21.98	23.47	21.76	20.44	19.14
		18.80	18.53	20.21	19.27	17.24	15.82	17.49	18.45	17.29	16.14
28	Miocene Orange Sand L3	19.15	19.23	18.79	17.87	16.64	16.46	17.10	18.33	17.51	26.81
		31.18	24.43	21.50	20.77	20.84	21.98	23.47	21.77	20.45	19.14
		18.80	18.53	20.21	19.27	17.24	15.82	17.50	18.45	17.29	16.14
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 48 (2030)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	67.72*	14.84*	17.33*	17.40*	16.55*
26	Miocene Orange Sand L2	67.72*	14.84*	17.33*	17.40*	16.55*
28	Miocene Orange Sand L3	67.72*	14.84*	17.33*	17.40*	16.55*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.09	0.10	0.10	3.28	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.60
28	Miocene Orange Sand L3	261.25	-0.04	-0.04	2.64	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		3076.8	0.0	945.0	136.1	50.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	19.98	20.06	19.62	18.69	17.47	17.28	17.92	19.15	18.33	27.64
		32.02	25.27	22.33	21.60	21.67	22.81	24.31	22.60	21.28	19.97
		19.63	19.36	21.04	20.11	18.07	16.64	18.32	19.28	18.11	16.96
26	Miocene Orange Sand L2	20.00	20.07	19.64	18.71	17.48	17.30	17.94	19.17	18.35	27.66
		32.04	25.29	22.36	21.62	21.70	22.84	24.33	22.62	21.30	19.99
		19.65	19.38	21.06	20.13	18.09	16.66	18.34	19.30	18.13	16.98
28	Miocene Orange Sand L3	20.00	20.08	19.64	18.71	17.48	17.30	17.94	19.17	18.35	27.66
		32.04	25.29	22.36	21.62	21.70	22.84	24.33	22.62	21.30	19.99
		19.66	19.38	21.06	20.13	18.09	16.66	18.34	19.30	18.13	16.98
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   49 (2031)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  68.44*   15.55*   18.05*   18.12*   17.26*
26  Miocene Orange Sand L2                  68.44*   15.55*   18.05*   18.12*   17.26*
28  Miocene Orange Sand L3                  68.44*   15.55*   18.05*   18.12*   17.26*
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                 312.09     0.10     0.10     3.28     1.36
26  Miocene Orange Sand L2                 401.66    -0.05    -0.05     4.08     1.60
28  Miocene Orange Sand L3                 261.25    -0.04    -0.04     2.64     1.03
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)      3589.6      0.0    945.0    141.3     53.0


                                                                  PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  20.70    20.77    20.33    19.41    18.18    18.00    18.64    19.87    19.05    28.37
                                            32.74    26.00    23.06    22.33    22.40    23.54    25.03    23.33    22.00    20.69
                                            20.36    20.08    21.76    20.83    18.79    17.36    19.04    20.00    18.83    17.67
```

26	Miocene Orange Sand L2	20.71	20.79	20.35	19.42	18.20	18.02	18.65	19.89	19.07	28.39
		32.76	26.02	23.08	22.35	22.42	23.56	25.05	23.35	22.02	20.71
		20.38	20.10	21.78	20.85	18.80	17.37	19.06	20.02	18.85	17.69
28	Miocene Orange Sand L3	20.71	20.79	20.35	19.42	18.20	18.02	18.65	19.89	19.07	28.39
		32.76	26.02	23.08	22.35	22.42	23.56	25.05	23.35	22.03	20.71
		20.38	20.10	21.78	20.85	18.80	17.37	19.06	20.02	18.85	17.69
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 50 (2032)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	69.07*	16.16*	18.67*	18.74*	17.88*
26	Miocene Orange Sand L2	69.07*	16.16*	18.67*	18.74*	17.88*
28	Miocene Orange Sand L3	69.07*	16.16*	18.67*	18.74*	17.88*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.08	0.10	0.09	3.28	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.60
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.64	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		4102.4	0.0	945.0	146.6	55.1

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	21.32	21.40	20.96	20.03	18.81	18.63	19.26	20.49	19.67	29.00
		33.37	26.63	23.69	22.96	23.03	24.17	25.66	23.96	22.63	21.32
		20.98	20.71	22.39	21.46	19.41	17.98	19.66	20.62	19.45	18.29
26	Miocene Orange Sand L2	21.33	21.41	20.97	20.04	18.82	18.64	19.27	20.51	19.69	29.01
		33.39	26.64	23.71	22.98	23.06	24.19	25.68	23.98	22.65	21.34
		21.00	20.73	22.41	21.47	19.43	17.99	19.68	20.64	19.47	18.31
28	Miocene Orange Sand L3	21.34	21.41	20.97	20.04	18.83	18.64	19.27	20.51	19.69	29.01
		33.39	26.64	23.71	22.98	23.06	24.19	25.68	23.98	22.65	21.34
		21.00	20.73	22.41	21.48	19.43	17.99	19.68	20.64	19.47	18.31
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 51 (2033)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	69.63*	16.71*	19.22*	19.29*	18.43*
26	Miocene Orange Sand L2	69.63*	16.71*	19.22*	19.29*	18.43*
28	Miocene Orange Sand L3	69.63*	16.71*	19.22*	19.29*	18.43*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.08	0.09	0.09	3.28	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		4615.2	0.0	945.0	151.9	57.2

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	21.87	21.95	21.51	20.57	19.36	19.18	19.80	21.04	20.22	29.55
		33.93	27.18	24.25	23.51	23.59	24.73	26.22	24.51	23.19	21.87
		21.54	21.26	22.95	22.01	19.96	18.52	20.21	21.17	20.00	18.84
26	Miocene Orange Sand L2	21.88	21.96	21.52	20.59	19.37	19.19	19.82	21.06	20.24	29.57
		33.94	27.20	24.27	23.53	23.61	24.75	26.23	24.53	23.21	21.89
		21.55	21.28	22.96	22.03	19.98	18.54	20.23	21.19	20.02	18.86
28	Miocene Orange Sand L3	21.88	21.96	21.52	20.59	19.38	19.19	19.82	21.06	20.24	29.57
		33.94	27.20	24.27	23.53	23.61	24.75	26.24	24.53	23.21	21.89
		21.55	21.28	22.97	22.03	19.98	18.54	20.23	21.19	20.02	18.86
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 52 (2034)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	70.13*	17.20*	19.71*	19.78*	18.92*
26	Miocene Orange Sand L2	70.13*	17.20*	19.71*	19.78*	18.92*
28	Miocene Orange Sand L3	70.13*	17.20*	19.71*	19.78*	18.92*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.08	0.09	0.09	3.28	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		5128.0	0.0	945.0	157.1	59.3

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	22.36	22.44	22.00	21.07	19.85	19.67	20.29	21.53	20.71	30.05
		34.42	27.68	24.75	24.01	24.09	25.23	26.71	25.01	23.68	22.37
		22.03	21.76	23.44	22.50	20.45	19.01	20.70	21.66	20.49	19.33
26	Miocene Orange Sand L2	22.38	22.46	22.01	21.08	19.87	19.68	20.31	21.55	20.74	30.06
		34.44	27.69	24.77	24.03	24.11	25.25	26.73	25.03	23.70	22.39
		22.05	21.78	23.46	22.52	20.47	19.03	20.72	21.68	20.51	19.35
28	Miocene Orange Sand L3	22.38	22.46	22.02	21.08	19.87	19.68	20.31	21.55	20.74	30.06
		34.44	27.70	24.77	24.03	24.11	25.25	26.73	25.03	23.70	22.39

		22.05	21.78	23.46	22.52	20.47	19.03	20.72	21.68	20.51	19.35
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 53 (2035)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	70.58*	17.64*	20.16*	20.23*	19.36*
26	Miocene Orange Sand L2	70.58*	17.64*	20.16*	20.22*	19.36*
28	Miocene Orange Sand L3	70.58*	17.64*	20.16*	20.22*	19.36*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.08	0.09	0.09	3.27	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
	CUMULATIVE INJECTION TO DATE (MMGAL)	5640.8	0.0	945.0	162.4	61.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	22.81	22.88	22.44	21.51	20.30	20.11	20.74	21.98	21.16	30.50
		34.87	28.13	25.20	24.46	24.54	25.68	27.16	25.46	24.13	22.82
		22.48	22.21	23.89	22.95	20.90	19.46	21.15	22.11	20.93	19.77
26	Miocene Orange Sand L2	22.82	22.90	22.46	21.53	20.31	20.13	20.75	21.99	21.18	30.51
		34.88	28.14	25.22	24.48	24.56	25.69	27.18	25.47	24.15	22.83
		22.50	22.22	23.91	22.97	20.92	19.48	21.17	22.13	20.95	19.79
28	Miocene Orange Sand L3	22.82	22.90	22.46	21.53	20.32	20.13	20.75	21.99	21.18	30.51
		34.88	28.14	25.22	24.48	24.56	25.70	27.18	25.47	24.15	22.84
		22.50	22.23	23.91	22.97	20.92	19.48	21.17	22.13	20.95	19.79
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 54 (2036)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	70.99*	18.04*	20.56*	20.63*	19.77*
26	Miocene Orange Sand L2	70.99*	18.04*	20.56*	20.63*	19.77*
28	Miocene Orange Sand L3	70.99*	18.04*	20.56*	20.63*	19.77*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

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34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00
                                 * PERFORATED INJECTION ZONE

                                                                   INJECTION RATES (GPM)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1               312.08     0.09     0.09     3.27     1.36
26  Miocene Orange Sand L2               401.67    -0.05    -0.05     4.08     1.61
28  Miocene Orange Sand L3               261.26    -0.04    -0.04     2.65     1.04
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)     6153.6      0.0    945.0    167.6     63.5


                                                                PRESSURES AT MONITOR COORD (PSI)
                              MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                          ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                          ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                23.21    23.29    22.85    21.92    20.71    20.52    21.14    22.38    21.57    30.91
                                          35.28    28.54    25.61    24.87    24.95    26.09    27.57    25.87    24.54    23.23
                                          22.89    22.62    24.30    23.36    21.31    19.87    21.56    22.52    21.34    20.18
26  Miocene Orange Sand L2                23.23    23.31    22.87    21.93    20.72    20.54    21.16    22.40    21.59    30.92
                                          35.29    28.55    25.63    24.89    24.97    26.11    27.59    25.89    24.56    23.24
                                          22.91    22.63    24.32    23.38    21.32    19.88    21.57    22.54    21.36    20.20
28  Miocene Orange Sand L3                23.23    23.31    22.87    21.94    20.72    20.54    21.16    22.40    21.59    30.92
                                          35.29    28.55    25.63    24.89    24.97    26.11    27.59    25.89    24.56    23.24
                                          22.91    22.64    24.32    23.38    21.32    19.88    21.58    22.54    21.36    20.20
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   55 (2037)-----------------------------------------------------
                                                            PRESSURES AT INJECTION WELL COORD (PSI)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                   0.00     0.00     0.00     0.00     0.00
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4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	71.36*	18.42*	20.94*	21.01*	20.14*
26	Miocene Orange Sand L2	71.36*	18.42*	20.94*	21.01*	20.14*
28	Miocene Orange Sand L3	71.36*	18.42*	20.94*	21.01*	20.14*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.08	0.09	0.09	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		6666.4	0.0	945.0	172.9	65.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	23.59	23.67	23.23	22.29	21.08	20.90	21.52	22.76	21.95	31.29
		35.66	28.92	25.99	25.25	25.33	26.47	27.95	26.25	24.92	23.60
		23.26	22.99	24.68	23.74	21.68	20.24	21.93	22.90	21.72	20.56
26	Miocene Orange Sand L2	23.60	23.68	23.24	22.31	21.10	20.91	21.53	22.78	21.97	31.30
		35.67	28.93	26.01	25.27	25.35	26.48	27.97	26.26	24.94	23.62
		23.28	23.01	24.70	23.76	21.70	20.26	21.95	22.91	21.73	20.57
28	Miocene Orange Sand L3	23.61	23.68	23.24	22.31	21.10	20.91	21.53	22.78	21.97	31.30
		35.67	28.93	26.01	25.27	25.35	26.48	27.97	26.26	24.94	23.62
		23.28	23.01	24.70	23.76	21.70	20.26	21.95	22.91	21.73	20.57
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-------------------------------------------------------------YEAR   56 (2038)-----------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                             0.00     0.00     0.00     0.00     0.00
 4  Sand                             0.00     0.00     0.00     0.00     0.00
 6  Sand                             0.00     0.00     0.00     0.00     0.00
 8  Sand                             0.00     0.00     0.00     0.00     0.00
10  Sand                             0.00     0.00     0.00     0.00     0.00
12  Sand                             0.00     0.00     0.00     0.00     0.00
14  Sand                             0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone            0.00     0.00     0.00     0.00     0.00
18  Sand                             0.00     0.00     0.00     0.00     0.00
20  Sand                             0.00     0.00     0.00     0.00     0.00
22  Sand                             0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1          71.72*   18.76*   21.29*   21.36*   20.49*
26  Miocene Orange Sand L2          71.72*   18.76*   21.29*   21.36*   20.49*
28  Miocene Orange Sand L3          71.72*   18.76*   21.29*   21.36*   20.49*
30  Miocene Yellow Sand L1           0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2           0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3           0.00     0.00     0.00     0.00     0.00
                                * PERFORATED INJECTION ZONE

                                                                 INJECTION RATES (GPM)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1         312.08     0.09     0.09     3.27     1.35
26  Miocene Orange Sand L2         401.67    -0.05    -0.05     4.08     1.61
28  Miocene Orange Sand L3         261.26    -0.04    -0.04     2.65     1.04
30  Miocene Yellow Sand L1           0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2           0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3           0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)     7179.2      0.0    945.0    178.2     67.7


                                                             PRESSURES AT MONITOR COORD (PSI)
                               MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                           ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
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	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	23.94	24.02	23.58	22.64	21.43	21.25	21.87	23.11	22.29	31.64
		36.01	29.27	26.34	25.60	25.68	26.82	28.30	26.60	25.27	23.95
		23.61	23.34	25.03	24.09	22.03	20.59	22.28	23.24	22.07	20.90
26	Miocene Orange Sand L2	23.95	24.03	23.59	22.66	21.45	21.26	21.88	23.12	22.31	31.65
		36.02	29.28	26.36	25.62	25.70	26.84	28.32	26.61	25.29	23.97
		23.63	23.36	25.05	24.11	22.05	20.60	22.30	23.26	22.08	20.92
28	Miocene Orange Sand L3	23.95	24.03	23.59	22.66	21.45	21.26	21.88	23.13	22.32	31.65
		36.02	29.28	26.36	25.62	25.70	26.84	28.32	26.61	25.29	23.97
		23.63	23.36	25.05	24.11	22.05	20.61	22.30	23.26	22.08	20.92
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 57 (2039)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	72.04*	19.08*	21.61*	21.68*	20.81*
26	Miocene Orange Sand L2	72.04*	19.08*	21.61*	21.68*	20.81*
28	Miocene Orange Sand L3	72.04*	19.08*	21.61*	21.68*	20.81*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.09	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		7692.0	0.0	945.0	183.4	69.8

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	24.26	24.34	23.90	22.96	21.76	21.57	22.19	23.43	22.62	31.96
		36.33	29.59	26.67	25.92	26.00	27.14	28.63	26.92	25.60	24.28
		23.94	23.67	25.35	24.41	22.36	20.91	22.61	23.57	22.39	21.23
26	Miocene Orange Sand L2	24.28	24.36	23.91	22.98	21.77	21.58	22.20	23.45	22.64	31.97
		36.34	29.61	26.68	25.94	26.02	27.16	28.64	26.94	25.61	24.30
		23.96	23.69	25.37	24.43	22.37	20.93	22.62	23.58	22.40	21.24
28	Miocene Orange Sand L3	24.28	24.36	23.91	22.98	21.77	21.59	22.20	23.45	22.64	31.97
		36.34	29.61	26.68	25.94	26.02	27.16	28.64	26.94	25.61	24.30
		23.96	23.69	25.37	24.43	22.37	20.93	22.62	23.58	22.41	21.24
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 58 (2040)

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	72.34*	19.38*	21.91*	21.98*	21.12*
26	Miocene Orange Sand L2	72.34*	19.38*	21.91*	21.98*	21.12*
28	Miocene Orange Sand L3	72.34*	19.38*	21.91*	21.98*	21.12*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.09	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		8204.8	0.0	945.0	188.7	71.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	24.56	24.64	24.20	23.27	22.06	21.87	22.49	23.73	22.92	32.26
		36.63	29.89	26.97	26.23	26.31	27.45	28.93	27.22	25.90	24.58
		24.24	23.97	25.66	24.72	22.66	21.21	22.91	23.87	22.69	21.53
26	Miocene Orange Sand L2	24.58	24.66	24.22	23.28	22.07	21.89	22.50	23.75	22.94	32.28
		36.65	29.91	26.99	26.25	26.33	27.46	28.95	27.24	25.92	24.60
		24.26	23.99	25.67	24.73	22.67	21.23	22.92	23.89	22.71	21.54
28	Miocene Orange Sand L3	24.58	24.66	24.22	23.28	22.07	21.89	22.51	23.75	22.94	32.28
		36.65	29.91	26.99	26.25	26.33	27.46	28.95	27.24	25.92	24.60
		24.26	23.99	25.67	24.73	22.67	21.23	22.92	23.89	22.71	21.55
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   59 (2041)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  72.63*   19.67*   22.20*   22.27*   21.40*
26  Miocene Orange Sand L2                  72.63*   19.67*   22.20*   22.27*   21.40*
28  Miocene Orange Sand L3                  72.63*   19.67*   22.20*   22.27*   21.40*
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                 312.07     0.09     0.08     3.27     1.35
26  Miocene Orange Sand L2                 401.67    -0.05    -0.05     4.08     1.61
28  Miocene Orange Sand L3                 261.26    -0.04    -0.04     2.65     1.04
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)      8717.6      0.0    945.0    193.9     74.0


                                                                  PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  24.85    24.93    24.49    23.55    22.34    22.16    22.77    24.02    23.20    32.55
                                            36.92    30.18    27.26    26.51    26.59    27.73    29.22    27.51    26.19    24.87
                                            24.53    24.26    25.94    25.00    22.94    21.50    23.19    24.15    22.97    21.81
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26	Miocene Orange Sand L2	24.86	24.94	24.50	23.57	22.36	22.17	22.79	24.03	23.22	32.56
		36.93	30.20	27.27	26.53	26.61	27.75	29.23	27.53	26.20	24.88
		24.54	24.27	25.96	25.02	22.96	21.51	23.21	24.17	22.99	21.83
28	Miocene Orange Sand L3	24.86	24.94	24.50	23.57	22.36	22.17	22.79	24.03	23.22	32.56
		36.93	30.20	27.27	26.53	26.61	27.75	29.23	27.53	26.20	24.88
		24.54	24.28	25.96	25.02	22.96	21.51	23.21	24.17	22.99	21.83
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 60 (2042)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	72.90*	19.93*	22.46*	22.53*	21.67*
26	Miocene Orange Sand L2	72.90*	19.93*	22.46*	22.53*	21.67*
28	Miocene Orange Sand L3	72.90*	19.93*	22.46*	22.53*	21.67*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	312.07	0.09	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		9230.4	0.0	945.0	199.2	76.1

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	25.12	25.20	24.75	23.82	22.61	22.43	23.04	24.29	23.47	32.82
		37.19	30.45	27.53	26.78	26.86	28.00	29.49	27.78	26.45	25.14
		24.80	24.53	26.21	25.27	23.21	21.76	23.46	24.42	23.24	22.08
26	Miocene Orange Sand L2	25.13	25.21	24.77	23.83	22.63	22.44	23.06	24.30	23.49	32.83
		37.20	30.47	27.54	26.80	26.88	28.02	29.50	27.80	26.47	25.15
		24.81	24.54	26.23	25.29	23.23	21.78	23.48	24.44	23.26	22.10
28	Miocene Orange Sand L3	25.13	25.21	24.77	23.83	22.63	22.44	23.06	24.30	23.49	32.83
		37.20	30.47	27.54	26.80	26.88	28.02	29.50	27.80	26.47	25.15
		24.81	24.54	26.23	25.29	23.23	21.78	23.48	24.44	23.26	22.10
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 61 (2043)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	73.16*	20.19*	22.72*	22.79*	21.92*
26	Miocene Orange Sand L2	73.15*	20.19*	22.72*	22.79*	21.92*
28	Miocene Orange Sand L3	73.15*	20.19*	22.72*	22.79*	21.92*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		9743.2	0.0	945.0	204.5	78.2

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	25.37	25.45	25.01	24.07	22.87	22.68	23.30	24.54	23.73	33.07
		37.44	30.71	27.78	27.04	27.12	28.26	29.74	28.04	26.71	25.39
		25.05	24.78	26.47	25.53	23.47	22.02	23.72	24.68	23.50	22.33
26	Miocene Orange Sand L2	25.38	25.46	25.02	24.09	22.88	22.69	23.31	24.56	23.75	33.09
		37.46	30.72	27.80	27.06	27.14	28.28	29.76	28.05	26.73	25.41
		25.07	24.80	26.48	25.54	23.48	22.03	23.73	24.69	23.51	22.35
28	Miocene Orange Sand L3	25.39	25.46	25.02	24.09	22.88	22.69	23.31	24.56	23.75	33.09
		37.46	30.72	27.80	27.06	27.14	28.28	29.76	28.05	26.73	25.41
		25.07	24.80	26.48	25.54	23.48	22.03	23.73	24.69	23.51	22.35
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 62 (2044)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	73.40*	20.43*	22.96*	23.03*	22.16*
26	Miocene Orange Sand L2	73.40*	20.43*	22.96*	23.03*	22.16*
28	Miocene Orange Sand L3	73.40*	20.43*	22.96*	23.03*	22.16*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		10256.0	0.0	945.0	209.7	80.3

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL									
24	Miocene Orange Sand L1	25.61	25.69	25.25	24.31	23.11	22.92	23.54	24.78	23.97	33.32
		37.69	30.95	28.02	27.28	27.36	28.50	29.98	28.28	26.95	25.63
		25.29	25.02	26.71	25.77	23.71	22.26	23.96	24.92	23.74	22.57
26	Miocene Orange Sand L2	25.63	25.71	25.26	24.33	23.12	22.93	23.55	24.80	23.99	33.33
		37.70	30.96	28.04	27.30	27.38	28.52	30.00	28.29	26.97	25.65
		25.31	25.04	26.72	25.78	23.72	22.27	23.97	24.93	23.75	22.59
28	Miocene Orange Sand L3	25.63	25.71	25.26	24.33	23.12	22.94	23.55	24.80	23.99	33.33
		37.70	30.96	28.04	27.30	27.38	28.52	30.00	28.29	26.97	25.65

		25.31	25.04	26.73	25.78	23.72	22.28	23.97	24.93	23.75	22.59
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 63 (2045)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	73.63*	20.65*	23.19*	23.26*	22.39*
26	Miocene Orange Sand L2	73.63*	20.65*	23.19*	23.26*	22.39*
28	Miocene Orange Sand L3	73.63*	20.65*	23.19*	23.26*	22.39*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
	CUMULATIVE INJECTION TO DATE (MMGAL)	10768.8	0.0	945.0	215.0	82.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	25.84	25.92	25.48	24.54	23.34	23.15	23.76	25.01	24.20	33.55
		37.92	31.18	28.25	27.51	27.59	28.73	30.21	28.51	27.18	25.86
		25.52	25.25	26.94	26.00	23.94	22.49	24.19	25.15	23.97	22.80
26	Miocene Orange Sand L2	25.85	25.93	25.49	24.56	23.35	23.16	23.78	25.03	24.22	33.56
		37.93	31.19	28.27	27.53	27.61	28.75	30.23	28.52	27.20	25.88
		25.54	25.27	26.95	26.01	23.95	22.50	24.20	25.16	23.98	22.82
28	Miocene Orange Sand L3	25.85	25.93	25.49	24.56	23.35	23.16	23.78	25.03	24.22	33.56
		37.93	31.19	28.27	27.53	27.61	28.75	30.23	28.52	27.20	25.88
		25.54	25.27	26.95	26.01	23.95	22.50	24.20	25.16	23.98	22.82
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 64 (2046)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	73.85*	20.87*	23.41*	23.48*	22.61*
26	Miocene Orange Sand L2	73.85*	20.87*	23.41*	23.48*	22.61*
28	Miocene Orange Sand L3	73.85*	20.87*	23.41*	23.48*	22.61*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		11281.6	0.0	945.0	220.2	84.5

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	26.06	26.14	25.70	24.76	23.56	23.37	23.98	25.23	24.42	33.76
		38.14	31.40	28.47	27.73	27.81	28.95	30.43	28.73	27.40	26.08
		25.74	25.47	27.16	26.22	24.16	22.71	24.40	25.37	24.18	23.02
26	Miocene Orange Sand L2	26.07	26.15	25.71	24.78	23.57	23.38	24.00	25.24	24.43	33.78
		38.15	31.41	28.49	27.75	27.83	28.97	30.45	28.74	27.42	26.10
		25.76	25.49	27.17	26.23	24.17	22.72	24.42	25.38	24.20	23.04
28	Miocene Orange Sand L3	26.07	26.15	25.71	24.78	23.57	23.38	24.00	25.24	24.44	33.78
		38.15	31.41	28.49	27.75	27.83	28.97	30.45	28.74	27.42	26.10
		25.76	25.49	27.17	26.23	24.17	22.72	24.42	25.38	24.20	23.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 65 (2047)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.06*	21.08*	23.61*	23.69*	22.82*
26	Miocene Orange Sand L2	74.06*	21.08*	23.61*	23.69*	22.82*
28	Miocene Orange Sand L3	74.06*	21.08*	23.61*	23.69*	22.82*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		11794.4	0.0	945.0	225.5	86.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	26.27	26.35	25.90	24.97	23.76	23.58	24.19	25.44	24.63	33.97
		38.34	31.61	28.68	27.94	28.02	29.16	30.64	28.94	27.61	26.29
		25.95	25.68	27.37	26.43	24.36	22.91	24.61	25.58	24.39	23.23
26	Miocene Orange Sand L2	26.28	26.36	25.92	24.98	23.78	23.59	24.20	25.45	24.64	33.99
		38.36	31.62	28.70	27.96	28.04	29.18	30.66	28.95	27.63	26.31
		25.97	25.70	27.38	26.44	24.38	22.93	24.63	25.59	24.41	23.25
28	Miocene Orange Sand L3	26.28	26.36	25.92	24.98	23.78	23.59	24.21	25.45	24.64	33.99
		38.36	31.62	28.70	27.96	28.04	29.18	30.66	28.95	27.63	26.31
		25.97	25.70	27.38	26.44	24.38	22.93	24.63	25.59	24.41	23.25
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 66 (2048)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.26*	21.28*	23.82*	23.89*	23.02*
26	Miocene Orange Sand L2	74.26*	21.28*	23.82*	23.89*	23.02*
28	Miocene Orange Sand L3	74.26*	21.28*	23.82*	23.89*	23.02*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		12307.2	0.0	945.0	230.8	88.7

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	26.47	26.55	26.11	25.17	23.97	23.78	24.39	25.64	24.83	34.18
		38.55	31.81	28.89	28.14	28.22	29.36	30.84	29.14	27.81	26.49
		26.15	25.88	27.57	26.63	24.57	23.12	24.82	25.78	24.60	23.43
26	Miocene Orange Sand L2	26.48	26.56	26.12	25.19	23.98	23.79	24.41	25.65	24.85	34.19
		38.56	31.82	28.90	28.16	28.24	29.38	30.86	29.16	27.83	26.51
		26.17	25.90	27.59	26.64	24.58	23.13	24.83	25.79	24.61	23.45
28	Miocene Orange Sand L3	26.48	26.56	26.12	25.19	23.98	23.79	24.41	25.66	24.85	34.19
		38.56	31.82	28.90	28.16	28.24	29.38	30.86	29.16	27.83	26.51
		26.17	25.90	27.59	26.64	24.58	23.13	24.83	25.79	24.61	23.45
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 67 (2049)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.45*	21.47*	24.01*	24.08*	23.21*
26	Miocene Orange Sand L2	74.45*	21.47*	24.01*	24.08*	23.21*
28	Miocene Orange Sand L3	74.45*	21.47*	24.01*	24.08*	23.21*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		12820.0	0.0	945.0	236.0	90.8

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	26.66	26.74	26.30	25.36	24.16	23.97	24.59	25.83	25.02	34.37
		38.74	32.00	29.08	28.34	28.42	29.56	31.04	29.33	28.01	26.69
		26.35	26.08	27.76	26.82	24.76	23.31	25.01	25.97	24.79	23.63
26	Miocene Orange Sand L2	26.68	26.76	26.31	25.38	24.17	23.99	24.60	25.85	25.04	34.38
		38.75	32.02	29.10	28.36	28.44	29.57	31.05	29.35	28.02	26.70
		26.36	26.09	27.78	26.84	24.77	23.32	25.02	25.99	24.80	23.64
28	Miocene Orange Sand L3	26.68	26.76	26.32	25.38	24.18	23.99	24.60	25.85	25.04	34.38
		38.75	32.02	29.10	28.36	28.44	29.57	31.05	29.35	28.02	26.70
		26.36	26.10	27.78	26.84	24.78	23.33	25.02	25.99	24.80	23.64
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 68 (2050)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.64*	21.66*	24.20*	24.27*	23.40*
26	Miocene Orange Sand L2	74.64*	21.66*	24.20*	24.27*	23.40*
28	Miocene Orange Sand L3	74.64*	21.66*	24.20*	24.27*	23.40*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		13332.8	0.0	945.0	241.3	93.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	26.85	26.93	26.49	25.55	24.35	24.16	24.77	26.02	25.21	34.56
		38.93	32.19	29.27	28.52	28.60	29.74	31.23	29.52	28.19	26.87
		26.53	26.26	27.95	27.01	24.95	23.50	25.19	26.16	24.97	23.81
26	Miocene Orange Sand L2	26.86	26.94	26.50	25.56	24.36	24.17	24.79	26.03	25.22	34.57
		38.94	32.20	29.28	28.54	28.62	29.76	31.24	29.54	28.21	26.89
		26.55	26.28	27.96	27.02	24.96	23.51	25.21	26.17	24.99	23.83
28	Miocene Orange Sand L3	26.86	26.94	26.50	25.56	24.36	24.17	24.79	26.03	25.23	34.57
		38.94	32.20	29.28	28.54	28.62	29.76	31.24	29.54	28.21	26.89
		26.55	26.28	27.97	27.02	24.96	23.51	25.21	26.17	24.99	23.83
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   69 (2051)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  74.82*   21.84*   24.37*   24.45*   23.58*
26  Miocene Orange Sand L2                  74.82*   21.84*   24.37*   24.45*   23.58*
28  Miocene Orange Sand L3                  74.82*   21.84*   24.37*   24.45*   23.58*
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                 312.07     0.08     0.08     3.27     1.35
26  Miocene Orange Sand L2                 401.67    -0.04    -0.04     4.08     1.61
28  Miocene Orange Sand L3                 261.26    -0.04    -0.03     2.65     1.04
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)     13845.6      0.0    945.0    246.5     95.1


                                                                  PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  27.03    27.11    26.66    25.73    24.52    24.34    24.95    26.20    25.39    34.74
                                            39.11    32.37    29.45    28.70    28.78    29.92    31.40    29.70    28.37    27.05
                                            26.71    26.44    28.13    27.19    25.13    23.67    25.37    26.34    25.15    23.99
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26	Miocene Orange Sand L2	27.04	27.12	26.68	25.74	24.54	24.35	24.96	26.21	25.40	34.75
		39.12	32.38	29.46	28.72	28.80	29.94	31.42	29.71	28.39	27.07
		26.73	26.46	28.14	27.20	25.14	23.69	25.39	26.35	25.17	24.00
28	Miocene Orange Sand L3	27.04	27.12	26.68	25.74	24.54	24.35	24.96	26.21	25.40	34.75
		39.12	32.38	29.46	28.72	28.80	29.94	31.42	29.71	28.39	27.07
		26.73	26.46	28.14	27.20	25.14	23.69	25.39	26.35	25.17	24.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 70 (2052)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.99*	22.01*	24.55*	24.62*	23.75*
26	Miocene Orange Sand L2	74.99*	22.01*	24.55*	24.62*	23.75*
28	Miocene Orange Sand L3	74.99*	22.01*	24.55*	24.62*	23.75*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.26	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		14358.4	0.0	945.0	251.8	97.2

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	27.20	27.28	26.84	25.90	24.70	24.51	25.12	26.37	25.56	34.91
		39.28	32.54	29.62	28.88	28.96	30.10	31.58	29.87	28.55	27.23
		26.88	26.62	28.30	27.36	25.30	23.85	25.55	26.51	25.33	24.16
26	Miocene Orange Sand L2	27.21	27.29	26.85	25.92	24.71	24.52	25.14	26.39	25.58	34.92
		39.29	32.56	29.64	28.90	28.98	30.11	31.59	29.89	28.56	27.24
		26.90	26.63	28.32	27.38	25.31	23.86	25.56	26.52	25.34	24.18
28	Miocene Orange Sand L3	27.21	27.29	26.85	25.92	24.71	24.53	25.14	26.39	25.58	34.92
		39.29	32.56	29.64	28.90	28.98	30.11	31.59	29.89	28.56	27.24
		26.90	26.63	28.32	27.38	25.31	23.86	25.56	26.52	25.34	24.18
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 71 (2053)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	75.16*	22.18*	24.71*	24.79*	23.92*
26	Miocene Orange Sand L2	75.16*	22.18*	24.71*	24.79*	23.92*
28	Miocene Orange Sand L3	75.16*	22.18*	24.71*	24.79*	23.92*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.26	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.09	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		14871.2	0.0	945.1	257.0	99.3

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	27.37	27.45	27.00	26.07	24.86	24.68	25.29	26.54	25.73	35.08
		39.45	32.71	29.79	29.04	29.13	30.26	31.75	30.04	28.71	27.39
		27.05	26.78	28.47	27.53	25.46	24.01	25.71	26.68	25.49	24.33
26	Miocene Orange Sand L2	27.38	27.46	27.02	26.08	24.88	24.69	25.30	26.55	25.74	35.09
		39.46	32.72	29.81	29.06	29.14	30.28	31.76	30.05	28.73	27.41
		27.07	26.80	28.48	27.54	25.48	24.03	25.73	26.69	25.51	24.34
28	Miocene Orange Sand L3	27.38	27.46	27.02	26.08	24.88	24.69	25.30	26.55	25.74	35.09
		39.46	32.72	29.81	29.06	29.14	30.28	31.76	30.05	28.73	27.41
		27.07	26.80	28.48	27.54	25.48	24.03	25.73	26.69	25.51	24.34
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 72 (2054)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	75.32*	22.34*	24.87*	24.95*	24.08*
26	Miocene Orange Sand L2	75.32*	22.34*	24.87*	24.95*	24.08*
28	Miocene Orange Sand L3	75.32*	22.34*	24.87*	24.95*	24.08*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.26	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.09	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		15384.0	0.0	945.1	262.3	101.4

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL									
24	Miocene Orange Sand L1	27.53	27.61	27.17	26.23	25.03	24.84	25.45	26.70	25.89	35.24
		39.61	32.87	29.95	29.21	29.29	30.42	31.91	30.20	28.87	27.55
		27.21	26.95	28.63	27.69	25.63	24.17	25.87	26.84	25.65	24.49
26	Miocene Orange Sand L2	27.54	27.62	27.18	26.24	25.04	24.85	25.46	26.71	25.90	35.25
		39.62	32.89	29.97	29.22	29.30	30.44	31.92	30.22	28.89	27.57
		27.23	26.96	28.65	27.70	25.64	24.19	25.89	26.85	25.67	24.50
28	Miocene Orange Sand L3	27.54	27.62	27.18	26.24	25.04	24.85	25.46	26.71	25.90	35.25
		39.62	32.89	29.97	29.22	29.30	30.44	31.92	30.22	28.89	27.57

		27.23	26.96	28.65	27.70	25.64	24.19	25.89	26.85	25.67	24.50
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 73 (2055)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	75.48*	22.49*	25.03*	25.10*	24.23*
26	Miocene Orange Sand L2	75.48*	22.49*	25.03*	25.10*	24.23*
28	Miocene Orange Sand L3	75.48*	22.49*	25.03*	25.10*	24.23*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.26	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.09	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
	CUMULATIVE INJECTION TO DATE (MMGAL)	15896.8	0.0	945.1	267.6	103.5

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	27.68	27.76	27.32	26.38	25.18	24.99	25.61	26.85	26.04	35.39
		39.76	33.03	30.10	29.36	29.44	30.58	32.06	30.36	29.03	27.71
		27.37	27.10	28.79	27.84	25.78	24.33	26.03	26.99	25.81	24.64
26	Miocene Orange Sand L2	27.70	27.78	27.33	26.40	25.19	25.01	25.62	26.87	26.06	35.41
		39.77	33.04	30.12	29.38	29.46	30.60	32.08	30.37	29.05	27.72
		27.38	27.12	28.80	27.86	25.79	24.34	26.04	27.01	25.82	24.66
28	Miocene Orange Sand L3	27.70	27.78	27.33	26.40	25.20	25.01	25.62	26.87	26.06	35.41
		39.78	33.04	30.12	29.38	29.46	30.60	32.08	30.37	29.05	27.73
		27.38	27.12	28.80	27.86	25.79	24.34	26.04	27.01	25.82	24.66
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 74 (2056)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	75.63*	22.64*	25.18*	25.25*	24.38*
26	Miocene Orange Sand L2	75.63*	22.64*	25.18*	25.25*	24.38*
28	Miocene Orange Sand L3	75.63*	22.64*	25.18*	25.25*	24.38*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.26	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.09	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	27.83	27.91	27.47	26.53	25.33	25.15	25.76	27.00	26.19	35.54
		39.91	33.18	30.26	29.51	29.59	30.73	32.21	30.51	29.18	27.86
		27.52	27.25	28.94	27.99	25.93	24.48	26.18	27.14	25.96	24.79
26	Miocene Orange Sand L2	27.85	27.93	27.48	26.55	25.34	25.16	25.77	27.02	26.21	35.56
		39.93	33.19	30.27	29.53	29.61	30.75	32.23	30.52	29.20	27.88
		27.53	27.27	28.95	28.01	25.94	24.49	26.19	27.16	25.97	24.81
28	Miocene Orange Sand L3	27.85	27.93	27.48	26.55	25.35	25.16	25.77	27.02	26.21	35.56
		39.93	33.19	30.27	29.53	29.61	30.75	32.23	30.52	29.20	27.88
		27.53	27.27	28.95	28.01	25.95	24.49	26.19	27.16	25.97	24.81
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 75 (PC 1)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	16.92	16.18	16.51	16.49	16.38
26	Miocene Orange Sand L2	16.90	16.17	16.49	16.47	16.36
28	Miocene Orange Sand L3	16.89	16.17	16.49	16.47	16.36
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	16.55	16.55	16.53	16.47	16.56	16.53	16.41	16.53	16.58	16.84
		16.81	16.89	17.00	16.93	16.98	16.97	16.90	16.89	16.85	16.78
		16.74	16.79	16.82	16.76	16.60	16.41	16.56	16.59	16.48	16.42
26	Miocene Orange Sand L2	16.53	16.53	16.51	16.45	16.54	16.51	16.39	16.51	16.56	16.82
		16.79	16.87	16.98	16.91	16.95	16.94	16.87	16.86	16.83	16.76
		16.72	16.77	16.79	16.74	16.58	16.39	16.54	16.56	16.46	16.40
28	Miocene Orange Sand L3	16.52	16.53	16.51	16.45	16.54	16.51	16.39	16.51	16.56	16.82
		16.78	16.86	16.98	16.90	16.95	16.94	16.87	16.86	16.83	16.76
		16.72	16.76	16.79	16.74	16.57	16.39	16.54	16.56	16.46	16.40
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

```
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-------------------------------------------------------------YEAR   76 (PC 2)-----------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                            0.00     0.00     0.00     0.00     0.00
 4  Sand                            0.00     0.00     0.00     0.00     0.00
 6  Sand                            0.00     0.00     0.00     0.00     0.00
 8  Sand                            0.00     0.00     0.00     0.00     0.00
10  Sand                            0.00     0.00     0.00     0.00     0.00
12  Sand                            0.00     0.00     0.00     0.00     0.00
14  Sand                            0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone           0.00     0.00     0.00     0.00     0.00
18  Sand                            0.00     0.00     0.00     0.00     0.00
20  Sand                            0.00     0.00     0.00     0.00     0.00
22  Sand                            0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1         13.82    13.45    13.61    13.61    13.55
26  Miocene Orange Sand L2         13.80    13.43    13.59    13.59    13.53
28  Miocene Orange Sand L3         13.80    13.43    13.59    13.59    13.53
30  Miocene Yellow Sand L1          0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2          0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00
                                * PERFORATED INJECTION ZONE

                                                                INJECTION RATES (GPM)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1          0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2          0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3          0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1          0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2          0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)    16409.6      0.0    945.1    272.8    105.6


                                                             PRESSURES AT MONITOR COORD (PSI)
                               MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                           ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
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	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	13.63	13.63	13.62	13.59	13.65	13.63	13.55	13.62	13.65	13.78
		13.76	13.80	13.86	13.82	13.84	13.84	13.80	13.80	13.78	13.75
		13.73	13.75	13.77	13.74	13.65	13.56	13.63	13.65	13.59	13.56
26	Miocene Orange Sand L2	13.61	13.61	13.60	13.57	13.63	13.61	13.53	13.60	13.63	13.76
		13.74	13.78	13.83	13.80	13.82	13.82	13.78	13.78	13.76	13.73
		13.71	13.73	13.74	13.72	13.63	13.54	13.61	13.63	13.57	13.54
28	Miocene Orange Sand L3	13.60	13.61	13.60	13.57	13.63	13.61	13.53	13.60	13.62	13.76
		13.74	13.78	13.83	13.80	13.82	13.81	13.78	13.78	13.76	13.72
		13.70	13.73	13.74	13.72	13.63	13.54	13.61	13.62	13.57	13.54
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 77 (PC 3)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	12.03	11.78	11.89	11.89	11.85
26	Miocene Orange Sand L2	12.01	11.76	11.87	11.87	11.84
28	Miocene Orange Sand L3	12.01	11.76	11.87	11.87	11.83
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	11.90	11.90	11.89	11.87	11.92	11.91	11.85	11.89	11.91	12.00
		11.99	12.01	12.05	12.03	12.04	12.04	12.02	12.01	12.00	11.98
		11.97	11.98	11.99	11.97	11.92	11.86	11.90	11.91	11.88	11.86
26	Miocene Orange Sand L2	11.88	11.88	11.88	11.86	11.90	11.89	11.83	11.88	11.89	11.98
		11.97	11.99	12.03	12.01	12.02	12.02	12.00	11.99	11.98	11.96
		11.95	11.96	11.97	11.95	11.90	11.84	11.89	11.89	11.86	11.84
28	Miocene Orange Sand L3	11.88	11.88	11.87	11.85	11.90	11.89	11.83	11.87	11.89	11.98
		11.97	11.99	12.03	12.01	12.02	12.02	11.99	11.99	11.98	11.96
		11.95	11.96	11.97	11.95	11.90	11.84	11.88	11.89	11.86	11.84
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 78 (PC 4)

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	10.78	10.60	10.68	10.69	10.66
26	Miocene Orange Sand L2	10.76	10.59	10.66	10.67	10.64
28	Miocene Orange Sand L3	10.76	10.59	10.66	10.67	10.64
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	10.69	10.69	10.68	10.67	10.70	10.70	10.65	10.68	10.70	10.76
		10.75	10.77	10.80	10.78	10.79	10.79	10.77	10.77	10.76	10.75
		10.74	10.75	10.76	10.74	10.70	10.66	10.69	10.70	10.67	10.66
26	Miocene Orange Sand L2	10.67	10.67	10.67	10.65	10.69	10.68	10.64	10.67	10.68	10.74
		10.74	10.75	10.78	10.76	10.78	10.77	10.76	10.75	10.75	10.73
		10.72	10.73	10.74	10.73	10.68	10.64	10.68	10.68	10.66	10.64
28	Miocene Orange Sand L3	10.67	10.67	10.67	10.65	10.69	10.68	10.64	10.67	10.68	10.74
		10.73	10.75	10.78	10.76	10.77	10.77	10.76	10.75	10.74	10.73
		10.72	10.73	10.74	10.72	10.68	10.64	10.67	10.68	10.65	10.64
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   79 (PC 5)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   9.84     9.70     9.76     9.76     9.74
26  Miocene Orange Sand L2                   9.82     9.68     9.74     9.75     9.73
28  Miocene Orange Sand L3                   9.82     9.68     9.74     9.75     9.73
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                              INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)     16409.6      0.0    945.1    272.8    105.6


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   9.77     9.77     9.76     9.75     9.78     9.77     9.74     9.76     9.77     9.82
                                             9.82     9.83     9.85     9.84     9.85     9.85     9.83     9.83     9.83     9.81
                                             9.81     9.82     9.82     9.81     9.78     9.74     9.77     9.77     9.75     9.74
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26	Miocene Orange Sand L2	9.75	9.75	9.75	9.74	9.76	9.76	9.72	9.75	9.76	9.81
		9.80	9.82	9.84	9.82	9.83	9.83	9.82	9.82	9.81	9.80
		9.79	9.80	9.80	9.79	9.76	9.73	9.75	9.76	9.74	9.73
28	Miocene Orange Sand L3	9.75	9.75	9.75	9.74	9.76	9.76	9.72	9.75	9.76	9.81
		9.80	9.81	9.84	9.82	9.83	9.83	9.82	9.81	9.81	9.80
		9.79	9.80	9.80	9.79	9.76	9.73	9.75	9.76	9.74	9.73
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 80 (PC 6)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	9.09	8.97	9.02	9.03	9.01
26	Miocene Orange Sand L2	9.07	8.96	9.01	9.01	8.99
28	Miocene Orange Sand L3	9.07	8.96	9.01	9.01	8.99
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	9.03	9.03	9.03	9.02	9.04	9.03	9.01	9.03	9.04	9.08
		9.07	9.08	9.10	9.09	9.10	9.09	9.08	9.08	9.08	9.07
		9.06	9.07	9.07	9.06	9.04	9.01	9.03	9.04	9.02	9.01
26	Miocene Orange Sand L2	9.01	9.02	9.01	9.00	9.03	9.02	8.99	9.01	9.02	9.06
		9.06	9.07	9.09	9.07	9.08	9.08	9.07	9.07	9.06	9.05
		9.05	9.05	9.06	9.05	9.02	8.99	9.02	9.02	9.00	9.00
28	Miocene Orange Sand L3	9.01	9.01	9.01	9.00	9.02	9.02	8.99	9.01	9.02	9.06
		9.05	9.07	9.08	9.07	9.08	9.08	9.07	9.07	9.06	9.05
		9.04	9.05	9.06	9.05	9.02	8.99	9.02	9.02	9.00	8.99
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 81 (PC 7)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	8.47	8.37	8.42	8.42	8.40
26	Miocene Orange Sand L2	8.46	8.36	8.40	8.40	8.39
28	Miocene Orange Sand L3	8.45	8.36	8.40	8.40	8.39
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	8.42	8.42	8.42	8.41	8.43	8.42	8.40	8.42	8.42	8.46
		8.45	8.46	8.48	8.47	8.48	8.47	8.47	8.46	8.46	8.45
		8.45	8.45	8.46	8.45	8.43	8.40	8.42	8.42	8.41	8.40
26	Miocene Orange Sand L2	8.41	8.41	8.40	8.40	8.41	8.41	8.39	8.40	8.41	8.44
		8.44	8.45	8.46	8.45	8.46	8.46	8.45	8.45	8.45	8.44
		8.43	8.44	8.44	8.43	8.41	8.39	8.41	8.41	8.40	8.39
28	Miocene Orange Sand L3	8.40	8.41	8.40	8.39	8.41	8.41	8.39	8.40	8.41	8.44
		8.44	8.45	8.46	8.45	8.46	8.46	8.45	8.45	8.44	8.44
		8.43	8.44	8.44	8.43	8.41	8.39	8.41	8.41	8.40	8.39
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 82 (PC 8)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	7.95	7.86	7.90	7.90	7.89
26	Miocene Orange Sand L2	7.93	7.85	7.89	7.89	7.88
28	Miocene Orange Sand L3	7.93	7.85	7.88	7.89	7.87
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	7.90	7.90	7.90	7.89	7.91	7.91	7.89	7.90	7.91	7.94
		7.93	7.94	7.95	7.95	7.95	7.95	7.94	7.94	7.94	7.93
		7.93	7.93	7.93	7.93	7.91	7.89	7.90	7.91	7.90	7.89
26	Miocene Orange Sand L2	7.89	7.89	7.89	7.88	7.90	7.89	7.87	7.89	7.89	7.92
		7.92	7.93	7.94	7.93	7.94	7.94	7.93	7.93	7.92	7.92
		7.91	7.92	7.92	7.91	7.90	7.88	7.89	7.89	7.88	7.88
28	Miocene Orange Sand L3	7.89	7.89	7.89	7.88	7.90	7.89	7.87	7.89	7.89	7.92
		7.92	7.93	7.94	7.93	7.94	7.93	7.93	7.93	7.92	7.92

		7.91	7.92	7.92	7.91	7.89	7.87	7.89	7.89	7.88	7.87
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 83 (PC 9)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	7.49	7.42	7.45	7.46	7.44
26	Miocene Orange Sand L2	7.48	7.41	7.44	7.44	7.43
28	Miocene Orange Sand L3	7.48	7.41	7.44	7.44	7.43
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	7.46	7.46	7.45	7.45	7.46	7.46	7.44	7.45	7.46	7.49
		7.48	7.49	7.50	7.49	7.50	7.50	7.49	7.49	7.49	7.48
		7.48	7.48	7.48	7.48	7.46	7.44	7.46	7.46	7.45	7.44
26	Miocene Orange Sand L2	7.44	7.44	7.44	7.44	7.45	7.45	7.43	7.44	7.45	7.47
		7.47	7.48	7.49	7.48	7.48	7.48	7.48	7.48	7.47	7.47
		7.46	7.47	7.47	7.46	7.45	7.43	7.44	7.45	7.44	7.43
28	Miocene Orange Sand L3	7.44	7.44	7.44	7.43	7.45	7.45	7.43	7.44	7.45	7.47
		7.47	7.48	7.49	7.48	7.48	7.48	7.48	7.48	7.47	7.47
		7.46	7.47	7.47	7.46	7.45	7.43	7.44	7.45	7.44	7.43
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 84 (PC10)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	7.10	7.04	7.06	7.06	7.05
26	Miocene Orange Sand L2	7.09	7.02	7.05	7.05	7.04
28	Miocene Orange Sand L3	7.08	7.02	7.05	7.05	7.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

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34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00
                           * PERFORATED INJECTION ZONE

                                                                 INJECTION RATES (GPM)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)    16409.6      0.0    945.1    272.8    105.6


                                                  PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                 7.06     7.07     7.06     7.06     7.07     7.07     7.05     7.06     7.07     7.09
                                           7.09     7.09     7.10     7.10     7.10     7.10     7.09     7.09     7.09     7.09
                                           7.08     7.09     7.09     7.08     7.07     7.05     7.07     7.07     7.06     7.05
26  Miocene Orange Sand L2                 7.05     7.05     7.05     7.05     7.06     7.06     7.04     7.05     7.06     7.08
                                           7.08     7.08     7.09     7.09     7.09     7.09     7.08     7.08     7.08     7.07
                                           7.07     7.07     7.08     7.07     7.06     7.04     7.05     7.06     7.05     7.04
28  Miocene Orange Sand L3                 7.05     7.05     7.05     7.05     7.06     7.06     7.04     7.05     7.06     7.08
                                           7.07     7.08     7.09     7.08     7.09     7.09     7.08     7.08     7.08     7.07
                                           7.07     7.07     7.08     7.07     7.06     7.04     7.05     7.06     7.05     7.04
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-------------------------------------------------------YEAR   85 (PC11)-------------------------------------------------
                                                  PRESSURES AT INJECTION WELL COORD (PSI)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                  0.00     0.00     0.00     0.00     0.00
```

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	6.75	6.69	6.72	6.72	6.71
26	Miocene Orange Sand L2	6.74	6.68	6.71	6.71	6.70
28	Miocene Orange Sand L3	6.74	6.68	6.70	6.71	6.70
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	6.72	6.72	6.72	6.71	6.72	6.72	6.71	6.72	6.72	6.74
		6.74	6.74	6.75	6.75	6.75	6.75	6.75	6.74	6.74	6.74
		6.73	6.74	6.74	6.74	6.72	6.71	6.72	6.72	6.71	6.71
26	Miocene Orange Sand L2	6.71	6.71	6.71	6.70	6.71	6.71	6.70	6.71	6.71	6.73
		6.73	6.73	6.74	6.74	6.74	6.74	6.73	6.73	6.73	6.73
		6.72	6.73	6.73	6.72	6.71	6.70	6.71	6.71	6.70	6.70
28	Miocene Orange Sand L3	6.71	6.71	6.71	6.70	6.71	6.71	6.70	6.71	6.71	6.73
		6.73	6.73	6.74	6.74	6.74	6.74	6.73	6.73	6.73	6.72
		6.72	6.73	6.73	6.72	6.71	6.70	6.71	6.71	6.70	6.70
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                    0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-------------------------------------------------------------YEAR   86 (PC12)-------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                             0.00     0.00     0.00     0.00     0.00
 4  Sand                             0.00     0.00     0.00     0.00     0.00
 6  Sand                             0.00     0.00     0.00     0.00     0.00
 8  Sand                             0.00     0.00     0.00     0.00     0.00
10  Sand                             0.00     0.00     0.00     0.00     0.00
12  Sand                             0.00     0.00     0.00     0.00     0.00
14  Sand                             0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone            0.00     0.00     0.00     0.00     0.00
18  Sand                             0.00     0.00     0.00     0.00     0.00
20  Sand                             0.00     0.00     0.00     0.00     0.00
22  Sand                             0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1           6.44     6.39     6.41     6.41     6.40
26  Miocene Orange Sand L2           6.43     6.38     6.40     6.40     6.39
28  Miocene Orange Sand L3           6.43     6.38     6.40     6.40     6.39
30  Miocene Yellow Sand L1           0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2           0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3           0.00     0.00     0.00     0.00     0.00
                                * PERFORATED INJECTION ZONE

                                                                INJECTION RATES (GPM)
                                WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1           0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2           0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3           0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1           0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2           0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3           0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)    16409.6      0.0    945.1    272.8    105.6


                                                                PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
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	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	6.41	6.41	6.41	6.41	6.42	6.41	6.40	6.41	6.41	6.43
		6.43	6.43	6.44	6.44	6.44	6.44	6.43	6.43	6.43	6.43
		6.42	6.43	6.43	6.43	6.41	6.40	6.41	6.41	6.41	6.40
26	Miocene Orange Sand L2	6.40	6.40	6.40	6.39	6.40	6.40	6.39	6.40	6.40	6.42
		6.42	6.42	6.43	6.43	6.43	6.43	6.42	6.42	6.42	6.42
		6.41	6.42	6.42	6.42	6.40	6.39	6.40	6.40	6.40	6.39
28	Miocene Orange Sand L3	6.40	6.40	6.40	6.39	6.40	6.40	6.39	6.40	6.40	6.42
		6.42	6.42	6.43	6.42	6.43	6.43	6.42	6.42	6.42	6.42
		6.41	6.42	6.42	6.41	6.40	6.39	6.40	6.40	6.39	6.39
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 87 (PC13)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	6.16	6.11	6.13	6.13	6.13
26	Miocene Orange Sand L2	6.15	6.10	6.12	6.12	6.11
28	Miocene Orange Sand L3	6.15	6.10	6.12	6.12	6.11
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	6.13	6.13	6.13	6.13	6.14	6.14	6.12	6.13	6.14	6.15
		6.15	6.15	6.16	6.16	6.16	6.16	6.15	6.15	6.15	6.15
		6.15	6.15	6.15	6.15	6.14	6.13	6.13	6.14	6.13	6.13
26	Miocene Orange Sand L2	6.12	6.12	6.12	6.12	6.13	6.12	6.11	6.12	6.13	6.14
		6.14	6.14	6.15	6.15	6.15	6.15	6.14	6.14	6.14	6.14
		6.13	6.14	6.14	6.14	6.13	6.11	6.12	6.13	6.12	6.11
28	Miocene Orange Sand L3	6.12	6.12	6.12	6.12	6.13	6.12	6.11	6.12	6.12	6.14
		6.14	6.14	6.15	6.14	6.15	6.15	6.14	6.14	6.14	6.14
		6.13	6.14	6.14	6.14	6.13	6.11	6.12	6.12	6.12	6.11
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 88 (PC14)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	5.90	5.86	5.88	5.88	5.87
26	Miocene Orange Sand L2	5.89	5.85	5.87	5.87	5.86
28	Miocene Orange Sand L3	5.89	5.85	5.87	5.87	5.86
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	5.88	5.88	5.88	5.88	5.89	5.88	5.87	5.88	5.88	5.90
		5.90	5.90	5.91	5.90	5.90	5.90	5.90	5.90	5.90	5.89
		5.89	5.90	5.90	5.89	5.88	5.87	5.88	5.88	5.88	5.87
26	Miocene Orange Sand L2	5.87	5.87	5.87	5.87	5.87	5.87	5.86	5.87	5.87	5.89
		5.89	5.89	5.90	5.89	5.89	5.89	5.89	5.89	5.89	5.88
		5.88	5.89	5.89	5.88	5.87	5.86	5.87	5.87	5.87	5.86
28	Miocene Orange Sand L3	5.87	5.87	5.87	5.87	5.87	5.87	5.86	5.87	5.87	5.89
		5.88	5.89	5.90	5.89	5.89	5.89	5.89	5.89	5.89	5.88
		5.88	5.88	5.89	5.88	5.87	5.86	5.87	5.87	5.87	5.86
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   89 (PC15)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   5.67     5.63     5.65     5.65     5.64
26  Miocene Orange Sand L2                   5.66     5.62     5.64     5.64     5.64
28  Miocene Orange Sand L3                   5.66     5.62     5.64     5.64     5.63
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                              INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)     16409.6      0.0    945.1    272.8    105.6


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   5.65     5.65     5.65     5.65     5.66     5.65     5.64     5.65     5.65     5.67
                                             5.66     5.67     5.67     5.67     5.67     5.67     5.67     5.67     5.67     5.66
                                             5.66     5.66     5.67     5.66     5.65     5.64     5.65     5.65     5.65     5.65
```

26	Miocene Orange Sand L2	5.64	5.64	5.64	5.64	5.65	5.64	5.63	5.64	5.64	5.66
		5.65	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.65
		5.65	5.65	5.66	5.65	5.64	5.64	5.64	5.64	5.64	5.64
28	Miocene Orange Sand L3	5.64	5.64	5.64	5.64	5.64	5.64	5.63	5.64	5.64	5.66
		5.65	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.65
		5.65	5.65	5.66	5.65	5.64	5.63	5.64	5.64	5.64	5.63
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 90 (PC16)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	5.46	5.42	5.44	5.44	5.43
26	Miocene Orange Sand L2	5.45	5.42	5.43	5.43	5.43
28	Miocene Orange Sand L3	5.45	5.41	5.43	5.43	5.42
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	5.44	5.44	5.44	5.44	5.44	5.44	5.43	5.44	5.44	5.46
		5.45	5.46	5.46	5.46	5.46	5.46	5.46	5.46	5.46	5.45
		5.45	5.45	5.45	5.45	5.44	5.43	5.44	5.44	5.44	5.43
26	Miocene Orange Sand L2	5.43	5.43	5.43	5.43	5.43	5.43	5.42	5.43	5.43	5.45
		5.44	5.45	5.45	5.45	5.45	5.45	5.45	5.45	5.45	5.44
		5.44	5.44	5.44	5.44	5.43	5.43	5.43	5.43	5.43	5.43
28	Miocene Orange Sand L3	5.43	5.43	5.43	5.43	5.43	5.43	5.42	5.43	5.43	5.44
		5.44	5.45	5.45	5.45	5.45	5.45	5.45	5.45	5.45	5.44
		5.44	5.44	5.44	5.44	5.43	5.42	5.43	5.43	5.43	5.43
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 91 (PC17)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	5.26	5.23	5.25	5.25	5.24
26	Miocene Orange Sand L2	5.25	5.22	5.24	5.24	5.23
28	Miocene Orange Sand L3	5.25	5.22	5.24	5.24	5.23
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	5.25	5.25	5.25	5.24	5.25	5.25	5.24	5.25	5.25	5.26
		5.26	5.26	5.27	5.26	5.27	5.27	5.26	5.26	5.26	5.26
		5.26	5.26	5.26	5.26	5.25	5.24	5.25	5.25	5.24	5.24
26	Miocene Orange Sand L2	5.24	5.24	5.24	5.23	5.24	5.24	5.23	5.24	5.24	5.25
		5.25	5.25	5.26	5.25	5.26	5.26	5.25	5.25	5.25	5.25
		5.25	5.25	5.25	5.25	5.24	5.23	5.24	5.24	5.24	5.23
28	Miocene Orange Sand L3	5.24	5.24	5.24	5.23	5.24	5.24	5.23	5.24	5.24	5.25
		5.25	5.25	5.26	5.25	5.26	5.26	5.25	5.25	5.25	5.25
		5.25	5.25	5.25	5.25	5.24	5.23	5.24	5.24	5.23	5.23
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 92 (PC18)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	5.08	5.05	5.07	5.07	5.06
26	Miocene Orange Sand L2	5.07	5.05	5.06	5.06	5.05
28	Miocene Orange Sand L3	5.07	5.04	5.06	5.06	5.05
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	5.07	5.07	5.07	5.06	5.07	5.07	5.06	5.07	5.07	5.08
		5.08	5.08	5.09	5.08	5.08	5.08	5.08	5.08	5.08	5.08
		5.08	5.08	5.08	5.08	5.07	5.06	5.07	5.07	5.07	5.06
26	Miocene Orange Sand L2	5.06	5.06	5.06	5.06	5.06	5.06	5.05	5.06	5.06	5.07
		5.07	5.07	5.08	5.07	5.08	5.08	5.07	5.07	5.07	5.07
		5.07	5.07	5.07	5.07	5.06	5.05	5.06	5.06	5.06	5.05
28	Miocene Orange Sand L3	5.06	5.06	5.06	5.06	5.06	5.06	5.05	5.06	5.06	5.07
		5.07	5.07	5.08	5.07	5.08	5.07	5.07	5.07	5.07	5.07

		5.07	5.07	5.07	5.07	5.06	5.05	5.06	5.06	5.06	5.05
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 93 (PC19)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.90	4.87	4.89	4.89	4.88
26	Miocene Orange Sand L2	4.89	4.87	4.88	4.88	4.87
28	Miocene Orange Sand L3	4.89	4.86	4.88	4.88	4.87
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	4.89	4.89	4.89	4.88	4.89	4.89	4.88	4.89	4.89	4.90
		4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
		4.89	4.90	4.90	4.89	4.89	4.88	4.89	4.89	4.88	4.88
26	Miocene Orange Sand L2	4.88	4.88	4.88	4.87	4.88	4.88	4.87	4.88	4.88	4.89
		4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89
		4.89	4.89	4.89	4.89	4.88	4.87	4.88	4.88	4.88	4.87
28	Miocene Orange Sand L3	4.88	4.88	4.88	4.87	4.88	4.88	4.87	4.88	4.88	4.89
		4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89
		4.88	4.89	4.89	4.89	4.88	4.87	4.88	4.88	4.87	4.87
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 94 (PC20)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.73	4.71	4.72	4.72	4.71
26	Miocene Orange Sand L2	4.72	4.70	4.71	4.71	4.71
28	Miocene Orange Sand L3	4.72	4.70	4.71	4.71	4.71
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

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34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00
                                 * PERFORATED INJECTION ZONE

                                                                  INJECTION RATES (GPM)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)    16409.6      0.0    945.1    272.8    105.6


                                                          PRESSURES AT MONITOR COORD (PSI)
                              MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                          ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                          ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                4.72     4.72     4.72     4.72     4.72     4.72     4.71     4.72     4.72     4.73
                                          4.73     4.73     4.73     4.73     4.73     4.73     4.73     4.73     4.73     4.73
                                          4.73     4.73     4.73     4.73     4.72     4.71     4.72     4.72     4.72     4.71
26  Miocene Orange Sand L2                4.71     4.71     4.71     4.71     4.71     4.71     4.71     4.71     4.71     4.72
                                          4.72     4.72     4.73     4.72     4.73     4.72     4.72     4.72     4.72     4.72
                                          4.72     4.72     4.72     4.72     4.71     4.71     4.71     4.71     4.71     4.71
28  Miocene Orange Sand L3                4.71     4.71     4.71     4.71     4.71     4.71     4.70     4.71     4.71     4.72
                                          4.72     4.72     4.73     4.72     4.72     4.72     4.72     4.72     4.72     4.72
                                          4.72     4.72     4.72     4.72     4.71     4.71     4.71     4.71     4.71     4.71
30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   95 (PC21)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                  0.00     0.00     0.00     0.00     0.00
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4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.58	4.55	4.56	4.56	4.56
26	Miocene Orange Sand L2	4.57	4.54	4.55	4.55	4.55
28	Miocene Orange Sand L3	4.57	4.54	4.55	4.55	4.55
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.57
		4.57	4.57	4.58	4.57	4.58	4.58	4.57	4.57	4.57	4.57
		4.57	4.57	4.57	4.57	4.56	4.56	4.56	4.56	4.56	4.56
26	Miocene Orange Sand L2	4.55	4.55	4.55	4.55	4.56	4.56	4.55	4.55	4.56	4.56
		4.56	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.56	4.56
		4.56	4.56	4.56	4.56	4.56	4.55	4.56	4.56	4.55	4.55
28	Miocene Orange Sand L3	4.55	4.55	4.55	4.55	4.56	4.56	4.55	4.55	4.56	4.56
		4.56	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.56	4.56
		4.56	4.56	4.56	4.56	4.56	4.55	4.55	4.56	4.55	4.55
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 96 (PC22)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.43	4.41	4.42	4.42	4.41
26	Miocene Orange Sand L2	4.42	4.40	4.41	4.41	4.41
28	Miocene Orange Sand L3	4.42	4.40	4.41	4.41	4.41
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	4.42	4.42	4.42	4.42	4.42	4.42	4.41	4.42	4.42	4.43
		4.43	4.43	4.43	4.43	4.43	4.43	4.43	4.43	4.43	4.43
		4.42	4.43	4.43	4.43	4.42	4.41	4.42	4.42	4.42	4.41
26	Miocene Orange Sand L2	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.42
		4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
		4.42	4.42	4.42	4.42	4.41	4.41	4.41	4.41	4.41	4.41
28	Miocene Orange Sand L3	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.42
		4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
		4.42	4.42	4.42	4.42	4.41	4.41	4.41	4.41	4.41	4.41
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 97 (PC23)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.29	4.27	4.28	4.28	4.28
26	Miocene Orange Sand L2	4.29	4.27	4.28	4.28	4.27
28	Miocene Orange Sand L3	4.29	4.27	4.27	4.28	4.27
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	4.28	4.28	4.28	4.28	4.29	4.29	4.28	4.28	4.29	4.29
		4.29	4.29	4.30	4.29	4.30	4.30	4.29	4.29	4.29	4.29
		4.29	4.29	4.29	4.29	4.29	4.28	4.28	4.29	4.28	4.28
26	Miocene Orange Sand L2	4.28	4.28	4.28	4.27	4.28	4.28	4.27	4.28	4.28	4.28
		4.28	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.28
		4.28	4.28	4.28	4.28	4.28	4.27	4.28	4.28	4.27	4.27
28	Miocene Orange Sand L3	4.28	4.28	4.28	4.27	4.28	4.28	4.27	4.28	4.28	4.28
		4.28	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.28	4.28
		4.28	4.28	4.28	4.28	4.28	4.27	4.28	4.28	4.27	4.27
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 98 (PC24)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.17	4.15	4.16	4.16	4.16
26	Miocene Orange Sand L2	4.16	4.14	4.15	4.15	4.15
28	Miocene Orange Sand L3	4.16	4.14	4.15	4.15	4.15
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	4.16	4.16	4.16	4.16	4.16	4.16	4.15	4.16	4.16	4.17
		4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.16
		4.16	4.17	4.17	4.16	4.16	4.15	4.16	4.16	4.16	4.16
26	Miocene Orange Sand L2	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.16
		4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16
		4.16	4.16	4.16	4.16	4.15	4.15	4.15	4.15	4.15	4.15
28	Miocene Orange Sand L3	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.16
		4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16
		4.16	4.16	4.16	4.16	4.15	4.15	4.15	4.15	4.15	4.15
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   99 (PC25)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   4.05     4.03     4.04     4.04     4.04
26  Miocene Orange Sand L2                   4.04     4.03     4.03     4.03     4.03
28  Miocene Orange Sand L3                   4.04     4.03     4.03     4.03     4.03
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                              INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)     16409.6      0.0    945.1    272.8    105.6


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   4.04     4.04     4.04     4.04     4.04     4.04     4.04     4.04     4.04     4.05
                                             4.05     4.05     4.05     4.05     4.05     4.05     4.05     4.05     4.05     4.05
                                             4.05     4.05     4.05     4.05     4.04     4.04     4.04     4.04     4.04     4.04
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26	Miocene Orange Sand L2	4.03	4.03	4.03	4.03	4.04	4.04	4.03	4.03	4.04	4.04
		4.04	4.04	4.05	4.04	4.04	4.04	4.04	4.04	4.04	4.04
		4.04	4.04	4.04	4.04	4.04	4.03	4.03	4.04	4.03	4.03
28	Miocene Orange Sand L3	4.03	4.03	4.03	4.03	4.04	4.03	4.03	4.03	4.03	4.04
		4.04	4.04	4.05	4.04	4.04	4.04	4.04	4.04	4.04	4.04
		4.04	4.04	4.04	4.04	4.04	4.03	4.03	4.03	4.03	4.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 100 (PC26)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	3.94	3.92	3.93	3.93	3.93
26	Miocene Orange Sand L2	3.93	3.92	3.92	3.93	3.92
28	Miocene Orange Sand L3	3.93	3.92	3.92	3.92	3.92
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.94
		3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94
		3.94	3.94	3.94	3.94	3.93	3.93	3.93	3.93	3.93	3.93
26	Miocene Orange Sand L2	3.93	3.93	3.92	3.92	3.93	3.93	3.92	3.92	3.93	3.93
		3.93	3.93	3.94	3.93	3.94	3.93	3.93	3.93	3.93	3.93
		3.93	3.93	3.93	3.93	3.93	3.92	3.93	3.93	3.92	3.92
28	Miocene Orange Sand L3	3.92	3.92	3.92	3.92	3.93	3.93	3.92	3.92	3.93	3.93
		3.93	3.93	3.94	3.93	3.93	3.93	3.93	3.93	3.93	3.93
		3.93	3.93	3.93	3.93	3.93	3.92	3.93	3.93	3.92	3.92
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 101 (PC27)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	3.84	3.82	3.83	3.83	3.83
26	Miocene Orange Sand L2	3.83	3.82	3.82	3.82	3.82
28	Miocene Orange Sand L3	3.83	3.82	3.82	3.82	3.82
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.84
		3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84
		3.83	3.84	3.84	3.84	3.83	3.83	3.83	3.83	3.83	3.83
26	Miocene Orange Sand L2	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.83
		3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
		3.83	3.83	3.83	3.83	3.82	3.82	3.82	3.82	3.82	3.82
28	Miocene Orange Sand L3	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.83
		3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
		3.83	3.83	3.83	3.83	3.82	3.82	3.82	3.82	3.82	3.82
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 102 (PC28)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	3.74	3.73	3.73	3.73	3.73
26	Miocene Orange Sand L2	3.74	3.72	3.73	3.73	3.73
28	Miocene Orange Sand L3	3.74	3.72	3.73	3.73	3.72
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	3.73	3.73	3.73	3.73	3.74	3.74	3.73	3.73	3.74	3.74
		3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74
		3.74	3.74	3.74	3.74	3.74	3.73	3.73	3.74	3.73	3.73
26	Miocene Orange Sand L2	3.73	3.73	3.73	3.73	3.73	3.73	3.72	3.73	3.73	3.73
		3.73	3.73	3.74	3.74	3.74	3.74	3.74	3.73	3.73	3.73
		3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73
28	Miocene Orange Sand L3	3.73	3.73	3.73	3.73	3.73	3.73	3.72	3.73	3.73	3.73
		3.73	3.73	3.74	3.74	3.74	3.74	3.73	3.73	3.73	3.73

		3.73	3.73	3.73	3.73	3.73	3.72	3.73	3.73	3.73	3.72
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 103 (PC29)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	3.64	3.63	3.63	3.63	3.63
26	Miocene Orange Sand L2	3.63	3.62	3.63	3.63	3.62
28	Miocene Orange Sand L3	3.63	3.62	3.63	3.63	3.62
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.64
		3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64
		3.64	3.64	3.64	3.64	3.63	3.63	3.63	3.63	3.63	3.63
26	Miocene Orange Sand L2	3.63	3.63	3.63	3.62	3.63	3.63	3.62	3.63	3.63	3.63
		3.63	3.63	3.64	3.63	3.63	3.63	3.63	3.63	3.63	3.63
		3.63	3.63	3.63	3.63	3.63	3.62	3.63	3.63	3.63	3.62
28	Miocene Orange Sand L3	3.63	3.63	3.63	3.62	3.63	3.63	3.62	3.63	3.63	3.63
		3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63
		3.63	3.63	3.63	3.63	3.63	3.62	3.63	3.63	3.62	3.62
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 104 (PC30)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	3.54	3.53	3.54	3.54	3.53
26	Miocene Orange Sand L2	3.54	3.52	3.53	3.53	3.53
28	Miocene Orange Sand L3	3.54	3.52	3.53	3.53	3.53
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00

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 34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00
                              * PERFORATED INJECTION ZONE

                                                                  INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
     INJECTION LEVEL
 24  Miocene Orange Sand L1                0.00     0.00     0.00     0.00     0.00
 26  Miocene Orange Sand L2                0.00     0.00     0.00     0.00     0.00
 28  Miocene Orange Sand L3                0.00     0.00     0.00     0.00     0.00
 30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00
 32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00
 34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00

 CUMULATIVE INJECTION TO DATE (MMGAL)    16409.6      0.0    945.1    272.8    105.6


                                                  PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
     FORMATION LEVEL
 24  Miocene Orange Sand L1                3.54     3.54     3.54     3.54     3.54     3.54     3.53     3.54     3.54     3.54
                                           3.54     3.54     3.55     3.54     3.55     3.55     3.54     3.54     3.54     3.54
                                           3.54     3.54     3.54     3.54     3.54     3.53     3.54     3.54     3.54     3.53
 26  Miocene Orange Sand L2                3.53     3.53     3.53     3.53     3.53     3.53     3.53     3.53     3.53     3.54
                                           3.54     3.54     3.54     3.54     3.54     3.54     3.54     3.54     3.54     3.54
                                           3.53     3.54     3.54     3.54     3.53     3.53     3.53     3.53     3.53     3.53
 28  Miocene Orange Sand L3                3.53     3.53     3.53     3.53     3.53     3.53     3.53     3.53     3.53     3.54
                                           3.54     3.54     3.54     3.54     3.54     3.54     3.54     3.54     3.54     3.54
                                           3.53     3.54     3.54     3.53     3.53     3.53     3.53     3.53     3.53     3.53
 30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
 32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
 34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
1


 * * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *


                                  RESIDUAL UPWARD PENETRATION INTO CONFINING LAYERS -- [FEET]
                                    CALCULATED USING INJECTION HISTORY FROM 1983 TO PC30

 CONFINING    THICKNESS
```

LAYERS	[FEET]	WELLS				
		(M1)	(M2)	(D3)	(D3)	(D1)
1	120.0	0.000	0.000	0.000	0.000	0.000
3	45.0	0.000	0.000	0.000	0.000	0.000
5	54.0	0.000	0.000	0.000	0.000	0.000
7	70.0	0.000	0.000	0.000	0.000	0.000
9	146.0	0.000	0.000	0.000	0.000	0.000
11	59.0	0.000	0.000	0.000	0.000	0.000
13	125.0	0.000	0.000	0.000	0.000	0.000
15	130.0	0.000	0.000	0.000	0.000	0.000
17	29.0	0.000	0.000	0.000	0.000	0.000
19	108.0	0.000	0.000	0.000	0.000	0.000
21	68.0	0.000	0.000	0.000	0.000	0.000
23	67.0	0.000	0.000	0.000	0.000	0.000
25	24.0	0.000	0.000	0.000	0.000	0.000
27	79.0	0.000	0.000	0.000	0.000	0.000
29	64.0	0.000	0.000	0.000	0.000	0.000
31	66.0	0.000	0.000	0.000	0.000	0.000
33	54.0	0.000	0.000	0.000	0.000	0.000

* PENETRATION GREATER THAN CONFINING LAYER THICKESS

A.2 YELLOW SAND LAYER PROJECTED PRESSURES

MAX RATES 1,200 GPM

Geostock Sandia

ANNUAL PROJECTED PRESSURE

INPUT .RCV FILE

Geostock Sandia

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TITLE    BLUEBONNET YELLOW SAND Job to Generate Pressure
YEAR  74.        30.              TINJ, TPC
34    -6    24   34               NLEV, NINJ, & INJECTION LEVELS
0                                 NSKIP & SKIPPED LEVELS
FAULT                             FAULT CALCULATED
-8762. -18951., 21346. -4329.
PCNT                              PRESSURE CONTOUR PLOT DATA CALCULATED
20.                               RANGE FOR GRID (MI)
3    44     54     74             CONTOUR TIME PERIODS
    120.    .114  1.E-15  .748    7.00E-05  Top Confining Zone Shale
     22.     .25   1.000  .746    1.00E-05  Sand
     45.    .114  1.E-15  .744    7.00E-05  Shale
     67.     .25   1.000  .742    1.00E-05  Sand
     54.    .114  1.E-15  .740    7.00E-05  Shale
     26.     .25   1.000  .737    9.86E-06  Sand
     70.    .114  1.E-15  .735    7.00E-05  Shale
     10.     .25   1.000  .733    9.74E-06  Sand
    146.    .113  1.E-15  .729    7.00E-05  Shale
     18.     .25   1.000  .724    9.55E-06  Sand
     59.    .113  1.E-15  .722    7.00E-05  Shale
     73.     .25   1.000  .719    9.47E-06  Sand
    125.    .113  1.E-15  .715    7.00E-05  Shale
     45.     .25   1.000  .710    9.25E-06  Sand
    130.    .112  1.E-15  .706    7.00E-05  Shale
     77.     .25   1.000  .702    9.07E-06  Top of Injection Zone
     29.    .111  1.E-15  .701    7.00E-05  Containment Int Shale
     12.     .25   1.000  .699    8.96E-06  Sand
    108.    .111  1.E-15  .694    7.00E-05  Containment Int Shale
     80.     .25   1.000  .689    8.84E-06  Sand
     68.    .110  1.E-15  .686    7.00E-05  Containment Int Shale
     51.     .25   1.000  .682    8.70E-06  Sand
     67.    .110  1.E-15  .688    7.00E-05  Containment Int Shale
     55.     .27   4.000  .694    10.4E-06  Miocene Orange Sand L1
     24.    .109  1.E-15  .690    7.00E-05  Shale
     70.     .27   4.000  .686    10.4E-06  Miocene Orange Sand L2
     79.    .109  1.E-15  .682    7.00E-05  Shale
     45.     .31   4.000  .678    10.4E-06  Miocene Orange Sand L3
     64.    .109  1.E-15  .672    7.00E-05  Shale
     85.     .29   4.000  .666    9.58E-06  Miocene Yellow Sand L1
     66.    .109  1.E-15  .662    7.00E-05  Shale
     45.     .30   4.000  .657    9.96E-06  Miocene Yellow Sand L2
     54.    .109  1.E-15  .654    7.00E-05  Shale
     60.     .30   4.000  .652    9.86E-06  Miocene Yellow Sand L3
5  INJECTION WELLS
  M1         0.        0.
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  M2    -15217.    11583.
 TD3    -14487.    -1953.
 LD3      -959.    13856.
 LD1     -1135.    15284.
30  MONITOR LOCATIONS
    1    -2511.     7955.
    2    -2552.     7821.
    3    -4406.     7663.
    4    -7372.     7307.
    5    -5018.    11507.
    6    -2402.    12915.
    7      -49.    12046.
    8     1882.     9723.
    9     8870.     8697.
   10    -1782.      982.
   11     -739.     -461.
   12     3292.    -2427.
   13     7214.    -6088.
   14     9544.    -6488.
   15     9522.    -8192.
   16      176.    -7992.
   17     -725.    -5054.
   18    -2755.    -6811.
   19    -5185.    -7659.
   20    -7777.    -8418.
   22    -8947.    -7320.
   23    -9854.    -6023.
   24    -7418.    -3254.
   25    -8940.    -3132.
   26   -12825.    -2139.
   30   -15996.     -889.
   31   -12103.     -368.
   32    -9731.     1882.
   33   -11509.     3152.
   34   -14725.     1379.
1983    0.    0.  58.3    0.    0.
     30-34 30-34 30-34 30-34 30-34
1984    0.    0.  80.8    0.    0.
     30-34 30-34 30-34 30-34 30-34
1985    0.    0.  74.9    0.    0.
     30-34 30-34 30-34 30-34 30-34
1986    0.    0.  42.2    0.    0.
     30-34 30-34 30-34 30-34 30-34
1987    0.    0.  23.7    0.    0.
     30-34 30-34 30-34 30-34 30-34
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1988    0.     0.   5.2     0.     0.
      30-34  30-34  30-34  30-34  30-34
1989    0.     0. 145.2     0.     0.
      30-34  30-34  30-34  30-34  30-34
1990    0.     0. 159.1     0.     0.
      30-34  30-34  30-34  30-34  30-34
1991    0.     0. 148.5     0.     0.
      30-34  30-34  30-34  30-34  30-34
1992    0.     0. 141.3     0.     0.
      30-34  30-34  30-34  30-34  30-34
1993    0.     0. 102.6     0.     0.
      30-34  30-34  30-34  30-34  30-34
1994    0.     0. 104.7     0.     0.
      30-34  30-34  30-34  30-34  30-34
1995    0.     0. 161.8     0.     0.
      30-34  30-34  30-34  30-34  30-34
1996    0.     0. 155.4     0.     0.
      30-34  30-34  30-34  30-34  30-34
1997    0.     0. 217.4     0.     0.
      30-34  30-34  30-34  30-34  30-34
1998    0.     0.  90.0     0.     0.
      30-34  30-34  30-34  30-34  30-34
1999    0.     0.  16.7     0.     0.
      30-34  30-34  30-34  30-34  30-34
2000    0.     0.  37.7     0.     0.
      30-34  30-34  30-34  30-34  30-34
2001    0.     0.  16.2     0.     0.
      30-34  30-34  30-34  30-34  30-34
2002    0.     0.   2.0     0.     0.
      30-34  30-34  30-34  30-34  30-34
2003    0.     0.  10.4     0.     0.
      30-34  30-34  30-34  30-34  30-34
2004    0.     0.   2.7     0.     0.
      30-34  30-34  30-34  30-34  30-34
2005    0.     0.    0.     0.     0.
      30-34  30-34  30-34  30-34  30-34
2006    0.     0.    0.     0.     0.
      30-34  30-34  30-34  30-34  30-34
2007    0.     0.    0.     0.     0.
      30-34  30-34  30-34  30-34  30-34
2008    0.     0.    0.     0.     0.
      30-34  30-34  30-34  30-34  30-34
2009    0.     0.    0.     0.     0.
      30-34  30-34  30-34  30-34  30-34
2010    0.     0.    0.     0.     0.
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     30-34 30-34 30-34 30-34 30-34
2011    0.    0.    0.    0.    0.
     30-34 30-34 30-34 30-34 30-34
2012    0.    0.    0.    0.    0.
     30-34 30-34 30-34 30-34 30-34
2013    0.    0.    0.    0.   3.0
     30-34 30-34 30-34 30-34 30-34
2014    0.    0.    0.   5.2   9.8
     30-34 30-34 30-34 30-34 30-34
2015    0.    0.    0.  30.7   9.3
     30-34 30-34 30-34 30-34 30-34
2016    0.    0.    0.  18.1   9.0
     30-34 30-34 30-34 30-34 30-34
2017    0.    0.    0.  20.2   5.5
     30-34 30-34 30-34 30-34 30-34
2018    0.    0.    0.  22.4   8.9
     30-34 30-34 30-34 30-34 30-34
2019    0.    0.    0.  20.9   9.4
     30-34 30-34 30-34 30-34 30-34
2020    0.    0.    0.   6.9   9.5
     30-34 30-34 30-34 30-34 30-34
2021    0.    0.    0.  16.4   0.6
     30-34 30-34 30-34 30-34 30-34
2022    0.    0.    0.  40.5   0.0
     30-34 30-34 30-34 30-34 30-34
2023    0.    0.    0.   7.4   3.7
     30-34 30-34 30-34 30-34 30-34
2024    0.    0.    0.   10.    4.
     30-34 30-34 30-34 30-34 30-34
2025 1200.  00.0    0.   10.    4.
     30-34 30-34 30-34 30-34 30-34
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ANNUAL PROJECTED PRESSURE

INPUT .PRM FILE

Geostock Sandia

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      PARAMETER (NLEV=34)
C     NLEV IS THE TOTAL NUMBER OF LAYERS (AQUIFER+CONFINING)
C     NLEV MUST = NLEVEL READ FROM INPUT FILE
C
      PARAMETER (MXWELL=2)
C     MXWELL IS THE NUMBER OF INJECTION WELLS TO BE CALCULATED
C     MXWELL MUST = NWELL READ FROM INPUT FILE
C
      PARAMETER (MXINJ=6)
C     MXINJ IS THE NUMBER OF INJECTION LEVELS TO BE INCLUDED
C     MXINJ MUST = NINJ READ FROM INPUT FILE
C
      PARAMETER (MXTM=110)
C     MXTM IS THE MAXIMUM ALLOWABLE NUMBER OF TIME PERIODS FOR CALC
C     MXTM MUST BE >= NUMBER OF TIME PERIODS FROM INPUT FILE
C
      PARAMETER (MXMON=100)
C     MXMON IS THE MAXIMUM ALLOWABLE NUMBER OF MONITOR COORDIATES
C     MXMON MUST BE >= NMON READ FORM INPUT FILE
C
      PARAMETER (MXMONC=100)
C     MXMONC IS THE MAXIMUM NUMBER OF MONITOR COORDIATES
C       TO WILL BE CALCULATED
C     MXMONC MUST BE >= THE NUMBER OF UNSTARRED MONITOR COORD
C       READ FORM INPUT FILE
C
      PARAMETER (NTPSCL=50)
C     NTPSCL IS THE NUMBER OF TIME PERIODS INTO THE INJECTION HISTORY
C     WHICH WILL BE USED BEFORE CHANGING TO A MORE COARSE TIME SCALE (10
C     NTPSCL SHOULD BE AS LARGE AS POSSIBLE WITHOUT EXAUSTING THE
C     AVAILABLE MEMORY.  VALUES DOWN TO ABOUT 40 SHOULD WORK.
C
      PARAMETER (NTPTEN=50)
C     NTPTEN IS THE MAXIMUM NUMBER OF COARSE TIME PERIODS ALLOWED
C     THE VALUE OF NTPSCL+10*NTPTEN MUST BE >= NUMBER OF TIME
C     PERIODS FROM INPUT FILE
C
      PARAMETER (MXCTP=10)
C     MXCTP IS THE MAXIMUM NUMBER OF TIME PERIODS THAT CAN BE SPECIFIED
C     FOR OUTPUT INTO THE (.PCNT) FILE FOR PRESSURE CONTOUR PLOTS
```

ANNUAL PROJECTED PRESSURE

OUTPUT .SUM FILE

Geostock Sandia

```
* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

 INJECTION PERIOD    ---      74.00  YEAR
 POST CLOSURE PERIOD ---      30.00  YEAR

CALCULATED INJECTION LEVELS IN INJECTION RANGE
 24  26  28  30  32  34
SKIPPED LEVELS IN INJECTION RANGE


 TOTAL BLOCKAGE FAULT INCLUDED IN CALCULATION WITH COORDINATES:
-8762.0,-18951.0         21346.0, -4329.0

 DEFAULT BORE RADIUS (0.5 FT) USED FOR ALL WELLS

 NO SKIN FACTORS APPLIED TO INJECTION WELLS

 PRESSURES CALCULATED ON A GRID FOR CONTOUR PLOTTING

 CONTOURS CALCULATED OUT TO   20.0     MILES

 THE CONTOUR PLOT DATA WILL BE CENTERED AT THE CENTROID
  OF ACTIVE WELLS IN EACH INJECTION LAYER

  CONTOURS CALCULATED FOR THE FOLLOWING YEAR :
  44     2026
  54     2036
  74     2056

 INJECTION HISTORY
    YEAR          WELL ID
             (M1 ) (M2 ) (D3 ) (D3 ) (D1 )
   1 1983     0.0   0.0  58.3   0.0   0.0
             30-34 30-34 30-34 30-34 30-34
   2 1984     0.0   0.0  80.8   0.0   0.0
             30-34 30-34 30-34 30-34 30-34
   3 1985     0.0   0.0  74.9   0.0   0.0
             30-34 30-34 30-34 30-34 30-34
   4 1986     0.0   0.0  42.2   0.0   0.0
             30-34 30-34 30-34 30-34 30-34
   5 1987     0.0   0.0  23.7   0.0   0.0
             30-34 30-34 30-34 30-34 30-34
   6 1988     0.0   0.0   5.2   0.0   0.0
             30-34 30-34 30-34 30-34 30-34
   7 1989     0.0   0.0 145.2   0.0   0.0
             30-34 30-34 30-34 30-34 30-34
   8 1990     0.0   0.0 159.1   0.0   0.0
             30-34 30-34 30-34 30-34 30-34
   9 1991     0.0   0.0 148.5   0.0   0.0
```

		30-34	30-34	30-34	30-34	30-34
10	1992	0.0	0.0	141.3	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
11	1993	0.0	0.0	102.6	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
12	1994	0.0	0.0	104.7	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
13	1995	0.0	0.0	161.8	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
14	1996	0.0	0.0	155.4	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
15	1997	0.0	0.0	217.4	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
16	1998	0.0	0.0	90.0	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
17	1999	0.0	0.0	16.7	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
18	2000	0.0	0.0	37.7	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
19	2001	0.0	0.0	16.2	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
20	2002	0.0	0.0	2.0	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
21	2003	0.0	0.0	10.4	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
22	2004	0.0	0.0	2.7	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
23	2005	0.0	0.0	0.0	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
24	2006	0.0	0.0	0.0	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
25	2007	0.0	0.0	0.0	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
26	2008	0.0	0.0	0.0	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
27	2009	0.0	0.0	0.0	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
28	2010	0.0	0.0	0.0	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
29	2011	0.0	0.0	0.0	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
30	2012	0.0	0.0	0.0	0.0	0.0
		30-34	30-34	30-34	30-34	30-34
31	2013	0.0	0.0	0.0	0.0	3.0
		30-34	30-34	30-34	30-34	30-34
32	2014	0.0	0.0	0.0	5.2	9.8
		30-34	30-34	30-34	30-34	30-34
33	2015	0.0	0.0	0.0	30.7	9.3
		30-34	30-34	30-34	30-34	30-34
34	2016	0.0	0.0	0.0	18.1	9.0

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           30-34 30-34 30-34 30-34 30-34
35 2017      0.0   0.0   0.0  20.2   5.5
           30-34 30-34 30-34 30-34 30-34
36 2018      0.0   0.0   0.0  22.4   8.9
           30-34 30-34 30-34 30-34 30-34
37 2019      0.0   0.0   0.0  20.9   9.4
           30-34 30-34 30-34 30-34 30-34
38 2020      0.0   0.0   0.0   6.9   9.5
           30-34 30-34 30-34 30-34 30-34
39 2021      0.0   0.0   0.0  16.4   0.6
           30-34 30-34 30-34 30-34 30-34
40 2022      0.0   0.0   0.0  40.5   0.0
           30-34 30-34 30-34 30-34 30-34
41 2023      0.0   0.0   0.0   7.4   3.7
           30-34 30-34 30-34 30-34 30-34
42 2024      0.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
43 2025  1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
44 2026* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
45 2027* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
46 2028* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
47 2029* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
48 2030* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
49 2031* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
50 2032* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
51 2033* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
52 2034* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
53 2035* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
54 2036* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
55 2037* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
56 2038* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
57 2039* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
58 2040* 1200.0   0.0   0.0  10.0   4.0
           30-34 30-34 30-34 30-34 30-34
59 2041* 1200.0   0.0   0.0  10.0   4.0
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          30-34 30-34 30-34 30-34 30-34
60 2042* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
61 2043* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
62 2044* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
63 2045* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
64 2046* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
65 2047* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
66 2048* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
67 2049* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
68 2050* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
69 2051* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
70 2052* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
71 2053* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
72 2054* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
73 2055* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
74 2056* 1200.0   0.0   0.0  10.0   4.0
          30-34 30-34 30-34 30-34 30-34
75 PC 1#    0.0   0.0   0.0   0.0   0.0
          30-34 30-34 30-34 30-34 30-34
76 PC 2#    0.0   0.0   0.0   0.0   0.0
          30-34 30-34 30-34 30-34 30-34
77 PC 3#    0.0   0.0   0.0   0.0   0.0
          30-34 30-34 30-34 30-34 30-34
78 PC 4#    0.0   0.0   0.0   0.0   0.0
          30-34 30-34 30-34 30-34 30-34
79 PC 5#    0.0   0.0   0.0   0.0   0.0
          30-34 30-34 30-34 30-34 30-34
80 PC 6#    0.0   0.0   0.0   0.0   0.0
          30-34 30-34 30-34 30-34 30-34
81 PC 7#    0.0   0.0   0.0   0.0   0.0
          30-34 30-34 30-34 30-34 30-34
82 PC 8#    0.0   0.0   0.0   0.0   0.0
          30-34 30-34 30-34 30-34 30-34
83 PC 9#    0.0   0.0   0.0   0.0   0.0
          30-34 30-34 30-34 30-34 30-34
84 PC10#    0.0   0.0   0.0   0.0   0.0
```

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            30-34 30-34 30-34 30-34 30-34
  85 PC11#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  86 PC12#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  87 PC13#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  88 PC14#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  89 PC15#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  90 PC16#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  91 PC17#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  92 PC18#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  93 PC19#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  94 PC20#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  95 PC21#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  96 PC22#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  97 PC23#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  98 PC24#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  99 PC25#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
 100 PC26#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
 101 PC27#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
 102 PC28#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
 103 PC29#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
 104 PC30#    0.0   0.0   0.0   0.0   0.0
            30-34 30-34 30-34 30-34 30-34
  * 2025 INJECTION RATES PROJECTED FORWARD
  # YEAR  POST CLOSURE

 INJECTION IN AQUIFER LEVELS   24  26  28  30  32  34
1

 * * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *
```

		INPUT PARAMETERS				
LEVEL		THICKNESS FT	POROSITY	PERMEABILITY DARCY	VISCOSITY CP	COMPRESSIBILITY* 1/PSI
1	Top Confining Zone Shale	120.00	0.114	0.1000E-14	0.748	0.700E-04
2	Sand	22.00	0.250	1.000	0.746	0.100E-04
3	Shale	45.00	0.114	0.1000E-14	0.744	0.700E-04
4	Sand	67.00	0.250	1.000	0.742	0.100E-04
5	Shale	54.00	0.114	0.1000E-14	0.740	0.700E-04
6	Sand	26.00	0.250	1.000	0.737	0.986E-05
7	Shale	70.00	0.114	0.1000E-14	0.735	0.700E-04
8	Sand	10.00	0.250	1.000	0.733	0.974E-05
9	Shale	146.00	0.113	0.1000E-14	0.729	0.700E-04
10	Sand	18.00	0.250	1.000	0.724	0.955E-05
11	Shale	59.00	0.113	0.1000E-14	0.722	0.700E-04
12	Sand	73.00	0.250	1.000	0.719	0.947E-05
13	Shale	125.00	0.113	0.1000E-14	0.715	0.700E-04
14	Sand	45.00	0.250	1.000	0.710	0.925E-05
15	Shale	130.00	0.112	0.1000E-14	0.706	0.700E-04
16	Top of Injection Zone	77.00	0.250	1.000	0.702	0.907E-05
17	Containment Int Shale	29.00	0.111	0.1000E-14	0.701	0.700E-04
18	Sand	12.00	0.250	1.000	0.699	0.896E-05
19	Containment Int Shale	108.00	0.111	0.1000E-14	0.694	0.700E-04
20	Sand	80.00	0.250	1.000	0.689	0.884E-05
21	Containment Int Shale	68.00	0.110	0.1000E-14	0.686	0.700E-04
22	Sand	51.00	0.250	1.000	0.682	0.870E-05
23	Containment Int Shale	67.00	0.110	0.1000E-14	0.688	0.700E-04
24	Miocene Orange Sand L1	55.00	0.270	4.000	0.694	0.104E-04
25	Shale	24.00	0.109	0.1000E-14	0.690	0.700E-04
26	Miocene Orange Sand L2	70.00	0.270	4.000	0.686	0.104E-04
27	Shale	79.00	0.109	0.1000E-14	0.682	0.700E-04
28	Miocene Orange Sand L3	45.00	0.310	4.000	0.678	0.104E-04
29	Shale	64.00	0.109	0.1000E-14	0.672	0.700E-04
30	Miocene Yellow Sand L1	85.00	0.290	4.000	0.666	0.958E-05
31	Shale	66.00	0.109	0.1000E-14	0.662	0.700E-04
32	Miocene Yellow Sand L2	45.00	0.300	4.000	0.657	0.996E-05
33	Shale	54.00	0.109	0.1000E-14	0.654	0.700E-04
34	Miocene Yellow Sand L3	60.00	0.300	4.000	0.652	0.986E-05

* Alpha as defined in Groundwater, Freeze and Cherry, Eqn. 2.52, pg. 54
== (porosity) * (oilfield formation compressibility)

		DERIVED PARAMETERS		
LEVEL		STORATIVITY	VERT. LEAKANCE 1/YEAR	TRANSMISSIVITY DARCY-FT
1	Top Confining Zone Shale	0.3658E-02	0.1111E-13	0.1200E-12
2	Sand	0.1026E-03	60.76	22.00
3	Shale	0.1372E-02	0.2978E-13	0.4500E-13
4	Sand	0.3124E-03	20.06	67.00

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   5  Shale                          0.1646E-02        0.2495E-13      0.5400E-13
   6  Sand                           0.1196E-03         52.04           26.00
   7  Shale                          0.2134E-02        0.1938E-13      0.7000E-13
   8  Sand                           0.4549E-04         136.0           10.00
   9  Shale                          0.4450E-02        0.9368E-14      0.1460E-12
  10  Sand                           0.8041E-04         76.51           18.00
  11  Shale                          0.1798E-02        0.2341E-13      0.5900E-13
  12  Sand                           0.3236E-03         19.00           73.00
  13  Shale                          0.3810E-02        0.1116E-13      0.1250E-12
  14  Sand                           0.1952E-03         31.21           45.00
  15  Shale                          0.3962E-02        0.1086E-13      0.1300E-12
  16  Top of Injection Zone          0.3279E-03         18.45           77.00
  17  Containment Int Shale          0.8839E-03        0.4905E-13      0.2900E-13
  18  Sand                           0.5054E-04         118.9           12.00
  19  Containment Int Shale          0.3292E-02        0.1330E-13      0.1080E-12
  20  Sand                           0.3328E-03         18.09           80.00
  21  Containment Int Shale          0.2073E-02        0.2138E-13      0.6800E-13
  22  Sand                           0.2090E-03         28.67           51.00
  23  Containment Int Shale          0.2042E-02        0.2163E-13      0.6700E-13
  24  Miocene Orange Sand L1         0.2674E-03         104.5           220.0
  25  Shale                          0.7314E-03        0.6021E-13      0.2400E-13
  26  Miocene Orange Sand L2         0.3403E-03         83.06           280.0
  27  Shale                          0.2408E-02        0.1851E-13      0.7900E-13
  28  Miocene Orange Sand L3         0.2211E-03         130.7           180.0
  29  Shale                          0.1951E-02        0.2318E-13      0.6400E-13
  30  Miocene Yellow Sand L1         0.3853E-03         70.45           340.0
  31  Shale                          0.2011E-02        0.2282E-13      0.6600E-13
  32  Miocene Yellow Sand L2         0.2120E-03         134.9           180.0
  33  Shale                          0.1646E-02        0.2823E-13      0.5400E-13
  34  Miocene Yellow Sand L3         0.2800E-03         102.0           240.0


   INJECTION WELL              DIST TO OTHER INJ WELLS  (FT)
#  ID    COORDINATES       (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
1 (M1 )      0.      0.       0.0 19123.9 14618.0 13889.1 15326.1
2 (M2 ) -15217.  11583.   19123.9     0.0 13555.7 14438.0 14560.2
3 (D3 ) -14487.  -1953.   14618.0 13555.7     0.0 20807.0 21803.4
4 (D3 )   -959.  13856.   13889.1 14438.0 20807.0     0.0  1438.8
5 (D1 )  -1135.  15284.   15326.1 14560.2 21803.4  1438.8     0.0


COORDINATES OF MODEL GENERATED IMAGE WELLS
        BASED ON FAULT COORDINATES: (-8762.,******),   (21346.,-4329.)
    # &  IMAGE COORDINATES
    1   11550.  -23782.       2   11245.  -42904.       3    1057.  -33961.       4   21847.  -33103.       5   22860.  -34125.


PRESS MONITOR POINTS           DIST TO INJ WELLS  (FT)
#  ID    COORDINATES       (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
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```
 1 (  1)  -2511.   7955.    8341.9 13213.8 15543.3  6101.7  7457.1
 2 (  2)  -2552.   7821.    8226.8 13211.9 15426.4  6241.7  7596.3
 3 (  3)  -4406.   7663.    8839.4 11499.7 13931.8  7087.7  8293.3
 4 (  4)  -7372.   7307.   10379.7  8934.7 11677.8  9166.0 10125.8
 5 (  5)  -5018.  11507.   12553.5 10199.3 16457.0  4689.7  5417.0
 6 (  6)  -2402.  12915.   13136.5 12884.0 19160.0  1722.7  2686.5
 7 (  7)    -49.  12046.   12046.1 15175.1 20110.4  2025.9  3415.3
 8 (  8)   1882.   9723.    9903.5 17199.9 20106.5  5015.3  6326.7
 9 (  9)   8870.   8697.   12422.3 24259.3 25670.4 11100.7 11978.7
10 ( 10)  -1782.    982.    2034.7 17113.7 13039.6 12900.3 14316.6
11 ( 11)   -739.   -461.     871.0 18832.7 13828.7 14318.7 15750.0
12 ( 12)   3292.  -2427.    4089.9 23213.4 17785.3 16828.8 18255.9
13 ( 13)   7214.  -6088.    9439.6 28555.5 22091.4 21553.7 22944.9
14 ( 14)   9544.  -6488.   11540.5 30654.0 24455.2 22895.2 24250.0
15 ( 15)   9522.  -8192.   12560.9 31671.3 24806.4 24412.4 25781.7
16 ( 16)    176.  -7992.    7993.9 24902.3 15857.9 21877.5 23312.9
17 ( 17)   -725.  -5054.    5105.7 22063.7 14107.0 18911.4 20342.1
18 ( 18)  -2755.  -6811.    7347.1 22218.0 12698.0 20744.9 22154.3
19 ( 19)  -5185.  -7659.    9249.0 21700.1 10912.6 21926.1 23297.7
20 ( 20)  -7777.  -8418.   11460.6 21340.0  9317.7 23294.1 24615.1
21 ( 22)  -8947.  -7320.   11559.9 19915.7  7713.4 22632.5 23915.9
22 ( 23)  -9854.  -6023.   11548.9 18404.7  6166.8 21778.3 23021.9
23 ( 24)  -7418.  -3254.    8100.3 16761.9  7187.7 18288.5 19573.8
24 ( 25)  -8940.  -3132.    9472.8 15997.9  5670.9 18769.4 20001.7
25 ( 26) -12825.  -2139.   13002.2 13928.9  1672.4 19915.9 20981.3
26 ( 30) -15996.   -889.   16020.7 12496.3  1846.4 21060.1 21964.0
27 ( 31) -12103.   -368.   12108.6 12350.0  2862.8 18069.6 19112.4
28 ( 32)  -9731.   1882.    9911.3 11144.8  6109.6 14843.3 15921.8
29 ( 33) -11509.   3152.   11932.8  9210.4  5910.1 15029.2 15962.6
30 ( 34) -14725.   1379.   14789.4 10215.9  3340.5 18579.0 19443.2


* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-------------------------------------------------------------YEAR    1 (1983)-------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00     0.00     0.00     0.00     0.00
 4  Sand                                    0.00     0.00     0.00     0.00     0.00
 6  Sand                                    0.00     0.00     0.00     0.00     0.00
 8  Sand                                    0.00     0.00     0.00     0.00     0.00
10  Sand                                    0.00     0.00     0.00     0.00     0.00
12  Sand                                    0.00     0.00     0.00     0.00     0.00
14  Sand                                    0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00     0.00     0.00     0.00     0.00
18  Sand                                    0.00     0.00     0.00     0.00     0.00
20  Sand                                    0.00     0.00     0.00     0.00     0.00
22  Sand                                    0.00     0.00     0.00     0.00     0.00
```

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.47*	0.42*	2.99*	0.33*	0.31*
32	Miocene Yellow Sand L2	0.47*	0.42*	2.99*	0.33*	0.31*
34	Miocene Yellow Sand L3	0.47*	0.42*	2.99*	0.33*	0.31*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.01	-0.01	25.81	-0.01	-0.01
32	Miocene Yellow Sand L2	0.01	0.01	13.87	0.01	0.01
34	Miocene Yellow Sand L3	0.00	0.00	18.62	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	30.7	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.41	0.41	0.44	0.48	0.39	0.35	0.34	0.35	0.29	0.49
		0.49	0.44	0.41	0.38	0.39	0.51	0.51	0.54	0.58	0.62
		0.66	0.70	0.65	0.71	1.00	0.96	0.86	0.66	0.65	0.80
32	Miocene Yellow Sand L2	0.41	0.41	0.43	0.48	0.38	0.34	0.34	0.34	0.29	0.49
		0.48	0.44	0.40	0.38	0.39	0.51	0.51	0.54	0.58	0.62
		0.65	0.70	0.65	0.71	0.99	0.96	0.85	0.66	0.65	0.79
34	Miocene Yellow Sand L3	0.41	0.41	0.44	0.48	0.39	0.35	0.34	0.35	0.29	0.49
		0.49	0.44	0.41	0.38	0.39	0.51	0.51	0.54	0.58	0.62
		0.66	0.70	0.65	0.71	0.99	0.96	0.86	0.66	0.65	0.80

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 2 (1984)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.81*	0.73*	4.30*	0.59*	0.57*
32	Miocene Yellow Sand L2	0.81*	0.73*	4.30*	0.59*	0.57*
34	Miocene Yellow Sand L3	0.81*	0.73*	4.30*	0.59*	0.57*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.01	-0.01	35.77	-0.01	-0.01
32	Miocene Yellow Sand L2	0.01	0.01	19.22	0.01	0.01
34	Miocene Yellow Sand L3	0.00	0.00	25.80	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	73.2	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.72	0.73	0.76	0.82	0.68	0.63	0.61	0.63	0.55	0.84
		0.83	0.76	0.72	0.69	0.70	0.86	0.87	0.92	0.97	1.02
		1.07	1.13	1.07	1.14	1.54	1.48	1.34	1.07	1.06	1.26
32	Miocene Yellow Sand L2	0.72	0.72	0.76	0.81	0.68	0.62	0.61	0.62	0.55	0.83
		0.83	0.76	0.72	0.68	0.70	0.86	0.86	0.91	0.97	1.02
		1.07	1.13	1.06	1.14	1.53	1.48	1.34	1.07	1.06	1.26
34	Miocene Yellow Sand L3	0.72	0.72	0.76	0.82	0.68	0.62	0.61	0.63	0.55	0.84
		0.83	0.76	0.72	0.69	0.70	0.86	0.86	0.91	0.97	1.02
		1.07	1.13	1.06	1.14	1.54	1.48	1.34	1.07	1.06	1.26

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 3 (1985)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.91*	0.84*	4.15*	0.71*	0.68*
32	Miocene Yellow Sand L2	0.91*	0.84*	4.15*	0.71*	0.68*
34	Miocene Yellow Sand L3	0.91*	0.84*	4.15*	0.71*	0.68*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.01	-0.01	33.16	-0.01	-0.01
32	Miocene Yellow Sand L2	0.01	0.01	17.82	0.01	0.01
34	Miocene Yellow Sand L3	0.00	0.00	23.92	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	112.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.83	0.83	0.87	0.92	0.79	0.74	0.73	0.74	0.67	0.94
		0.94	0.88	0.84	0.80	0.82	0.97	0.97	1.02	1.07	1.12
		1.17	1.22	1.16	1.23	1.59	1.54	1.41	1.16	1.15	1.34
32	Miocene Yellow Sand L2	0.83	0.83	0.86	0.92	0.79	0.73	0.73	0.74	0.67	0.94
		0.93	0.87	0.83	0.80	0.81	0.97	0.97	1.02	1.07	1.12
		1.16	1.22	1.15	1.22	1.59	1.54	1.41	1.16	1.15	1.33
34	Miocene Yellow Sand L3	0.83	0.83	0.87	0.92	0.79	0.74	0.73	0.74	0.67	0.94
		0.94	0.87	0.84	0.80	0.82	0.97	0.97	1.02	1.07	1.12
		1.17	1.22	1.16	1.23	1.59	1.54	1.41	1.16	1.15	1.34

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 4 (1986)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.74*	0.69*	2.56*	0.61*	0.60*
32	Miocene Yellow Sand L2	0.74*	0.69*	2.56*	0.61*	0.60*

34	Miocene Yellow Sand L3	0.74*	0.69*	2.56*	0.61*	0.60*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	-0.01	18.69	0.00	0.00
32	Miocene Yellow Sand L2	0.01	0.01	10.04	0.01	0.01
34	Miocene Yellow Sand L3	0.00	0.00	13.48	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	134.7	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.69	0.69	0.71	0.74	0.66	0.63	0.62	0.64	0.59	0.75
		0.75	0.72	0.70	0.68	0.69	0.78	0.78	0.81	0.84	0.86
		0.89	0.92	0.88	0.92	1.12	1.09	1.02	0.88	0.88	0.98
32	Miocene Yellow Sand L2	0.69	0.69	0.71	0.74	0.66	0.63	0.62	0.63	0.59	0.75
		0.75	0.72	0.70	0.68	0.69	0.77	0.78	0.81	0.83	0.86
		0.89	0.92	0.88	0.92	1.12	1.09	1.02	0.88	0.87	0.98
34	Miocene Yellow Sand L3	0.69	0.69	0.71	0.74	0.66	0.63	0.62	0.63	0.59	0.75
		0.75	0.72	0.70	0.68	0.69	0.77	0.78	0.81	0.84	0.86
		0.89	0.92	0.88	0.92	1.12	1.09	1.02	0.88	0.88	0.98

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 5 (1987)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.57*	0.54*	1.60*	0.50*	0.49*
32	Miocene Yellow Sand L2	0.57*	0.54*	1.60*	0.50*	0.49*
34	Miocene Yellow Sand L3	0.57*	0.54*	1.60*	0.50*	0.49*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	10.50	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	5.64	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	7.57	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	147.2	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.54	0.54	0.55	0.57	0.53	0.51	0.50	0.51	0.49	0.58
		0.58	0.56	0.55	0.54	0.54	0.59	0.60	0.61	0.63	0.65
		0.66	0.68	0.65	0.67	0.79	0.77	0.73	0.65	0.65	0.71
32	Miocene Yellow Sand L2	0.54	0.54	0.55	0.57	0.52	0.51	0.50	0.51	0.48	0.58

		0.58	0.56	0.55	0.54	0.54	0.59	0.60	0.61	0.63	0.65
		0.66	0.68	0.65	0.67	0.79	0.77	0.73	0.65	0.65	0.71
34	Miocene Yellow Sand L3	0.54	0.54	0.55	0.57	0.53	0.51	0.50	0.51	0.49	0.58
		0.58	0.56	0.55	0.54	0.54	0.59	0.60	0.61	0.63	0.65
		0.66	0.68	0.65	0.67	0.79	0.77	0.73	0.65	0.65	0.71

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 6 (1988)----------

PRESSURES AT INJECTION WELL COORD (PSI)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
FORMATION LEVEL					
2 Sand	0.00	0.00	0.00	0.00	0.00
4 Sand	0.00	0.00	0.00	0.00	0.00
6 Sand	0.00	0.00	0.00	0.00	0.00
8 Sand	0.00	0.00	0.00	0.00	0.00
10 Sand	0.00	0.00	0.00	0.00	0.00
12 Sand	0.00	0.00	0.00	0.00	0.00
14 Sand	0.00	0.00	0.00	0.00	0.00
16 Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18 Sand	0.00	0.00	0.00	0.00	0.00
20 Sand	0.00	0.00	0.00	0.00	0.00
22 Sand	0.00	0.00	0.00	0.00	0.00
24 Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26 Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28 Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30 Miocene Yellow Sand L1	0.38*	0.36*	0.60*	0.35*	0.35*
32 Miocene Yellow Sand L2	0.38*	0.36*	0.60*	0.35*	0.35*
34 Miocene Yellow Sand L3	0.38*	0.36*	0.60*	0.35*	0.35*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
INJECTION LEVEL					
24 Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26 Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28 Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30 Miocene Yellow Sand L1	0.00	0.00	2.30	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	1.23	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	1.66	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	149.9	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.37	0.37	0.37	0.38	0.36	0.36	0.36	0.36	0.35	0.38
		0.38	0.38	0.38	0.37	0.37	0.39	0.39	0.39	0.40	0.40
		0.40	0.41	0.40	0.40	0.43	0.42	0.41	0.40	0.40	0.41
32	Miocene Yellow Sand L2	0.37	0.37	0.37	0.38	0.36	0.36	0.36	0.36	0.35	0.38
		0.38	0.38	0.38	0.37	0.37	0.39	0.39	0.39	0.40	0.40
		0.40	0.41	0.40	0.40	0.43	0.42	0.41	0.40	0.40	0.41
34	Miocene Yellow Sand L3	0.37	0.37	0.37	0.38	0.36	0.36	0.36	0.36	0.35	0.38
		0.38	0.38	0.38	0.37	0.37	0.39	0.39	0.39	0.40	0.40
		0.40	0.41	0.40	0.40	0.43	0.42	0.41	0.40	0.40	0.41

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 7 (1989)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.44*	1.32*	7.71*	1.07*	1.03*
32	Miocene Yellow Sand L2	1.44*	1.32*	7.71*	1.07*	1.03*
34	Miocene Yellow Sand L3	1.44*	1.32*	7.71*	1.07*	1.03*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.02	-0.02	64.29	-0.02	-0.02
32	Miocene Yellow Sand L2	0.03	0.03	34.54	0.02	0.02
34	Miocene Yellow Sand L3	0.00	0.00	46.37	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 0.0 0.0 226.3 0.0 0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.29	1.30	1.36	1.46	1.23	1.12	1.10	1.12	0.99	1.49
		1.48	1.36	1.29	1.23	1.25	1.54	1.54	1.63	1.73	1.82
		1.91	2.02	1.90	2.04	2.75	2.65	2.40	1.92	1.90	2.25
32	Miocene Yellow Sand L2	1.29	1.29	1.35	1.46	1.22	1.12	1.10	1.12	0.99	1.49
		1.47	1.36	1.28	1.22	1.24	1.53	1.53	1.62	1.72	1.81
		1.90	2.01	1.89	2.03	2.74	2.65	2.39	1.91	1.89	2.25
34	Miocene Yellow Sand L3	1.29	1.29	1.35	1.46	1.22	1.12	1.10	1.12	0.99	1.49
		1.48	1.36	1.28	1.22	1.24	1.53	1.54	1.62	1.72	1.82
		1.91	2.02	1.90	2.03	2.75	2.65	2.40	1.92	1.90	2.25

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 8 (1990)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.89*	1.73*	8.76*	1.45*	1.41*
32	Miocene Yellow Sand L2	1.89*	1.73*	8.76*	1.45*	1.41*
34	Miocene Yellow Sand L3	1.89*	1.73*	8.76*	1.45*	1.41*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.02	-0.03	70.44	-0.02	-0.02
32	Miocene Yellow Sand L2	0.03	0.03	37.85	0.02	0.02
34	Miocene Yellow Sand L3	0.00	0.00	50.81	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	310.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.71	1.72	1.79	1.90	1.63	1.52	1.50	1.52	1.37	1.94
		1.93	1.80	1.72	1.65	1.68	2.00	2.00	2.11	2.22	2.32
		2.42	2.54	2.40	2.55	3.32	3.22	2.94	2.41	2.39	2.78
32	Miocene Yellow Sand L2	1.71	1.71	1.78	1.90	1.63	1.51	1.49	1.52	1.37	1.94
		1.93	1.80	1.71	1.65	1.67	1.99	2.00	2.10	2.21	2.31
		2.41	2.53	2.39	2.54	3.32	3.21	2.93	2.40	2.39	2.78
34	Miocene Yellow Sand L3	1.71	1.72	1.78	1.90	1.63	1.52	1.50	1.52	1.37	1.94
		1.93	1.80	1.72	1.65	1.68	2.00	2.00	2.10	2.21	2.32
		2.41	2.53	2.40	2.54	3.32	3.21	2.94	2.41	2.39	2.78

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* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR    9 (1991)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                   2.04*    1.88*    8.45*    1.62*    1.58*
32  Miocene Yellow Sand L2                   2.04*    1.88*    8.45*    1.62*    1.58*
34  Miocene Yellow Sand L3                   2.04*    1.88*    8.45*    1.62*    1.58*
                                  * PERFORATED INJECTION ZONE

                                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  -0.02    -0.02    65.75    -0.02    -0.02
32  Miocene Yellow Sand L2                   0.02     0.02    35.32     0.02     0.02
34  Miocene Yellow Sand L3                   0.00     0.00    47.43     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)         0.0      0.0    388.1      0.0      0.0


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
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26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.87	1.88	1.94	2.05	1.79	1.68	1.66	1.69	1.55	2.09
		2.08	1.96	1.89	1.82	1.85	2.15	2.16	2.25	2.36	2.45
		2.54	2.65	2.52	2.66	3.38	3.28	3.02	2.53	2.51	2.88
32	Miocene Yellow Sand L2	1.87	1.87	1.94	2.04	1.79	1.68	1.66	1.69	1.54	2.09
		2.08	1.96	1.88	1.82	1.84	2.15	2.15	2.25	2.35	2.45
		2.54	2.65	2.51	2.65	3.38	3.28	3.02	2.52	2.51	2.87
34	Miocene Yellow Sand L3	1.87	1.88	1.94	2.05	1.79	1.68	1.66	1.69	1.55	2.09
		2.08	1.96	1.89	1.82	1.84	2.15	2.15	2.25	2.35	2.45
		2.54	2.65	2.52	2.66	3.38	3.28	3.02	2.53	2.51	2.88

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 10 (1992)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	2.12*	1.96*	8.22*	1.72*	1.67*
32	Miocene Yellow Sand L2	2.12*	1.96*	8.22*	1.72*	1.67*
34	Miocene Yellow Sand L3	2.12*	1.96*	8.22*	1.72*	1.67*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.02	-0.02	62.57	-0.02	-0.02

32	Miocene Yellow Sand L2	0.02	0.02	33.61	0.02	0.02
34	Miocene Yellow Sand L3	0.00	0.00	45.13	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	462.4	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.96	1.97	2.03	2.13	1.88	1.78	1.76	1.79	1.65	2.17
		2.16	2.05	1.98	1.91	1.94	2.23	2.23	2.33	2.43	2.52
		2.60	2.71	2.58	2.71	3.40	3.30	3.06	2.58	2.57	2.92
32	Miocene Yellow Sand L2	1.96	1.96	2.02	2.12	1.88	1.77	1.76	1.78	1.64	2.17
		2.16	2.04	1.97	1.91	1.93	2.22	2.23	2.32	2.42	2.51
		2.60	2.70	2.58	2.71	3.40	3.30	3.05	2.58	2.57	2.92
34	Miocene Yellow Sand L3	1.96	1.97	2.02	2.13	1.88	1.77	1.76	1.79	1.65	2.17
		2.16	2.05	1.98	1.91	1.94	2.23	2.23	2.33	2.42	2.52
		2.60	2.70	2.58	2.71	3.40	3.30	3.06	2.58	2.57	2.92

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 11 (1993)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.90*	1.78*	6.33*	1.59*	1.56*
32	Miocene Yellow Sand L2	1.90*	1.78*	6.33*	1.59*	1.56*
34	Miocene Yellow Sand L3	1.90*	1.78*	6.33*	1.59*	1.56*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.01	-0.01	45.43	-0.01	-0.01
32	Miocene Yellow Sand L2	0.01	0.01	24.40	0.01	0.01
34	Miocene Yellow Sand L3	0.00	0.00	32.77	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	516.4	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.78	1.79	1.83	1.91	1.72	1.64	1.63	1.65	1.55	1.94
		1.93	1.85	1.80	1.75	1.77	1.99	1.99	2.06	2.13	2.20
		2.26	2.33	2.24	2.34	2.83	2.76	2.58	2.24	2.23	2.49
32	Miocene Yellow Sand L2	1.78	1.78	1.83	1.90	1.71	1.64	1.63	1.65	1.54	1.94
		1.93	1.85	1.80	1.75	1.77	1.98	1.99	2.06	2.13	2.20
		2.26	2.33	2.24	2.33	2.83	2.76	2.58	2.24	2.23	2.48
34	Miocene Yellow Sand L3	1.78	1.78	1.83	1.90	1.72	1.64	1.63	1.65	1.55	1.94
		1.93	1.85	1.80	1.75	1.77	1.99	1.99	2.06	2.13	2.20
		2.26	2.33	2.24	2.33	2.83	2.76	2.58	2.24	2.23	2.49

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 12 (1994)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.90*	1.78*	6.42*	1.59*	1.56*
32	Miocene Yellow Sand L2	1.90*	1.78*	6.42*	1.59*	1.56*
34	Miocene Yellow Sand L3	1.90*	1.78*	6.42*	1.59*	1.56*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.01	-0.01	46.36	-0.01	-0.01
32	Miocene Yellow Sand L2	0.01	0.01	24.90	0.01	0.01
34	Miocene Yellow Sand L3	0.00	0.00	33.44	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	571.4	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.78	1.78	1.83	1.90	1.72	1.64	1.63	1.65	1.54	1.94
		1.93	1.85	1.79	1.75	1.77	1.98	1.99	2.06	2.13	2.20
		2.26	2.34	2.24	2.34	2.85	2.77	2.59	2.24	2.24	2.49
32	Miocene Yellow Sand L2	1.78	1.78	1.82	1.90	1.71	1.64	1.62	1.65	1.54	1.93
		1.93	1.84	1.79	1.74	1.76	1.98	1.98	2.05	2.13	2.20
		2.26	2.33	2.24	2.34	2.85	2.77	2.59	2.24	2.23	2.49
34	Miocene Yellow Sand L3	1.78	1.78	1.83	1.90	1.71	1.64	1.62	1.65	1.54	1.94
		1.93	1.84	1.79	1.75	1.76	1.98	1.98	2.06	2.13	2.20
		2.26	2.33	2.24	2.34	2.85	2.77	2.59	2.24	2.24	2.49

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 13 (1995)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	2.38*	2.21*	9.36*	1.93*	1.88*
32	Miocene Yellow Sand L2	2.38*	2.21*	9.36*	1.93*	1.88*
34	Miocene Yellow Sand L3	2.38*	2.21*	9.36*	1.93*	1.88*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.02	-0.02	71.64	-0.02	-0.02
32	Miocene Yellow Sand L2	0.02	0.02	38.49	0.02	0.02
34	Miocene Yellow Sand L3	0.00	0.00	51.67	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	656.5	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	2.20	2.21	2.27	2.39	2.11	1.99	1.97	2.00	1.85	2.43
		2.42	2.29	2.21	2.14	2.17	2.50	2.50	2.60	2.72	2.82
		2.92	3.04	2.90	3.05	3.84	3.73	3.45	2.91	2.89	3.29
32	Miocene Yellow Sand L2	2.19	2.20	2.27	2.39	2.11	1.99	1.97	2.00	1.84	2.43
		2.42	2.29	2.20	2.13	2.16	2.49	2.49	2.60	2.71	2.82
		2.91	3.03	2.89	3.04	3.83	3.72	3.44	2.90	2.89	3.28
34	Miocene Yellow Sand L3	2.20	2.20	2.27	2.39	2.11	1.99	1.97	2.00	1.85	2.43
		2.42	2.29	2.21	2.14	2.16	2.49	2.50	2.60	2.71	2.82
		2.92	3.04	2.90	3.05	3.84	3.73	3.45	2.91	2.89	3.29

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 14 (1996)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	2.50*	2.33*	9.21*	2.06*	2.01*
32	Miocene Yellow Sand L2	2.50*	2.33*	9.21*	2.06*	2.01*

34	Miocene Yellow Sand L3	2.50*	2.33*	9.21*	2.06*	2.01*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.02	-0.02	68.81	-0.02	-0.02
32	Miocene Yellow Sand L2	0.02	0.02	36.96	0.02	0.02
34	Miocene Yellow Sand L3	0.00	0.00	49.63	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	738.3	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	2.32	2.33	2.40	2.51	2.24	2.12	2.10	2.13	1.98	2.56
		2.54	2.42	2.34	2.27	2.30	2.62	2.62	2.73	2.83	2.94
		3.03	3.14	3.01	3.15	3.91	3.80	3.53	3.01	3.00	3.38
32	Miocene Yellow Sand L2	2.32	2.33	2.39	2.51	2.23	2.12	2.10	2.13	1.98	2.55
		2.54	2.41	2.34	2.27	2.29	2.61	2.62	2.72	2.83	2.93
		3.02	3.14	3.00	3.14	3.90	3.79	3.53	3.01	2.99	3.37
34	Miocene Yellow Sand L3	2.32	2.33	2.40	2.51	2.23	2.12	2.10	2.13	1.98	2.55
		2.54	2.42	2.34	2.27	2.30	2.62	2.62	2.72	2.83	2.94
		3.03	3.14	3.00	3.15	3.91	3.80	3.53	3.01	3.00	3.38

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 15 (1997)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	3.10*	2.88*	12.49*	2.50*	2.44*
32	Miocene Yellow Sand L2	3.10*	2.88*	12.49*	2.50*	2.44*
34	Miocene Yellow Sand L3	3.10*	2.88*	12.49*	2.50*	2.44*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.03	-0.03	96.26	-0.02	-0.03
32	Miocene Yellow Sand L2	0.03	0.03	51.71	0.03	0.03
34	Miocene Yellow Sand L3	0.00	0.00	69.43	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	852.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	2.86	2.87	2.96	3.12	2.75	2.59	2.56	2.60	2.39	3.18
		3.16	2.99	2.88	2.78	2.82	3.26	3.27	3.41	3.56	3.70
		3.83	3.99	3.80	4.01	5.07	4.92	4.54	3.82	3.80	4.33
32	Miocene Yellow Sand L2	2.86	2.86	2.96	3.11	2.74	2.58	2.56	2.59	2.39	3.17

		3.16	2.98	2.87	2.77	2.81	3.25	3.26	3.40	3.55	3.69
		3.82	3.98	3.79	4.00	5.06	4.91	4.53	3.81	3.79	4.32
34	Miocene Yellow Sand L3	2.86	2.87	2.96	3.12	2.74	2.59	2.56	2.60	2.39	3.18
		3.16	2.98	2.87	2.78	2.82	3.26	3.26	3.40	3.56	3.70
		3.83	3.99	3.80	4.00	5.06	4.92	4.54	3.81	3.79	4.33

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 16 (1998)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	2.32*	2.19*	6.21*	2.02*	1.99*
32	Miocene Yellow Sand L2	2.32*	2.19*	6.21*	2.02*	1.99*
34	Miocene Yellow Sand L3	2.32*	2.19*	6.21*	2.02*	1.99*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.01	-0.01	39.86	-0.01	-0.01
32	Miocene Yellow Sand L2	0.01	0.01	21.40	0.01	0.01
34	Miocene Yellow Sand L3	0.00	0.00	28.74	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	900.0	0.0	0.0					

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	2.21	2.21	2.25	2.32	2.14	2.07	2.06	2.09	1.99	2.35
		2.35	2.28	2.24	2.19	2.21	2.40	2.41	2.48	2.54	2.60
		2.65	2.71	2.63	2.71	3.14	3.07	2.92	2.61	2.62	2.84
32	Miocene Yellow Sand L2	2.20	2.21	2.25	2.31	2.14	2.07	2.06	2.08	1.98	2.35
		2.35	2.28	2.23	2.19	2.21	2.40	2.41	2.47	2.54	2.60
		2.65	2.71	2.62	2.71	3.14	3.07	2.92	2.61	2.61	2.84
34	Miocene Yellow Sand L3	2.20	2.21	2.25	2.32	2.14	2.07	2.06	2.08	1.99	2.35
		2.35	2.28	2.24	2.19	2.21	2.40	2.41	2.48	2.54	2.60
		2.65	2.71	2.62	2.71	3.14	3.07	2.92	2.61	2.62	2.84

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 17 (1999)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID FORMATION LEVEL	(M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.56*	1.50*	2.29*	1.47*	1.45*
32	Miocene Yellow Sand L2	1.56*	1.50*	2.29*	1.47*	1.45*
34	Miocene Yellow Sand L3	1.56*	1.50*	2.29*	1.47*	1.45*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.01	0.00	7.40	0.00	0.00
32	Miocene Yellow Sand L2	-0.01	0.00	3.96	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	5.33	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	908.7	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.53	1.53	1.54	1.55	1.50	1.48	1.48	1.49	1.47	1.57
		1.57	1.55	1.55	1.54	1.55	1.59	1.59	1.61	1.62	1.64
		1.64	1.65	1.63	1.64	1.72	1.70	1.67	1.61	1.62	1.67
32	Miocene Yellow Sand L2	1.53	1.53	1.54	1.55	1.50	1.48	1.48	1.50	1.47	1.57
		1.57	1.56	1.55	1.54	1.55	1.59	1.59	1.61	1.63	1.64
		1.64	1.65	1.63	1.64	1.72	1.70	1.67	1.61	1.62	1.67
34	Miocene Yellow Sand L3	1.53	1.53	1.54	1.55	1.50	1.48	1.48	1.49	1.47	1.57
		1.57	1.56	1.55	1.54	1.55	1.59	1.59	1.61	1.62	1.64
		1.64	1.65	1.63	1.64	1.72	1.70	1.67	1.61	1.62	1.67

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 18 (2000)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.46*	1.41*	3.09*	1.34*	1.32*
32	Miocene Yellow Sand L2	1.46*	1.41*	3.09*	1.34*	1.32*
34	Miocene Yellow Sand L3	1.46*	1.41*	3.09*	1.34*	1.32*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	16.70	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	8.96	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	12.04	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	928.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.41	1.42	1.43	1.46	1.39	1.36	1.35	1.36	1.32	1.48
		1.47	1.44	1.43	1.41	1.42	1.50	1.50	1.53	1.55	1.58
		1.60	1.63	1.59	1.62	1.81	1.78	1.71	1.58	1.59	1.68
32	Miocene Yellow Sand L2	1.41	1.42	1.43	1.46	1.39	1.36	1.35	1.36	1.32	1.48
		1.47	1.44	1.43	1.41	1.42	1.50	1.50	1.53	1.55	1.58
		1.60	1.63	1.59	1.62	1.81	1.78	1.71	1.58	1.59	1.68
34	Miocene Yellow Sand L3	1.41	1.42	1.43	1.46	1.39	1.36	1.35	1.36	1.32	1.48
		1.47	1.44	1.43	1.41	1.42	1.50	1.50	1.53	1.55	1.58
		1.60	1.63	1.59	1.62	1.81	1.78	1.71	1.58	1.59	1.68

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* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

------------------------------------------------------------YEAR   19 (2001)-----------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                   1.19*    1.15*    1.89*    1.12*    1.11*
32  Miocene Yellow Sand L2                   1.19*    1.15*    1.89*    1.12*    1.11*
34  Miocene Yellow Sand L3                   1.19*    1.15*    1.89*    1.12*    1.11*
                                  * PERFORATED INJECTION ZONE

                                                                 INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                   0.00     0.00     7.18     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     3.85     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     5.17     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)          0.0      0.0    937.1      0.0      0.0


                                                                 PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
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26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	1.16	1.17	1.17	1.19	1.15	1.13	1.13	1.14	1.12	1.19
		1.19	1.18	1.18	1.17	1.17	1.21	1.21	1.22	1.24	1.25
		1.26	1.27	1.25	1.26	1.34	1.32	1.30	1.24	1.24	1.29
32	Miocene Yellow Sand L2	1.16	1.17	1.17	1.19	1.15	1.13	1.13	1.14	1.12	1.20
		1.20	1.18	1.18	1.17	1.17	1.21	1.21	1.23	1.24	1.25
		1.26	1.27	1.25	1.26	1.34	1.32	1.30	1.24	1.25	1.29
34	Miocene Yellow Sand L3	1.16	1.17	1.17	1.19	1.15	1.13	1.13	1.14	1.12	1.19
		1.20	1.18	1.18	1.17	1.17	1.21	1.21	1.22	1.24	1.25
		1.26	1.27	1.25	1.26	1.34	1.32	1.30	1.24	1.25	1.29

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 20 (2002)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.95*	0.93*	1.03*	0.92*	0.92*
32	Miocene Yellow Sand L2	0.95*	0.93*	1.03*	0.92*	0.92*
34	Miocene Yellow Sand L3	0.95*	0.93*	1.03*	0.92*	0.92*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.01	0.00	0.89	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.47	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.64	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	938.1	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.92	0.95
		0.95	0.95	0.95	0.94	0.95	0.95	0.95	0.96	0.96	0.96
		0.96	0.96	0.96	0.96	0.97	0.96	0.96	0.95	0.96	0.96
32	Miocene Yellow Sand L2	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.93	0.95
		0.95	0.95	0.95	0.95	0.95	0.96	0.96	0.96	0.96	0.97
		0.96	0.96	0.96	0.96	0.97	0.96	0.96	0.95	0.96	0.96
34	Miocene Yellow Sand L3	0.94	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.92	0.95
		0.95	0.95	0.95	0.94	0.95	0.95	0.96	0.96	0.96	0.96
		0.96	0.96	0.96	0.96	0.97	0.96	0.96	0.95	0.96	0.96

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 21 (2003)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.89*	0.87*	1.34*	0.85*	0.84*
32	Miocene Yellow Sand L2	0.89*	0.87*	1.34*	0.85*	0.84*
34	Miocene Yellow Sand L3	0.89*	0.87*	1.34*	0.85*	0.84*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	4.61	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	2.47	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	3.32	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	943.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.87	0.88	0.88	0.89	0.86	0.86	0.85	0.86	0.85	0.89
		0.89	0.88	0.88	0.87	0.88	0.90	0.90	0.91	0.92	0.92
		0.93	0.94	0.93	0.93	0.98	0.98	0.96	0.92	0.92	0.95
32	Miocene Yellow Sand L2	0.87	0.88	0.88	0.89	0.86	0.86	0.86	0.86	0.85	0.89
		0.89	0.88	0.88	0.87	0.88	0.90	0.90	0.91	0.92	0.92
		0.93	0.94	0.93	0.94	0.98	0.98	0.96	0.92	0.92	0.95
34	Miocene Yellow Sand L3	0.87	0.88	0.88	0.89	0.86	0.86	0.85	0.86	0.85	0.89
		0.89	0.88	0.88	0.87	0.88	0.90	0.90	0.91	0.92	0.92
		0.93	0.94	0.93	0.93	0.98	0.98	0.96	0.92	0.92	0.95

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 22 (2004)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.76*	0.75*	0.88*	0.74*	0.74*
32	Miocene Yellow Sand L2	0.76*	0.75*	0.88*	0.74*	0.74*
34	Miocene Yellow Sand L3	0.76*	0.75*	0.88*	0.74*	0.74*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	1.20	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.64	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.86	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.75	0.76	0.76	0.76	0.75	0.75	0.75	0.75	0.74	0.76
		0.76	0.76	0.76	0.76	0.76	0.77	0.77	0.77	0.77	0.78
		0.78	0.78	0.77	0.78	0.79	0.78	0.78	0.77	0.77	0.78
32	Miocene Yellow Sand L2	0.76	0.76	0.76	0.76	0.75	0.75	0.75	0.75	0.74	0.76
		0.76	0.76	0.76	0.76	0.76	0.77	0.77	0.77	0.77	0.78
		0.78	0.78	0.77	0.78	0.79	0.78	0.78	0.77	0.77	0.78
34	Miocene Yellow Sand L3	0.76	0.76	0.76	0.76	0.75	0.75	0.75	0.75	0.74	0.76
		0.76	0.76	0.76	0.76	0.76	0.77	0.77	0.77	0.77	0.78
		0.78	0.78	0.77	0.78	0.79	0.78	0.78	0.77	0.77	0.78

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 23 (2005)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.67*	0.66*	0.67*	0.66*	0.65*
32	Miocene Yellow Sand L2	0.67*	0.66*	0.67*	0.66*	0.65*
34	Miocene Yellow Sand L3	0.67*	0.66*	0.67*	0.66*	0.65*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.67
		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
		0.67	0.67	0.67	0.67	0.67	0.66	0.67	0.66	0.67	0.67
32	Miocene Yellow Sand L2	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.67
		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
34	Miocene Yellow Sand L3	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.67
		0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
		0.67	0.67	0.67	0.67	0.67	0.66	0.67	0.66	0.67	0.67

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 24 (2006)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.60*	0.60*	0.60*	0.59*	0.59*
32	Miocene Yellow Sand L2	0.60*	0.60*	0.60*	0.59*	0.59*

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34  Miocene Yellow Sand L3                0.60*    0.60*    0.60*    0.59*    0.59*
                                 * PERFORATED INJECTION ZONE

                                                                   INJECTION RATES (GPM)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)       0.0      0.0    945.0      0.0      0.0


                                                                PRESSURES AT MONITOR COORD (PSI)
                              MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                          ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                          ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60
                                          0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.61     0.61     0.61
                                          0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60
32  Miocene Yellow Sand L2                0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60
                                          0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.61     0.61     0.61
                                          0.61     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60
34  Miocene Yellow Sand L3                0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60
                                          0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.61     0.61     0.61
                                          0.61     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60     0.60


* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   25 (2007)-----------------------------------------------------
                                                            PRESSURES AT INJECTION WELL COORD (PSI)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                  0.00     0.00     0.00     0.00     0.00
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4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.55*	0.55*	0.55*	0.55*	0.54*
32	Miocene Yellow Sand L2	0.55*	0.55*	0.55*	0.55*	0.54*
34	Miocene Yellow Sand L3	0.55*	0.55*	0.55*	0.55*	0.54*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
32	Miocene Yellow Sand L2	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55

		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.56	0.56
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
34	Miocene Yellow Sand L3	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 26 (2008)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.51*	0.51*	0.51*	0.51*	0.50*
32	Miocene Yellow Sand L2	0.51*	0.51*	0.51*	0.51*	0.50*
34	Miocene Yellow Sand L3	0.51*	0.51*	0.51*	0.51*	0.50*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	945.0	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
		0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
		0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
32	Miocene Yellow Sand L2	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
		0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
		0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
34	Miocene Yellow Sand L3	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
		0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51
		0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 27 (2009)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.48*	0.47*	0.48*	0.47*	0.47*
32	Miocene Yellow Sand L2	0.48*	0.47*	0.48*	0.47*	0.47*
34	Miocene Yellow Sand L3	0.48*	0.47*	0.48*	0.47*	0.47*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
		0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
		0.48	0.48	0.48	0.48	0.48	0.47	0.48	0.47	0.48	0.48
32	Miocene Yellow Sand L2	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.48
		0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
		0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
34	Miocene Yellow Sand L3	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.48
		0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48	0.48
		0.48	0.48	0.48	0.48	0.48	0.47	0.48	0.47	0.48	0.48

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 28 (2010)

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.45*	0.44*	0.45*	0.44*	0.44*
32	Miocene Yellow Sand L2	0.45*	0.44*	0.45*	0.44*	0.44*
34	Miocene Yellow Sand L3	0.45*	0.44*	0.45*	0.44*	0.44*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44
		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
		0.45	0.45	0.45	0.45	0.45	0.44	0.44	0.44	0.45	0.45
32	Miocene Yellow Sand L2	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.45
		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
34	Miocene Yellow Sand L3	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.45
		0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45
		0.45	0.45	0.45	0.45	0.45	0.44	0.45	0.44	0.45	0.45

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* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   29 (2011)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00     0.00     0.00     0.00     0.00
 4  Sand                                    0.00     0.00     0.00     0.00     0.00
 6  Sand                                    0.00     0.00     0.00     0.00     0.00
 8  Sand                                    0.00     0.00     0.00     0.00     0.00
10  Sand                                    0.00     0.00     0.00     0.00     0.00
12  Sand                                    0.00     0.00     0.00     0.00     0.00
14  Sand                                    0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00     0.00     0.00     0.00     0.00
18  Sand                                    0.00     0.00     0.00     0.00     0.00
20  Sand                                    0.00     0.00     0.00     0.00     0.00
22  Sand                                    0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                  0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                  0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  0.42*    0.42*    0.42*    0.42*    0.42*
32  Miocene Yellow Sand L2                  0.42*    0.42*    0.42*    0.42*    0.42*
34  Miocene Yellow Sand L3                  0.42*    0.42*    0.42*    0.42*    0.42*
                                  * PERFORATED INJECTION ZONE

                                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                  0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                  0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                  0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)         0.0      0.0    945.0      0.0      0.0



                                                                  PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                            0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                            0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
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26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
		0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
		0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
32	Miocene Yellow Sand L2	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
		0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
		0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
34	Miocene Yellow Sand L3	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
		0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
		0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 30 (2012)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.40*	0.39*	0.40*	0.39*	0.39*
32	Miocene Yellow Sand L2	0.40*	0.39*	0.40*	0.39*	0.39*
34	Miocene Yellow Sand L3	0.40*	0.39*	0.40*	0.39*	0.39*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 0.0 0.0 945.0 0.0 0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.39	0.39	0.40	0.40	0.39	0.39	0.39	0.39	0.39	0.40
		0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
		0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
32	Miocene Yellow Sand L2	0.40	0.40	0.40	0.40	0.39	0.39	0.39	0.39	0.39	0.40
		0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
		0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
34	Miocene Yellow Sand L3	0.39	0.40	0.40	0.40	0.39	0.39	0.39	0.39	0.39	0.40
		0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
		0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 31 (2013)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.40*	0.39*	0.39*	0.42*	0.52*
32	Miocene Yellow Sand L2	0.40*	0.39*	0.39*	0.42*	0.52*
34	Miocene Yellow Sand L3	0.40*	0.39*	0.39*	0.42*	0.52*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	1.33
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.71
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.96
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	1.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.40	0.40	0.40	0.40	0.41	0.41	0.41	0.41	0.40	0.40
		0.40	0.40	0.39	0.39	0.39	0.39	0.40	0.39	0.39	0.39
		0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.40	0.39
32	Miocene Yellow Sand L2	0.40	0.40	0.40	0.40	0.41	0.41	0.41	0.41	0.40	0.40
		0.40	0.40	0.40	0.39	0.39	0.39	0.40	0.39	0.39	0.39
		0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.40	0.39
34	Miocene Yellow Sand L3	0.40	0.40	0.40	0.40	0.41	0.41	0.41	0.41	0.40	0.40
		0.40	0.40	0.39	0.39	0.39	0.39	0.40	0.39	0.39	0.39
		0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.40	0.39

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 32 (2014)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.47*	0.46*	0.45*	0.78*	0.94*
32	Miocene Yellow Sand L2	0.47*	0.46*	0.45*	0.78*	0.94*
34	Miocene Yellow Sand L3	0.47*	0.46*	0.45*	0.78*	0.94*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	2.30	4.34
32	Miocene Yellow Sand L2	0.00	0.00	0.00	1.24	2.33
34	Miocene Yellow Sand L3	0.00	0.00	0.00	1.66	3.13
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	2.8	6.7

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.51	0.51	0.51	0.49	0.53	0.58	0.57	0.52	0.48	0.48
		0.47	0.47	0.46	0.46	0.46	0.46	0.46	0.46	0.45	0.45
		0.45	0.45	0.46	0.45	0.45	0.44	0.45	0.47	0.46	0.45
32	Miocene Yellow Sand L2	0.51	0.51	0.51	0.49	0.53	0.58	0.57	0.52	0.48	0.48
		0.47	0.47	0.46	0.46	0.46	0.46	0.46	0.46	0.45	0.45
		0.45	0.45	0.46	0.45	0.45	0.44	0.45	0.46	0.46	0.45
34	Miocene Yellow Sand L3	0.51	0.51	0.51	0.49	0.53	0.58	0.57	0.52	0.48	0.48
		0.47	0.47	0.46	0.46	0.46	0.46	0.46	0.46	0.45	0.45
		0.45	0.45	0.46	0.45	0.45	0.44	0.45	0.46	0.46	0.45

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 33 (2015)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.69*	0.63*	0.60*	2.07*	1.35*
32	Miocene Yellow Sand L2	0.69*	0.63*	0.60*	2.07*	1.35*
34	Miocene Yellow Sand L3	0.69*	0.63*	0.60*	2.07*	1.35*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	-0.01	0.00	0.00	13.59	4.11
32	Miocene Yellow Sand L2	0.01	0.01	0.01	7.30	2.22
34	Miocene Yellow Sand L3	0.00	0.00	0.00	9.80	2.97
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	18.9	11.6

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.80	0.80	0.77	0.73	0.84	0.99	0.97	0.83	0.71	0.69
		0.68	0.67	0.66	0.65	0.65	0.64	0.65	0.64	0.63	0.61
		0.61	0.61	0.64	0.63	0.61	0.60	0.63	0.66	0.65	0.62
32	Miocene Yellow Sand L2	0.80	0.79	0.77	0.73	0.83	0.99	0.96	0.83	0.71	0.69
		0.68	0.67	0.65	0.65	0.65	0.64	0.65	0.64	0.63	0.61
		0.61	0.61	0.63	0.63	0.61	0.60	0.63	0.66	0.65	0.61
34	Miocene Yellow Sand L3	0.80	0.79	0.77	0.73	0.83	0.99	0.97	0.83	0.71	0.69
		0.68	0.67	0.65	0.65	0.65	0.64	0.65	0.64	0.63	0.61
		0.61	0.61	0.64	0.63	0.61	0.60	0.63	0.66	0.65	0.61

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 34 (2016)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.66*	0.62*	0.60*	1.50*	1.19*
32	Miocene Yellow Sand L2	0.66*	0.62*	0.60*	1.50*	1.19*

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34  Miocene Yellow Sand L3                0.66*    0.62*    0.60*    1.50*    1.19*
                          * PERFORATED INJECTION ZONE

                                                                  INJECTION RATES (GPM)
                          WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1              0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2              0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3              0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1              0.00     0.00     0.00     8.01     3.98
32  Miocene Yellow Sand L2              0.00     0.00     0.00     4.31     2.14
34  Miocene Yellow Sand L3              0.00     0.00     0.00     5.78     2.87

CUMULATIVE INJECTION TO DATE (MMGAL)     0.0      0.0    945.0     28.4     16.4


                                                  PRESSURES AT MONITOR COORD (PSI)
                          MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                      ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                      ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1              0.73     0.73     0.72     0.69     0.75     0.86     0.84     0.75     0.68     0.66
                                        0.66     0.65     0.64     0.64     0.64     0.63     0.64     0.63     0.62     0.61
                                        0.61     0.61     0.63     0.62     0.61     0.59     0.62     0.64     0.63     0.61
32  Miocene Yellow Sand L2              0.73     0.73     0.71     0.68     0.75     0.86     0.84     0.75     0.68     0.66
                                        0.66     0.65     0.64     0.64     0.64     0.63     0.64     0.63     0.62     0.61
                                        0.61     0.61     0.63     0.62     0.61     0.59     0.61     0.64     0.63     0.61
34  Miocene Yellow Sand L3              0.73     0.73     0.71     0.68     0.75     0.86     0.84     0.75     0.68     0.66
                                        0.66     0.65     0.64     0.64     0.64     0.63     0.64     0.63     0.62     0.61
                                        0.61     0.61     0.63     0.62     0.61     0.59     0.62     0.64     0.63     0.61


* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-------------------------------------------------------YEAR   35 (2017)-------------------------------------------------
                                                  PRESSURES AT INJECTION WELL COORD (PSI)
                          WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                0.00     0.00     0.00     0.00     0.00
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4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.66*	0.62*	0.60*	1.56*	1.06*
32	Miocene Yellow Sand L2	0.66*	0.62*	0.60*	1.56*	1.06*
34	Miocene Yellow Sand L3	0.66*	0.62*	0.60*	1.56*	1.06*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	8.94	2.43
32	Miocene Yellow Sand L2	0.00	0.00	0.00	4.80	1.31
34	Miocene Yellow Sand L3	0.00	0.00	0.00	6.45	1.76
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	39.0	19.3

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.73	0.73	0.71	0.68	0.75	0.85	0.84	0.75	0.68	0.66
		0.66	0.65	0.64	0.64	0.64	0.63	0.64	0.63	0.62	0.61
		0.61	0.61	0.63	0.62	0.61	0.60	0.62	0.64	0.63	0.61
32	Miocene Yellow Sand L2	0.73	0.73	0.71	0.68	0.75	0.85	0.84	0.75	0.67	0.66

		0.66	0.65	0.64	0.64	0.64	0.63	0.64	0.63	0.62	0.61
		0.61	0.61	0.63	0.62	0.61	0.60	0.62	0.64	0.63	0.61
34	Miocene Yellow Sand L3	0.73	0.73	0.71	0.68	0.75	0.85	0.84	0.75	0.68	0.66
		0.66	0.65	0.64	0.64	0.64	0.63	0.64	0.63	0.62	0.61
		0.61	0.61	0.63	0.62	0.61	0.60	0.62	0.64	0.63	0.61

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 36 (2018)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.71*	0.66*	0.64*	1.73*	1.27*
32	Miocene Yellow Sand L2	0.71*	0.66*	0.64*	1.73*	1.27*
34	Miocene Yellow Sand L3	0.71*	0.66*	0.64*	1.73*	1.27*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	9.92	3.94
32	Miocene Yellow Sand L2	0.00	0.00	0.00	5.33	2.12
34	Miocene Yellow Sand L3	0.00	0.00	0.00	7.15	2.84

CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	945.0	50.8	23.9

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.79	0.79	0.77	0.74	0.82	0.94	0.92	0.82	0.73	0.71
		0.70	0.70	0.68	0.68	0.68	0.67	0.68	0.67	0.66	0.65
		0.65	0.65	0.67	0.66	0.65	0.63	0.66	0.68	0.68	0.65
32	Miocene Yellow Sand L2	0.79	0.79	0.77	0.74	0.82	0.94	0.92	0.82	0.73	0.71
		0.70	0.70	0.68	0.68	0.68	0.67	0.68	0.67	0.66	0.65
		0.64	0.65	0.67	0.66	0.64	0.63	0.66	0.68	0.67	0.65
34	Miocene Yellow Sand L3	0.79	0.79	0.77	0.74	0.82	0.94	0.92	0.82	0.73	0.71
		0.70	0.70	0.68	0.68	0.68	0.67	0.68	0.67	0.66	0.65
		0.65	0.65	0.67	0.66	0.65	0.63	0.66	0.68	0.68	0.65

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 37 (2019)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.72*	0.67*	0.65*	1.68*	1.29*
32	Miocene Yellow Sand L2	0.72*	0.67*	0.65*	1.68*	1.29*
34	Miocene Yellow Sand L3	0.72*	0.67*	0.65*	1.68*	1.29*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	9.25	4.16
32	Miocene Yellow Sand L2	0.00	0.00	0.00	4.97	2.24
34	Miocene Yellow Sand L3	0.00	0.00	0.00	6.67	3.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	61.8	28.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.80	0.80	0.78	0.75	0.82	0.94	0.92	0.82	0.74	0.72
		0.72	0.71	0.70	0.70	0.69	0.69	0.69	0.68	0.67	0.66
		0.66	0.66	0.68	0.67	0.66	0.64	0.67	0.69	0.69	0.66
32	Miocene Yellow Sand L2	0.80	0.80	0.78	0.75	0.82	0.94	0.92	0.82	0.74	0.72
		0.72	0.71	0.70	0.69	0.69	0.69	0.69	0.68	0.67	0.66
		0.66	0.66	0.68	0.67	0.66	0.64	0.67	0.69	0.69	0.66
34	Miocene Yellow Sand L3	0.80	0.80	0.78	0.75	0.82	0.94	0.92	0.82	0.74	0.72
		0.72	0.71	0.70	0.70	0.69	0.69	0.69	0.68	0.67	0.66
		0.66	0.66	0.68	0.67	0.66	0.64	0.67	0.69	0.69	0.66

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 38 (2020)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.62*	0.59*	0.58*	0.99*	1.08*
32	Miocene Yellow Sand L2	0.62*	0.59*	0.58*	0.99*	1.08*
34	Miocene Yellow Sand L3	0.62*	0.59*	0.58*	0.99*	1.08*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	3.06	4.21
32	Miocene Yellow Sand L2	0.00	0.00	0.00	1.64	2.26
34	Miocene Yellow Sand L3	0.00	0.00	0.00	2.20	3.03
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	65.4	33.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.66	0.66	0.65	0.63	0.67	0.73	0.72	0.67	0.63	0.62
		0.62	0.62	0.61	0.61	0.61	0.61	0.61	0.60	0.60	0.59
		0.59	0.59	0.60	0.60	0.59	0.58	0.59	0.61	0.60	0.59
32	Miocene Yellow Sand L2	0.66	0.66	0.65	0.63	0.67	0.73	0.72	0.67	0.63	0.62
		0.62	0.62	0.61	0.61	0.61	0.61	0.61	0.60	0.60	0.59
		0.59	0.59	0.60	0.60	0.59	0.58	0.59	0.61	0.60	0.59
34	Miocene Yellow Sand L3	0.66	0.66	0.65	0.63	0.67	0.73	0.72	0.67	0.63	0.62
		0.62	0.62	0.61	0.61	0.61	0.61	0.61	0.60	0.60	0.59
		0.59	0.59	0.60	0.60	0.59	0.58	0.59	0.61	0.60	0.59

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* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   39 (2021)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00     0.00     0.00     0.00     0.00
 4  Sand                                    0.00     0.00     0.00     0.00     0.00
 6  Sand                                    0.00     0.00     0.00     0.00     0.00
 8  Sand                                    0.00     0.00     0.00     0.00     0.00
10  Sand                                    0.00     0.00     0.00     0.00     0.00
12  Sand                                    0.00     0.00     0.00     0.00     0.00
14  Sand                                    0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00     0.00     0.00     0.00     0.00
18  Sand                                    0.00     0.00     0.00     0.00     0.00
20  Sand                                    0.00     0.00     0.00     0.00     0.00
22  Sand                                    0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                  0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                  0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  0.60*    0.57*    0.56*    1.30*    0.76*
32  Miocene Yellow Sand L2                  0.60*    0.57*    0.56*    1.30*    0.76*
34  Miocene Yellow Sand L3                  0.60*    0.57*    0.56*    1.30*    0.76*
                                  * PERFORATED INJECTION ZONE

                                                                          INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                  0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                  0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                  0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     7.26     0.26
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     3.90     0.14
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     5.24     0.19

CUMULATIVE INJECTION TO DATE (MMGAL)         0.0      0.0    945.0     74.1     34.2


                                                                  PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                            0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                            0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
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26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.65	0.65	0.64	0.62	0.66	0.73	0.72	0.66	0.61	0.61
		0.60	0.60	0.59	0.59	0.59	0.58	0.59	0.58	0.58	0.57
		0.57	0.57	0.58	0.58	0.57	0.56	0.57	0.59	0.58	0.57
32	Miocene Yellow Sand L2	0.65	0.65	0.64	0.62	0.66	0.73	0.72	0.66	0.61	0.61
		0.60	0.60	0.59	0.59	0.59	0.58	0.59	0.58	0.58	0.57
		0.57	0.57	0.58	0.58	0.57	0.56	0.57	0.59	0.58	0.56
34	Miocene Yellow Sand L3	0.65	0.65	0.64	0.62	0.66	0.73	0.72	0.66	0.61	0.61
		0.60	0.60	0.59	0.59	0.59	0.58	0.59	0.58	0.58	0.57
		0.57	0.57	0.58	0.58	0.57	0.56	0.57	0.59	0.58	0.57

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 40 (2022)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.77*	0.71*	0.68*	2.48*	1.12*
32	Miocene Yellow Sand L2	0.77*	0.71*	0.68*	2.48*	1.12*
34	Miocene Yellow Sand L3	0.77*	0.71*	0.68*	2.48*	1.12*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	17.93	0.00

32	Miocene Yellow Sand L2	0.01	0.01	0.01	9.63	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	12.93	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	95.4	34.2

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.88	0.88	0.86	0.81	0.92	1.09	1.07	0.92	0.79	0.78
		0.76	0.76	0.74	0.74	0.73	0.72	0.74	0.72	0.71	0.69
		0.69	0.69	0.72	0.71	0.69	0.67	0.70	0.74	0.73	0.69
32	Miocene Yellow Sand L2	0.88	0.88	0.86	0.81	0.92	1.09	1.07	0.92	0.79	0.77
		0.76	0.75	0.74	0.73	0.73	0.72	0.73	0.72	0.71	0.69
		0.69	0.69	0.72	0.71	0.69	0.67	0.70	0.74	0.73	0.69
34	Miocene Yellow Sand L3	0.88	0.88	0.86	0.81	0.92	1.09	1.07	0.92	0.79	0.78
		0.76	0.76	0.74	0.73	0.73	0.72	0.74	0.72	0.71	0.69
		0.69	0.69	0.72	0.71	0.69	0.67	0.70	0.74	0.73	0.69

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 41 (2023)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.60*	0.57*	0.56*	0.93*	0.80*
32	Miocene Yellow Sand L2	0.60*	0.57*	0.56*	0.93*	0.80*
34	Miocene Yellow Sand L3	0.60*	0.57*	0.56*	0.93*	0.80*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	3.28	1.64
32	Miocene Yellow Sand L2	0.00	0.00	0.00	1.76	0.88
34	Miocene Yellow Sand L3	0.00	0.00	0.00	2.36	1.18
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	99.3	36.1

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.62	0.62	0.61	0.60	0.62	0.67	0.66	0.63	0.60	0.60
		0.59	0.59	0.59	0.59	0.59	0.58	0.59	0.58	0.58	0.57
		0.57	0.57	0.58	0.58	0.57	0.56	0.57	0.58	0.58	0.56
32	Miocene Yellow Sand L2	0.62	0.62	0.61	0.60	0.62	0.67	0.66	0.63	0.60	0.60
		0.59	0.59	0.59	0.59	0.59	0.58	0.59	0.58	0.58	0.57
		0.57	0.57	0.58	0.58	0.57	0.56	0.57	0.58	0.58	0.56
34	Miocene Yellow Sand L3	0.62	0.62	0.61	0.60	0.62	0.67	0.66	0.63	0.60	0.60
		0.59	0.59	0.59	0.59	0.59	0.58	0.59	0.58	0.58	0.57
		0.57	0.57	0.58	0.58	0.57	0.56	0.57	0.58	0.58	0.56

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 42 (2024)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.57*	0.54*	0.53*	1.02*	0.82*
32	Miocene Yellow Sand L2	0.57*	0.54*	0.53*	1.02*	0.82*
34	Miocene Yellow Sand L3	0.57*	0.54*	0.53*	1.02*	0.82*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	4.43	1.77
32	Miocene Yellow Sand L2	0.00	0.00	0.00	2.38	0.95
34	Miocene Yellow Sand L3	0.00	0.00	0.00	3.19	1.28
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	104.5	38.3

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.60	0.60	0.60	0.58	0.61	0.67	0.66	0.62	0.58	0.57
		0.57	0.56	0.56	0.56	0.56	0.55	0.56	0.55	0.55	0.54
		0.54	0.54	0.55	0.55	0.54	0.53	0.54	0.55	0.55	0.54
32	Miocene Yellow Sand L2	0.60	0.60	0.60	0.58	0.61	0.67	0.66	0.62	0.58	0.57
		0.57	0.56	0.56	0.56	0.56	0.55	0.56	0.55	0.55	0.54
		0.54	0.54	0.55	0.55	0.54	0.53	0.54	0.55	0.55	0.54
34	Miocene Yellow Sand L3	0.60	0.60	0.60	0.58	0.61	0.67	0.66	0.62	0.58	0.57
		0.57	0.56	0.56	0.56	0.56	0.55	0.56	0.55	0.55	0.54
		0.54	0.54	0.55	0.55	0.54	0.53	0.54	0.55	0.55	0.54

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 43 (2025)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	63.16*	7.81*	10.19*	10.16*	9.39*
32	Miocene Yellow Sand L2	63.16*	7.81*	10.19*	10.16*	9.39*
34	Miocene Yellow Sand L3	63.16*	7.81*	10.19*	10.16*	9.39*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.27	-0.21	-0.22	4.24	1.59
32	Miocene Yellow Sand L2	285.49	0.22	0.23	2.57	1.14
34	Miocene Yellow Sand L3	383.23	-0.01	-0.01	3.19	1.27
CUMULATIVE INJECTION TO DATE (MMGAL)		631.2	0.0	945.0	109.8	40.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	12.97	13.05	12.60	11.68	10.30	10.12	10.89	12.11	11.22	20.86
		25.51	18.31	15.12	14.41	14.45	15.66	17.29	15.49	14.13	12.80
		12.48	12.15	13.90	12.95	10.93	9.56	11.22	12.22	11.06	9.89
32	Miocene Yellow Sand L2	12.92	13.00	12.55	11.62	10.25	10.07	10.85	12.05	11.15	20.81
		25.46	18.25	15.05	14.34	14.38	15.59	17.23	15.43	14.06	12.73
		12.41	12.08	13.84	12.90	10.88	9.51	11.17	12.16	11.01	9.84
34	Miocene Yellow Sand L3	12.96	13.04	12.59	11.66	10.29	10.10	10.88	12.09	11.20	20.84
		25.50	18.29	15.10	14.38	14.42	15.64	17.27	15.47	14.11	12.78
		12.45	12.13	13.88	12.94	10.91	9.55	11.21	12.20	11.05	9.88

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 44 (2026)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	66.54*	10.85*	13.38*	13.34*	12.52*
32	Miocene Yellow Sand L2	66.54*	10.85*	13.38*	13.34*	12.52*

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34  Miocene Yellow Sand L3                66.54*   10.85*   13.38*   13.34*   12.52*
                          * PERFORATED INJECTION ZONE

                                                                  INJECTION RATES (GPM)
                          WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1              0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2              0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3              0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1            531.31    -0.20    -0.20     4.26     1.60
32  Miocene Yellow Sand L2            285.46     0.21     0.21     2.55     1.13
34  Miocene Yellow Sand L3            383.23    -0.01    -0.01     3.19     1.27

CUMULATIVE INJECTION TO DATE (MMGAL)     1262.3      0.0    945.0    115.0     42.5


                                                  PRESSURES AT MONITOR COORD (PSI)
                          MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                      ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                      ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1             16.18    16.26    15.81    14.85    13.51    13.31    14.03    15.31    14.44    24.20
                                       28.84    21.68    18.54    17.79    17.86    19.06    20.66    18.86    17.48    16.12
                                       15.77    15.47    17.23    16.26    14.16    12.71    14.44    15.44    14.24    13.04
32  Miocene Yellow Sand L2             16.14    16.22    15.76    14.80    13.46    13.27    13.99    15.26    14.38    24.16
                                       28.80    21.63    18.49    17.73    17.80    19.01    20.61    18.81    17.42    16.06
                                       15.72    15.41    17.18    16.21    14.11    12.66    14.39    15.39    14.19    12.99
34  Miocene Yellow Sand L3             16.17    16.25    15.79    14.83    13.49    13.30    14.02    15.29    14.42    24.19
                                       28.83    21.67    18.53    17.78    17.84    19.05    20.65    18.85    17.46    16.10
                                       15.76    15.45    17.22    16.25    14.14    12.70    14.42    15.43    14.23    13.03


* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-------------------------------------------------------YEAR   45 (2027)-------------------------------------------------
                                                  PRESSURES AT INJECTION WELL COORD (PSI)
                          WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                0.00     0.00     0.00     0.00     0.00
```

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	68.55*	12.73*	15.32*	15.28*	14.44*
32	Miocene Yellow Sand L2	68.55*	12.73*	15.32*	15.28*	14.44*
34	Miocene Yellow Sand L3	68.55*	12.73*	15.32*	15.28*	14.44*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.33	-0.19	-0.19	4.27	1.61
32	Miocene Yellow Sand L2	285.44	0.20	0.20	2.54	1.12
34	Miocene Yellow Sand L3	383.24	-0.01	-0.01	3.19	1.27
CUMULATIVE INJECTION TO DATE (MMGAL)		1893.4	0.0	945.0	120.3	44.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	18.12	18.21	17.75	16.78	15.46	15.25	15.95	17.25	16.39	26.19
		30.83	23.68	20.56	19.80	19.87	21.08	22.66	20.86	19.47	18.10
		17.75	17.45	19.22	18.24	16.11	14.63	16.38	17.39	16.17	14.96
32	Miocene Yellow Sand L2	18.08	18.16	17.70	16.74	15.41	15.22	15.92	17.20	16.33	26.15

		30.79	23.63	20.51	19.75	19.82	21.03	22.61	20.81	19.42	18.05
		17.70	17.40	19.17	18.19	16.07	14.59	16.34	17.35	16.13	14.92
34	Miocene Yellow Sand L3	18.11	18.19	17.73	16.77	15.44	15.24	15.94	17.23	16.37	26.18
		30.82	23.67	20.55	19.78	19.85	21.06	22.65	20.85	19.46	18.08
		17.73	17.43	19.20	18.23	16.10	14.62	16.37	17.38	16.16	14.95

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 46 (2028)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	69.98*	14.10*	16.71*	16.67*	15.82*
32	Miocene Yellow Sand L2	69.98*	14.10*	16.71*	16.67*	15.82*
34	Miocene Yellow Sand L3	69.98*	14.10*	16.71*	16.67*	15.82*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.34	-0.18	-0.18	4.28	1.62
32	Miocene Yellow Sand L2	285.42	0.19	0.19	2.54	1.11
34	Miocene Yellow Sand L3	383.24	-0.01	-0.01	3.19	1.27
CUMULATIVE INJECTION TO DATE (MMGAL)		2524.6	0.0	945.0	125.6	46.7

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	19.52	19.61	19.14	18.17	16.86	16.65	17.34	18.65	17.79	27.62
		32.25	25.11	22.00	21.23	21.30	22.51	24.09	22.29	20.90	19.51
		19.16	18.87	20.64	19.66	17.51	16.02	17.78	18.79	17.57	16.35
32	Miocene Yellow Sand L2	19.48	19.56	19.10	18.13	16.82	16.62	17.30	18.60	17.74	27.58
		32.21	25.06	21.95	21.18	21.25	22.46	24.04	22.24	20.85	19.47
		19.12	18.82	20.60	19.61	17.47	15.98	17.74	18.75	17.52	16.31
34	Miocene Yellow Sand L3	19.51	19.59	19.13	18.16	16.84	16.64	17.33	18.63	17.77	27.61
		32.24	25.09	21.98	21.21	21.29	22.49	24.08	22.27	20.88	19.50
		19.15	18.85	20.63	19.64	17.50	16.01	17.77	18.78	17.55	16.34

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 47 (2029)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	71.09*	15.17*	17.81*	17.76*	16.91*
32	Miocene Yellow Sand L2	71.09*	15.17*	17.81*	17.76*	16.91*
34	Miocene Yellow Sand L3	71.09*	15.17*	17.81*	17.76*	16.91*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.35	-0.18	-0.17	4.28	1.62
32	Miocene Yellow Sand L2	285.42	0.19	0.18	2.53	1.11
34	Miocene Yellow Sand L3	383.24	-0.01	-0.01	3.19	1.27
CUMULATIVE INJECTION TO DATE (MMGAL)		3155.7	0.0	945.0	130.8	48.8

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	20.61	20.70	20.23	19.26	17.95	17.75	18.43	19.74	18.88	28.73
		33.35	26.22	23.11	22.34	22.42	23.62	25.20	23.40	22.00	20.62
		20.26	19.97	21.75	20.76	18.61	17.10	18.88	19.89	18.65	17.44
32	Miocene Yellow Sand L2	20.57	20.66	20.20	19.22	17.91	17.71	18.39	19.70	18.83	28.69
		33.32	26.18	23.07	22.29	22.37	23.58	25.16	23.35	21.96	20.57
		20.22	19.93	21.70	20.72	18.57	17.06	18.84	19.85	18.61	17.40
34	Miocene Yellow Sand L3	20.60	20.68	20.22	19.25	17.94	17.73	18.41	19.72	18.87	28.71
		33.34	26.20	23.10	22.32	22.40	23.61	25.19	23.38	21.99	20.60
		20.25	19.96	21.73	20.75	18.59	17.09	18.86	19.87	18.64	17.42

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 48 (2030)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	72.00*	16.06*	18.70*	18.66*	17.80*
32	Miocene Yellow Sand L2	72.00*	16.06*	18.70*	18.66*	17.80*
34	Miocene Yellow Sand L3	72.00*	16.06*	18.70*	18.66*	17.80*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.35	-0.17	-0.17	4.29	1.63
32	Miocene Yellow Sand L2	285.41	0.18	0.17	2.53	1.10
34	Miocene Yellow Sand L3	383.24	-0.01	-0.01	3.19	1.27
CUMULATIVE INJECTION TO DATE (MMGAL)		3786.9	0.0	945.0	136.1	50.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	21.51	21.59	21.13	20.15	18.85	18.64	19.32	20.63	19.78	29.63
		34.26	27.13	24.03	23.25	23.33	24.53	26.11	24.31	22.91	21.52
		21.17	20.88	22.65	21.66	19.51	18.00	19.77	20.79	19.55	18.33
32	Miocene Yellow Sand L2	21.47	21.56	21.09	20.11	18.81	18.61	19.28	20.59	19.73	29.60
		34.23	27.09	23.98	23.20	23.28	24.49	26.07	24.26	22.87	21.48
		21.12	20.83	22.61	21.62	19.47	17.96	19.73	20.75	19.51	18.29
34	Miocene Yellow Sand L3	21.50	21.58	21.12	20.14	18.84	18.63	19.31	20.62	19.77	29.62
		34.25	27.11	24.01	23.23	23.31	24.52	26.09	24.29	22.90	21.51
		21.15	20.86	22.64	21.65	19.49	17.98	19.76	20.77	19.54	18.32

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* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   49 (2031)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  72.77*   16.81*   19.46*   19.42*   18.56*
32  Miocene Yellow Sand L2                  72.77*   16.81*   19.46*   19.42*   18.56*
34  Miocene Yellow Sand L3                  72.77*   16.81*   19.46*   19.42*   18.56*
                                  * PERFORATED INJECTION ZONE

                                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                 531.36    -0.17    -0.16     4.29     1.63
32  Miocene Yellow Sand L2                 285.41     0.18     0.17     2.52     1.10
34  Miocene Yellow Sand L3                 383.24    -0.01    -0.01     3.19     1.27

CUMULATIVE INJECTION TO DATE (MMGAL)      4418.0      0.0    945.0    141.3     53.0


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
```

26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	22.27	22.35	21.89	20.91	19.61	19.40	20.07	21.39	20.54	30.40
		35.03	27.90	24.80	24.02	24.10	25.30	26.88	25.08	23.68	22.29
		21.93	21.64	23.42	22.43	20.27	18.75	20.53	21.55	20.31	19.09
32	Miocene Yellow Sand L2	22.23	22.32	21.85	20.87	19.58	19.37	20.04	21.35	20.50	30.37
		34.99	27.86	24.75	23.97	24.05	25.26	26.84	25.03	23.64	22.25
		21.89	21.60	23.38	22.39	20.23	18.72	20.50	21.51	20.27	19.05
34	Miocene Yellow Sand L3	22.26	22.34	21.88	20.90	19.60	19.39	20.06	21.38	20.53	30.39
		35.02	27.88	24.78	24.01	24.09	25.29	26.86	25.06	23.66	22.28
		21.92	21.63	23.41	22.42	20.26	18.74	20.52	21.53	20.30	19.07

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 50 (2032)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	73.44*	17.46*	20.12*	20.08*	19.22*
32	Miocene Yellow Sand L2	73.44*	17.46*	20.12*	20.08*	19.22*
34	Miocene Yellow Sand L3	73.44*	17.46*	20.12*	20.08*	19.22*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.36	-0.17	-0.16	4.29	1.63

32	Miocene Yellow Sand L2	285.40	0.17	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.24	-0.01	-0.01	3.19	1.27
CUMULATIVE INJECTION TO DATE (MMGAL)		5049.1	0.0	945.0	146.6	55.1

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	22.93	23.02	22.55	21.57	20.27	20.07	20.73	22.05	21.20	31.07
		35.69	28.56	25.47	24.69	24.77	25.97	27.54	25.74	24.34	22.95
		22.60	22.31	24.09	23.10	20.93	19.41	21.19	22.21	20.97	19.75
32	Miocene Yellow Sand L2	22.89	22.98	22.51	21.53	20.24	20.03	20.70	22.01	21.16	31.03
		35.66	28.52	25.42	24.64	24.72	25.93	27.50	25.70	24.30	22.91
		22.56	22.27	24.05	23.06	20.89	19.37	21.16	22.17	20.93	19.71
34	Miocene Yellow Sand L3	22.92	23.00	22.54	21.56	20.26	20.06	20.72	22.04	21.19	31.05
		35.68	28.55	25.45	24.67	24.75	25.96	27.53	25.73	24.33	22.94
		22.58	22.30	24.07	23.08	20.92	19.40	21.18	22.20	20.96	19.73

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 51 (2033)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	74.03*	18.04*	20.70*	20.66*	19.80*
32	Miocene Yellow Sand L2	74.03*	18.04*	20.70*	20.66*	19.80*
34	Miocene Yellow Sand L3	74.03*	18.04*	20.70*	20.66*	19.80*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.37	-0.16	-0.15	4.30	1.64
32	Miocene Yellow Sand L2	285.40	0.17	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.23	-0.01	-0.01	3.18	1.27
CUMULATIVE INJECTION TO DATE (MMGAL)		5680.3	0.0	945.0	151.9	57.2

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	23.51	23.60	23.13	22.15	20.86	20.65	21.31	22.64	21.79	31.65
		36.28	29.15	26.06	25.28	25.36	26.56	28.13	26.33	24.93	23.54
		23.18	22.90	24.67	23.68	21.51	19.99	21.78	22.79	21.55	20.33
32	Miocene Yellow Sand L2	23.48	23.56	23.10	22.12	20.82	20.62	21.28	22.60	21.74	31.62
		36.25	29.11	26.01	25.23	25.31	26.52	28.09	26.29	24.89	23.50
		23.14	22.86	24.64	23.64	21.48	19.96	21.74	22.75	21.51	20.29
34	Miocene Yellow Sand L3	23.50	23.59	23.12	22.14	20.85	20.64	21.30	22.62	21.77	31.64
		36.27	29.14	26.04	25.26	25.34	26.55	28.12	26.32	24.92	23.53
		23.17	22.88	24.66	23.67	21.50	19.98	21.77	22.78	21.54	20.31

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 52 (2034)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	74.56*	18.56*	21.23*	21.19*	20.32*
32	Miocene Yellow Sand L2	74.56*	18.56*	21.23*	21.19*	20.32*
34	Miocene Yellow Sand L3	74.55*	18.56*	21.22*	21.18*	20.32*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.38	-0.15	-0.15	4.30	1.64
32	Miocene Yellow Sand L2	285.40	0.17	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.23	-0.02	-0.02	3.18	1.26
CUMULATIVE INJECTION TO DATE (MMGAL)		6311.4	0.0	945.0	157.1	59.3

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	24.04	24.12	23.66	22.67	21.38	21.17	21.83	23.16	22.31	32.18
		36.80	29.68	26.58	25.80	25.88	27.09	28.66	26.86	25.46	24.07
		23.71	23.42	25.20	24.21	22.04	20.51	22.30	23.31	22.07	20.85
32	Miocene Yellow Sand L2	24.00	24.09	23.62	22.64	21.35	21.14	21.80	23.12	22.27	32.15
		36.77	29.64	26.54	25.76	25.84	27.05	28.62	26.82	25.42	24.03
		23.67	23.38	25.16	24.17	22.00	20.48	22.26	23.28	22.03	20.81
34	Miocene Yellow Sand L3	24.02	24.11	23.64	22.66	21.37	21.16	21.82	23.14	22.29	32.17
		36.79	29.66	26.57	25.79	25.87	27.07	28.64	26.84	25.44	24.05
		23.69	23.41	25.18	24.19	22.02	20.50	22.29	23.30	22.06	20.83

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 53 (2035)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	75.03*	19.03*	21.70*	21.66*	20.79*
32	Miocene Yellow Sand L2	75.03*	19.03*	21.70*	21.66*	20.79*
34	Miocene Yellow Sand L3	75.03*	19.02*	21.69*	21.65*	20.79*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.38	-0.15	-0.14	4.31	1.65
32	Miocene Yellow Sand L2	285.40	0.17	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.22	-0.03	-0.02	3.17	1.26
CUMULATIVE INJECTION TO DATE (MMGAL)		6942.5	0.0	945.0	162.4	61.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	24.51	24.59	24.13	23.15	21.86	21.65	22.31	23.63	22.78	32.66
		37.28	30.15	27.06	26.28	26.36	27.57	29.13	27.33	25.93	24.54
		24.18	23.90	25.67	24.68	22.51	20.99	22.77	23.79	22.54	21.32
32	Miocene Yellow Sand L2	24.48	24.56	24.09	23.11	21.82	21.62	22.27	23.59	22.74	32.62
		37.25	30.12	27.02	26.24	26.32	27.53	29.10	27.29	25.89	24.50
		24.14	23.86	25.64	24.64	22.48	20.95	22.74	23.75	22.51	21.28
34	Miocene Yellow Sand L3	24.49	24.58	24.11	23.13	21.84	21.63	22.29	23.62	22.77	32.64
		37.26	30.14	27.04	26.26	26.34	27.55	29.12	27.32	25.92	24.52
		24.17	23.88	25.66	24.67	22.49	20.97	22.76	23.77	22.53	21.30

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 54 (2036)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	75.47*	19.46*	22.13*	22.09*	21.23*
32	Miocene Yellow Sand L2	75.47*	19.46*	22.13*	22.09*	21.23*

34	Miocene Yellow Sand L3	75.46*	19.45*	22.12*	22.09*	21.22*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.38	-0.14	-0.14	4.31	1.65
32	Miocene Yellow Sand L2	285.40	0.17	0.16	2.52	1.09
34	Miocene Yellow Sand L3	383.22	-0.03	-0.03	3.17	1.25
CUMULATIVE INJECTION TO DATE (MMGAL)		7573.7	0.0	945.0	167.6	63.5

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	24.94	25.03	24.56	23.58	22.29	22.08	22.74	24.06	23.22	33.09
		37.71	30.59	27.50	26.72	26.80	28.00	29.57	27.77	26.37	24.98
		24.62	24.33	26.11	25.12	22.94	21.42	23.21	24.22	22.98	21.75
32	Miocene Yellow Sand L2	24.91	24.99	24.53	23.54	22.25	22.05	22.71	24.03	23.17	33.06
		37.69	30.55	27.46	26.67	26.76	27.96	29.53	27.73	26.33	24.94
		24.58	24.29	26.07	25.08	22.91	21.38	23.17	24.19	22.94	21.72
34	Miocene Yellow Sand L3	24.93	25.01	24.55	23.56	22.27	22.06	22.72	24.05	23.20	33.07
		37.70	30.57	27.48	26.70	26.78	27.98	29.55	27.75	26.35	24.96
		24.60	24.31	26.09	25.10	22.93	21.40	23.19	24.20	22.96	21.73

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 55 (2037)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	75.87*	19.86*	22.53*	22.49*	21.62*
32	Miocene Yellow Sand L2	75.87*	19.86*	22.53*	22.49*	21.62*
34	Miocene Yellow Sand L3	75.86*	19.85*	22.52*	22.48*	21.61*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.39	-0.14	-0.14	4.31	1.65
32	Miocene Yellow Sand L2	285.40	0.17	0.16	2.52	1.09
34	Miocene Yellow Sand L3	383.22	-0.03	-0.03	3.17	1.25
CUMULATIVE INJECTION TO DATE (MMGAL)		8204.8	0.0	945.0	172.9	65.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	25.34	25.43	24.96	23.98	22.69	22.48	23.14	24.46	23.62	33.49
		38.11	30.99	27.90	27.12	27.20	28.40	29.97	28.17	26.77	25.38
		25.02	24.73	26.51	25.52	23.34	21.82	23.61	24.62	23.37	22.15
32	Miocene Yellow Sand L2	25.31	25.39	24.93	23.94	22.65	22.45	23.10	24.43	23.57	33.46

		38.09	30.95	27.86	27.07	27.16	28.37	29.94	28.13	26.73	25.34
		24.98	24.69	26.47	25.48	23.31	21.78	23.57	24.59	23.34	22.11
34	Miocene Yellow Sand L3	25.32	25.41	24.94	23.96	22.67	22.46	23.12	24.44	23.60	33.47
		38.10	30.97	27.88	27.10	27.18	28.38	29.95	28.15	26.75	25.36
		25.00	24.71	26.49	25.50	23.32	21.80	23.59	24.60	23.36	22.13

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 56 (2038)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	76.24*	20.23*	22.90*	22.86*	21.99*
32	Miocene Yellow Sand L2	76.24*	20.23*	22.90*	22.86*	21.99*
34	Miocene Yellow Sand L3	76.23*	20.22*	22.89*	22.85*	21.98*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.39	-0.14	-0.13	4.31	1.65
32	Miocene Yellow Sand L2	285.39	0.17	0.16	2.51	1.09
34	Miocene Yellow Sand L3	383.22	-0.03	-0.03	3.17	1.25
CUMULATIVE INJECTION TO DATE (MMGAL)		8836.0	0.0	945.0	178.2	67.7

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	25.71	25.80	25.33	24.35	23.06	22.85	23.50	24.83	23.99	33.86
		38.49	31.36	28.27	27.49	27.57	28.78	30.34	28.54	27.14	25.75
		25.39	25.10	26.88	25.89	23.71	22.19	23.98	24.99	23.74	22.52
32	Miocene Yellow Sand L2	25.68	25.76	25.30	24.31	23.02	22.82	23.47	24.80	23.94	33.83
		38.46	31.33	28.23	27.45	27.53	28.74	30.31	28.50	27.10	25.71
		25.35	25.07	26.85	25.85	23.68	22.15	23.94	24.96	23.71	22.48
34	Miocene Yellow Sand L3	25.69	25.78	25.31	24.33	23.04	22.83	23.49	24.81	23.97	33.85
		38.47	31.34	28.25	27.47	27.55	28.76	30.32	28.52	27.12	25.73
		25.37	25.08	26.86	25.87	23.69	22.17	23.96	24.97	23.73	22.50

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 57 (2039)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID FORMATION LEVEL	(M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	76.59*	20.57*	23.25*	23.21*	22.34*
32	Miocene Yellow Sand L2	76.59*	20.57*	23.25*	23.21*	22.34*
34	Miocene Yellow Sand L3	76.57*	20.55*	23.23*	23.19*	22.32*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.40	-0.13	-0.12	4.32	1.66
32	Miocene Yellow Sand L2	285.40	0.17	0.16	2.52	1.09
34	Miocene Yellow Sand L3	383.21	-0.04	-0.04	3.16	1.24
CUMULATIVE INJECTION TO DATE (MMGAL)		9467.1	0.0	945.0	183.4	69.8

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	26.05	26.14	25.67	24.69	23.40	23.19	23.85	25.18	24.33	34.21
		38.83	31.71	28.62	27.83	27.92	29.12	30.69	28.89	27.48	26.09
		25.73	25.45	27.23	26.23	24.06	22.53	24.32	25.33	24.09	22.86
32	Miocene Yellow Sand L2	26.02	26.11	25.64	24.65	23.37	23.16	23.82	25.14	24.29	34.18
		38.80	31.67	28.58	27.79	27.88	29.08	30.65	28.85	27.45	26.05
		25.69	25.41	27.19	26.20	24.02	22.49	24.29	25.30	24.05	22.83
34	Miocene Yellow Sand L3	26.03	26.12	25.65	24.67	23.38	23.17	23.83	25.15	24.31	34.19
		38.81	31.68	28.59	27.81	27.89	29.10	30.67	28.86	27.46	26.07
		25.71	25.43	27.21	26.21	24.04	22.51	24.30	25.31	24.07	22.84

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 58 (2040)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	76.91*	20.89*	23.57*	23.53*	22.66*
32	Miocene Yellow Sand L2	76.91*	20.89*	23.57*	23.53*	22.66*
34	Miocene Yellow Sand L3	76.89*	20.87*	23.55*	23.51*	22.64*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.41	-0.12	-0.11	4.33	1.67
32	Miocene Yellow Sand L2	285.40	0.18	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.19	-0.06	-0.05	3.15	1.23
CUMULATIVE INJECTION TO DATE (MMGAL)		10098.2	0.0	945.0	188.7	71.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	26.38	26.46	26.00	25.01	23.72	23.51	24.17	25.50	24.65	34.53
		39.15	32.03	28.94	28.16	28.24	29.44	31.01	29.21	27.81	26.41
		26.05	25.77	27.55	26.55	24.38	22.85	24.64	25.66	24.41	23.18
32	Miocene Yellow Sand L2	26.34	26.43	25.96	24.98	23.69	23.49	24.14	25.46	24.61	34.50
		39.13	31.99	28.90	28.12	28.20	29.41	30.98	29.17	27.77	26.38
		26.02	25.73	27.51	26.52	24.35	22.81	24.61	25.62	24.37	23.15
34	Miocene Yellow Sand L3	26.35	26.44	25.97	24.99	23.70	23.49	24.14	25.47	24.63	34.51
		39.13	32.00	28.91	28.13	28.22	29.42	30.99	29.18	27.78	26.39
		26.03	25.75	27.52	26.53	24.35	22.82	24.62	25.63	24.38	23.16

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* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   59 (2041)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  77.22*   21.19*   23.87*   23.83*   22.96*
32  Miocene Yellow Sand L2                  77.22*   21.19*   23.87*   23.83*   22.96*
34  Miocene Yellow Sand L3                  77.19*   21.17*   23.84*   23.81*   22.94*
                                  * PERFORATED INJECTION ZONE

                                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                 531.41    -0.11    -0.11     4.34     1.68
32  Miocene Yellow Sand L2                 285.40     0.18     0.17     2.52     1.10
34  Miocene Yellow Sand L3                 383.18    -0.07    -0.06     3.14     1.22

CUMULATIVE INJECTION TO DATE (MMGAL)     10729.4      0.0    945.0    193.9     74.0


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
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26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	26.68	26.76	26.30	25.31	24.03	23.82	24.47	25.80	24.95	34.83
		39.46	32.33	29.24	28.46	28.54	29.75	31.31	29.51	28.11	26.72
		26.36	26.07	27.85	26.86	24.68	23.15	24.94	25.96	24.71	23.48
32	Miocene Yellow Sand L2	26.65	26.73	26.26	25.28	23.99	23.79	24.44	25.77	24.91	34.80
		39.43	32.30	29.21	28.42	28.50	29.71	31.28	29.48	28.07	26.68
		26.32	26.04	27.82	26.82	24.65	23.12	24.91	25.92	24.68	23.45
34	Miocene Yellow Sand L3	26.65	26.74	26.27	25.29	24.00	23.79	24.44	25.77	24.93	34.81
		39.43	32.31	29.22	28.43	28.52	29.72	31.29	29.48	28.08	26.69
		26.33	26.05	27.83	26.83	24.65	23.12	24.92	25.93	24.68	23.46

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 60 (2042)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	77.50*	21.48*	24.16*	24.12*	23.25*
32	Miocene Yellow Sand L2	77.50*	21.48*	24.16*	24.12*	23.25*
34	Miocene Yellow Sand L3	77.47*	21.45*	24.13*	24.09*	23.22*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.42	-0.10	-0.10	4.35	1.68

32	Miocene Yellow Sand L2	285.40	0.18	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.18	-0.08	-0.07	3.13	1.21
CUMULATIVE INJECTION TO DATE (MMGAL)		11360.5	0.0	945.0	199.2	76.1

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	26.96	27.05	26.58	25.60	24.31	24.10	24.76	26.09	25.24	35.12
		39.74	32.62	29.53	28.75	28.83	30.04	31.60	29.80	28.40	27.00
		26.64	26.36	28.14	27.14	24.97	23.44	25.23	26.24	25.00	23.77
32	Miocene Yellow Sand L2	26.93	27.02	26.55	25.56	24.28	24.07	24.73	26.05	25.20	35.09
		39.72	32.59	29.49	28.71	28.79	30.00	31.57	29.76	28.36	26.97
		26.61	26.32	28.11	27.11	24.93	23.40	25.20	26.21	24.96	23.73
34	Miocene Yellow Sand L3	26.93	27.02	26.55	25.57	24.28	24.07	24.72	26.05	25.21	35.09
		39.71	32.59	29.50	28.72	28.80	30.00	31.57	29.77	28.37	26.97
		26.61	26.33	28.11	27.11	24.94	23.41	25.20	26.21	24.96	23.74

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 61 (2043)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	77.78*	21.75*	24.43*	24.39*	23.52*
32	Miocene Yellow Sand L2	77.78*	21.75*	24.43*	24.39*	23.52*
34	Miocene Yellow Sand L3	77.74*	21.71*	24.39*	24.36*	23.48*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.42	-0.10	-0.09	4.35	1.69
32	Miocene Yellow Sand L2	285.40	0.18	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.17	-0.08	-0.08	3.13	1.21
CUMULATIVE INJECTION TO DATE (MMGAL)		11991.7	0.0	945.0	204.5	78.2

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	27.23	27.32	26.85	25.87	24.58	24.37	25.03	26.36	25.51	35.39
		40.02	32.89	29.80	29.02	29.10	30.31	31.87	30.07	28.67	27.28
		26.92	26.63	28.41	27.42	25.24	23.71	25.50	26.51	25.27	24.04
32	Miocene Yellow Sand L2	27.20	27.29	26.82	25.83	24.55	24.35	25.00	26.32	25.47	35.36
		39.99	32.86	29.76	28.98	29.06	30.27	31.84	30.04	28.63	27.24
		26.88	26.60	28.38	27.38	25.21	23.67	25.47	26.48	25.23	24.01
34	Miocene Yellow Sand L3	27.20	27.29	26.82	25.83	24.55	24.34	24.99	26.32	25.48	35.36
		39.98	32.86	29.77	28.99	29.07	30.27	31.84	30.04	28.64	27.24
		26.88	26.60	28.38	27.38	25.20	23.67	25.47	26.48	25.23	24.01

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 62 (2044)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID / FORMATION LEVEL	(M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	78.03*	22.00*	24.68*	24.65*	23.77*
32	Miocene Yellow Sand L2	78.03*	22.00*	24.68*	24.65*	23.77*
34	Miocene Yellow Sand L3	78.00*	21.96*	24.65*	24.61*	23.74*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID / INJECTION LEVEL	(M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.43	-0.09	-0.09	4.35	1.69
32	Miocene Yellow Sand L2	285.40	0.18	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.17	-0.09	-0.08	3.12	1.20
CUMULATIVE INJECTION TO DATE (MMGAL)		12622.8	0.0	945.0	209.7	80.3

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID / FORMATION LEVEL	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	27.49	27.58	27.11	26.12	24.84	24.63	25.28	26.61	25.77	35.65
		40.27	33.15	30.06	29.28	29.36	30.56	32.13	30.33	28.93	27.53
		27.17	26.89	28.67	27.67	25.49	23.96	25.76	26.77	25.52	24.29
32	Miocene Yellow Sand L2	27.46	27.54	27.08	26.09	24.81	24.60	25.25	26.58	25.72	35.62
		40.25	33.11	30.02	29.24	29.32	30.53	32.10	30.29	28.89	27.50
		27.14	26.85	28.63	27.64	25.46	23.93	25.72	26.74	25.49	24.26
34	Miocene Yellow Sand L3	27.46	27.54	27.07	26.09	24.80	24.59	25.25	26.58	25.73	35.61
		40.24	33.11	30.02	29.24	29.32	30.53	32.09	30.29	28.89	27.50
		27.14	26.85	28.63	27.64	25.46	23.93	25.72	26.74	25.49	24.26

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 63 (2045)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	78.28*	22.24*	24.93*	24.89*	24.02*
32	Miocene Yellow Sand L2	78.28*	22.24*	24.93*	24.89*	24.02*
34	Miocene Yellow Sand L3	78.24*	22.20*	24.89*	24.85*	23.98*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.44	-0.09	-0.08	4.36	1.70
32	Miocene Yellow Sand L2	285.41	0.19	0.18	2.53	1.11
34	Miocene Yellow Sand L3	383.16	-0.10	-0.09	3.11	1.20
CUMULATIVE INJECTION TO DATE (MMGAL)		13253.9	0.0	945.0	215.0	82.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	27.73	27.82	27.35	26.37	25.08	24.87	25.52	26.86	26.01	35.89
		40.52	33.39	30.31	29.52	29.60	30.81	32.37	30.57	29.17	27.78
		27.42	27.13	28.91	27.92	25.74	24.21	26.00	27.01	25.77	24.54
32	Miocene Yellow Sand L2	27.70	27.79	27.32	26.34	25.05	24.85	25.50	26.82	25.97	35.87
		40.49	33.36	30.27	29.48	29.57	30.77	32.34	30.54	29.14	27.74
		27.38	27.10	28.88	27.88	25.71	24.17	25.97	26.98	25.73	24.50
34	Miocene Yellow Sand L3	27.70	27.78	27.31	26.33	25.05	24.83	25.49	26.82	25.97	35.85
		40.48	33.35	30.27	29.48	29.57	30.77	32.34	30.53	29.13	27.74
		27.38	27.09	28.87	27.88	25.70	24.17	25.96	26.98	25.73	24.50

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 64 (2046)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	78.51*	22.48*	25.16*	25.12*	24.25*
32	Miocene Yellow Sand L2	78.51*	22.48*	25.16*	25.12*	24.25*

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34  Miocene Yellow Sand L3                78.47*   22.43*   25.11*   25.08*   24.20*
                          * PERFORATED INJECTION ZONE

                                                                  INJECTION RATES (GPM)
                          WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1              0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2              0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3              0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1            531.44    -0.08    -0.07     4.37     1.71
32  Miocene Yellow Sand L2            285.41     0.19     0.18     2.53     1.11
34  Miocene Yellow Sand L3            383.15    -0.11    -0.10     3.11     1.19

CUMULATIVE INJECTION TO DATE (MMGAL)  13885.1      0.0    945.0    220.2     84.5


                                                  PRESSURES AT MONITOR COORD (PSI)
                          MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                      ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                      ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1             27.97    28.05    27.59    26.60    25.32    25.11    25.76    27.09    26.24    36.13
                                       40.75    33.63    30.54    29.75    29.84    31.04    32.61    30.81    29.40    28.01
                                       27.65    27.37    29.15    28.15    25.97    24.44    26.23    27.25    26.00    24.77
32  Miocene Yellow Sand L2             27.94    28.02    27.56    26.57    25.29    25.08    25.73    27.06    26.20    36.10
                                       40.72    33.59    30.50    29.72    29.80    31.01    32.58    30.77    29.37    27.97
                                       27.61    27.33    29.11    28.12    25.94    24.41    26.20    27.22    25.97    24.74
34  Miocene Yellow Sand L3             27.92    28.01    27.54    26.56    25.27    25.06    25.71    27.05    26.20    36.08
                                       40.71    33.58    30.50    29.71    29.80    31.00    32.57    30.76    29.36    27.97
                                       27.61    27.32    29.10    28.11    25.93    24.40    26.19    27.21    25.96    24.73


* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-------------------------------------------------------YEAR   65 (2047)-------------------------------------------------
                                                  PRESSURES AT INJECTION WELL COORD (PSI)
                          WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                0.00     0.00     0.00     0.00     0.00
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4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	78.74*	22.70*	25.39*	25.35*	24.48*
32	Miocene Yellow Sand L2	78.74*	22.70*	25.39*	25.35*	24.48*
34	Miocene Yellow Sand L3	78.68*	22.65*	25.33*	25.29*	24.42*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.45	-0.07	-0.06	4.37	1.72
32	Miocene Yellow Sand L2	285.41	0.19	0.18	2.53	1.11
34	Miocene Yellow Sand L3	383.13	-0.13	-0.12	3.09	1.17
CUMULATIVE INJECTION TO DATE (MMGAL)		14516.2	0.0	945.0	225.5	86.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	28.19	28.28	27.81	26.82	25.54	25.33	25.98	27.31	26.47	36.35
		40.97	33.85	30.76	29.98	30.06	31.27	32.83	31.03	29.63	28.23
		27.87	27.59	29.37	28.37	26.19	24.66	26.46	27.47	26.22	24.99
32	Miocene Yellow Sand L2	28.16	28.24	27.78	26.79	25.51	25.30	25.95	27.28	26.43	36.32

		40.95	33.82	30.73	29.94	30.02	31.23	32.80	31.00	29.59	28.20
		27.84	27.55	29.34	28.34	26.16	24.63	26.42	27.44	26.19	24.96
34	Miocene Yellow Sand L3	28.14	28.23	27.76	26.78	25.49	25.28	25.93	27.26	26.42	36.30
		40.92	33.80	30.72	29.93	30.02	31.22	32.78	30.98	29.58	28.19
		27.83	27.54	29.32	28.33	26.15	24.61	26.41	27.42	26.17	24.95

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 66 (2048)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	78.95*	22.92*	25.60*	25.56*	24.69*
32	Miocene Yellow Sand L2	78.95*	22.92*	25.60*	25.56*	24.69*
34	Miocene Yellow Sand L3	78.90*	22.86*	25.54*	25.50*	24.63*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.46	-0.06	-0.06	4.38	1.72
32	Miocene Yellow Sand L2	285.41	0.19	0.18	2.53	1.11
34	Miocene Yellow Sand L3	383.13	-0.13	-0.12	3.09	1.17
CUMULATIVE INJECTION TO DATE (MMGAL)		15147.3	0.0	945.0	230.8	88.7

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	28.41	28.49	28.02	27.04	25.76	25.55	26.19	27.53	26.68	36.57
		41.19	34.07	30.98	30.19	30.28	31.48	33.05	31.24	29.84	28.45
		28.09	27.80	29.58	28.59	26.41	24.88	26.67	27.69	26.44	25.21
32	Miocene Yellow Sand L2	28.37	28.46	27.99	27.01	25.72	25.52	26.17	27.49	26.64	36.54
		41.16	34.03	30.94	30.16	30.24	31.45	33.02	31.21	29.81	28.41
		28.05	27.77	29.55	28.56	26.38	24.84	26.64	27.65	26.40	25.18
34	Miocene Yellow Sand L3	28.36	28.44	27.97	26.99	25.71	25.49	26.14	27.48	26.63	36.52
		41.14	34.02	30.93	30.14	30.23	31.43	33.00	31.19	29.79	28.40
		28.04	27.76	29.53	28.54	26.36	24.83	26.62	27.64	26.39	25.16

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 67 (2049)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID FORMATION LEVEL	(M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	79.16*	23.12*	25.81*	25.77*	24.89*
32	Miocene Yellow Sand L2	79.16*	23.12*	25.81*	25.77*	24.89*
34	Miocene Yellow Sand L3	79.10*	23.06*	25.75*	25.71*	24.84*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.45	-0.07	-0.06	4.37	1.72
32	Miocene Yellow Sand L2	285.41	0.19	0.18	2.53	1.11
34	Miocene Yellow Sand L3	383.14	-0.12	-0.12	3.09	1.17
CUMULATIVE INJECTION TO DATE (MMGAL)		15778.5	0.0	945.0	236.0	90.8

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	28.61	28.70	28.23	27.24	25.96	25.75	26.40	27.73	26.89	36.77
		41.40	34.27	31.18	30.40	30.48	31.69	33.25	31.45	30.05	28.65
		28.29	28.01	29.79	28.79	26.61	25.08	26.88	27.89	26.64	25.41
32	Miocene Yellow Sand L2	28.58	28.66	28.20	27.21	25.93	25.72	26.37	27.70	26.85	36.74
		41.37	34.24	31.15	30.36	30.45	31.65	33.22	31.42	30.01	28.62
		28.26	27.98	29.76	28.76	26.58	25.05	26.84	27.86	26.61	25.38
34	Miocene Yellow Sand L3	28.56	28.64	28.18	27.19	25.91	25.70	26.35	27.68	26.84	36.72
		41.34	34.22	31.13	30.35	30.43	31.64	33.20	31.40	30.00	28.60
		28.24	27.96	29.74	28.74	26.56	25.03	26.82	27.84	26.59	25.36

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 68 (2050)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	79.36*	23.32*	26.00*	25.96*	25.09*
32	Miocene Yellow Sand L2	79.36*	23.32*	26.00*	25.97*	25.09*
34	Miocene Yellow Sand L3	79.30*	23.26*	25.94*	25.91*	25.03*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.45	-0.07	-0.06	4.37	1.71
32	Miocene Yellow Sand L2	285.41	0.19	0.18	2.53	1.11
34	Miocene Yellow Sand L3	383.14	-0.12	-0.11	3.10	1.18
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.0	241.3	93.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	28.81	28.89	28.43	27.44	26.16	25.95	26.60	27.93	27.08	36.97
		41.59	34.47	31.38	30.60	30.68	31.89	33.45	31.65	30.25	28.85
		28.49	28.21	29.99	28.99	26.81	25.28	27.07	28.09	26.84	25.61
32	Miocene Yellow Sand L2	28.78	28.86	28.40	27.41	26.13	25.92	26.57	27.90	27.04	36.94
		41.57	34.44	31.35	30.56	30.64	31.85	33.42	31.61	30.21	28.82
		28.46	28.17	29.95	28.96	26.78	25.25	27.04	28.06	26.81	25.58
34	Miocene Yellow Sand L3	28.76	28.84	28.37	27.39	26.11	25.89	26.54	27.88	27.03	36.92
		41.54	34.42	31.33	30.55	30.63	31.83	33.40	31.60	30.20	28.80
		28.44	28.16	29.94	28.94	26.76	25.23	27.02	28.04	26.79	25.56

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* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   69 (2051)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  79.55*   23.50*   26.19*   26.15*   25.28*
32  Miocene Yellow Sand L2                  79.55*   23.50*   26.19*   26.15*   25.28*
34  Miocene Yellow Sand L3                  79.49*   23.45*   26.13*   26.10*   25.22*
                                  * PERFORATED INJECTION ZONE

                                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                 531.45    -0.07    -0.07     4.37     1.71
32  Miocene Yellow Sand L2                 285.41     0.19     0.18     2.53     1.11
34  Miocene Yellow Sand L3                 383.14    -0.12    -0.11     3.10     1.18

CUMULATIVE INJECTION TO DATE (MMGAL)     17040.8      0.0    945.0    246.5     95.1


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
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26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	29.00	29.08	28.62	27.63	26.35	26.14	26.79	28.12	27.27	37.16
		41.78	34.66	31.57	30.79	30.87	32.08	33.64	31.84	30.44	29.04
		28.68	28.40	30.18	29.18	27.00	25.47	27.26	28.28	27.03	25.80
32	Miocene Yellow Sand L2	28.97	29.05	28.59	27.60	26.32	26.11	26.76	28.09	27.23	37.13
		41.76	34.63	31.54	30.75	30.83	32.04	33.61	31.80	30.40	29.01
		28.65	28.36	30.15	29.15	26.97	25.43	27.23	28.25	27.00	25.77
34	Miocene Yellow Sand L3	28.94	29.03	28.56	27.58	26.30	26.08	26.73	28.07	27.22	37.11
		41.73	34.61	31.52	30.74	30.82	32.02	33.59	31.79	30.38	28.99
		28.63	28.35	30.13	29.13	26.95	25.41	27.21	28.23	26.98	25.75

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 70 (2052)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	79.73*	23.69*	26.37*	26.34*	25.46*
32	Miocene Yellow Sand L2	79.73*	23.69*	26.37*	26.34*	25.46*
34	Miocene Yellow Sand L3	79.67*	23.63*	26.32*	26.28*	25.40*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.45	-0.07	-0.07	4.37	1.71

32	Miocene Yellow Sand L2	285.41	0.19	0.18	2.53	1.11
34	Miocene Yellow Sand L3	383.14	-0.11	-0.11	3.10	1.18
CUMULATIVE INJECTION TO DATE (MMGAL)		17671.9	0.0	945.0	251.8	97.2

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	29.18	29.26	28.80	27.81	26.53	26.32	26.97	28.30	27.45	37.34
		41.97	34.84	31.76	30.97	31.06	32.26	33.82	32.02	30.62	29.22
		28.86	28.58	30.36	29.36	27.18	25.65	27.44	28.46	27.21	25.98
32	Miocene Yellow Sand L2	29.15	29.23	28.77	27.78	26.50	26.29	26.94	28.27	27.42	37.32
		41.94	34.81	31.72	30.93	31.02	32.23	33.79	31.99	30.59	29.19
		28.83	28.55	30.33	29.33	27.15	25.62	27.41	28.43	27.18	25.95
34	Miocene Yellow Sand L3	29.13	29.21	28.75	27.76	26.48	26.27	26.92	28.25	27.40	37.29
		41.91	34.79	31.70	30.92	31.00	32.21	33.77	31.97	30.57	29.17
		28.81	28.53	30.31	29.31	27.13	25.60	27.39	28.41	27.16	25.93

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 71 (2053)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	79.91*	23.86*	26.55*	26.51*	25.64*
32	Miocene Yellow Sand L2	79.91*	23.86*	26.55*	26.51*	25.64*
34	Miocene Yellow Sand L3	79.85*	23.80*	26.49*	26.46*	25.58*

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.45	-0.07	-0.07	4.37	1.71
32	Miocene Yellow Sand L2	285.40	0.18	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.15	-0.11	-0.10	3.10	1.19
CUMULATIVE INJECTION TO DATE (MMGAL)		18303.0	0.0	945.1	257.0	99.3

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	29.36	29.44	28.98	27.99	26.71	26.50	27.14	28.48	27.63	37.52
		42.14	35.02	31.93	31.15	31.23	32.44	34.00	32.20	30.80	29.40
		29.04	28.76	30.54	29.54	27.36	25.83	27.62	28.64	27.39	26.16
32	Miocene Yellow Sand L2	29.33	29.41	28.94	27.96	26.68	26.47	27.12	28.44	27.59	37.49
		42.12	34.99	31.90	31.11	31.20	32.40	33.97	32.17	30.76	29.37
		29.01	28.72	30.51	29.51	27.33	25.79	27.59	28.61	27.35	26.13
34	Miocene Yellow Sand L3	29.30	29.39	28.92	27.94	26.66	26.44	27.09	28.42	27.58	37.47
		42.09	34.97	31.88	31.10	31.18	32.38	33.95	32.15	30.74	29.35
		28.99	28.71	30.49	29.49	27.31	25.77	27.57	28.58	27.33	26.11

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 72 (2054)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	80.08*	24.03*	26.72*	26.68*	25.81*
32	Miocene Yellow Sand L2	80.08*	24.03*	26.72*	26.68*	25.81*
34	Miocene Yellow Sand L3	80.02*	23.97*	26.66*	26.63*	25.75*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.45	-0.07	-0.07	4.37	1.71
32	Miocene Yellow Sand L2	285.40	0.18	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.15	-0.11	-0.10	3.11	1.19
CUMULATIVE INJECTION TO DATE (MMGAL)		18934.2	0.0	945.1	262.3	101.4

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	29.53	29.61	29.15	28.16	26.88	26.67	27.31	28.65	27.80	37.69
		42.31	35.19	32.10	31.32	31.40	32.61	34.17	32.37	30.97	29.57
		29.21	28.93	30.71	29.71	27.53	26.00	27.79	28.81	27.56	26.33
32	Miocene Yellow Sand L2	29.50	29.58	29.11	28.13	26.85	26.64	27.29	28.62	27.76	37.66
		42.29	35.16	32.07	31.28	31.37	32.57	34.14	32.34	30.93	29.54
		29.18	28.89	30.68	29.68	27.50	25.96	27.76	28.78	27.52	26.30
34	Miocene Yellow Sand L3	29.47	29.56	29.09	28.11	26.83	26.61	27.26	28.60	27.75	37.64
		42.26	35.14	32.05	31.27	31.35	32.56	34.12	32.32	30.92	29.52
		29.16	28.88	30.66	29.66	27.48	25.94	27.74	28.76	27.50	26.28

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 73 (2055)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	80.24*	24.20*	26.88*	26.85*	25.97*
32	Miocene Yellow Sand L2	80.24*	24.20*	26.88*	26.85*	25.97*
34	Miocene Yellow Sand L3	80.19*	24.14*	26.83*	26.79*	25.92*

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	531.45	-0.08	-0.07	4.37	1.71
32	Miocene Yellow Sand L2	285.40	0.18	0.17	2.52	1.10
34	Miocene Yellow Sand L3	383.15	-0.10	-0.10	3.11	1.19
CUMULATIVE INJECTION TO DATE (MMGAL)		19565.3	0.0	945.1	267.6	103.5

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	29.69	29.77	29.31	28.32	27.04	26.83	27.48	28.81	27.97	37.86
		42.48	35.35	32.27	31.48	31.57	32.77	34.34	32.53	31.13	29.74
		29.37	29.09	30.87	29.88	27.69	26.16	27.96	28.97	27.72	26.49
32	Miocene Yellow Sand L2	29.66	29.74	29.28	28.29	27.01	26.80	27.45	28.78	27.93	37.83
		42.45	35.32	32.23	31.45	31.53	32.74	34.30	32.50	31.10	29.70
		29.34	29.06	30.84	29.84	27.66	26.13	27.93	28.94	27.69	26.46
34	Miocene Yellow Sand L3	29.64	29.72	29.26	28.27	26.99	26.78	27.43	28.76	27.92	37.80
		42.42	35.30	32.22	31.43	31.52	32.72	34.28	32.48	31.08	29.68
		29.32	29.04	30.82	29.82	27.64	26.11	27.90	28.92	27.67	26.44

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 74 (2056)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	80.40*	24.35*	27.04*	27.01*	26.13*
32	Miocene Yellow Sand L2	80.40*	24.35*	27.04*	27.01*	26.13*

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34  Miocene Yellow Sand L3                80.35*   24.30*   26.99*   26.95*   26.08*
                          * PERFORATED INJECTION ZONE

                                                                  INJECTION RATES (GPM)
                          WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1              0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2              0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3              0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1            531.44    -0.08    -0.07     4.37     1.71
32  Miocene Yellow Sand L2            285.40     0.18     0.17     2.52     1.10
34  Miocene Yellow Sand L3            383.16    -0.10    -0.09     3.11     1.19

CUMULATIVE INJECTION TO DATE (MMGAL)    20196.5      0.0    945.1    272.8    105.6


                                                  PRESSURES AT MONITOR COORD (PSI)
                          MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                      ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                      ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3              0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                        0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1             29.85    29.93    29.47    28.48    27.20    26.99    27.64    28.97    28.12    38.01
                                       42.64    35.51    32.43    31.64    31.73    32.93    34.50    32.69    31.29    29.90
                                       29.53    29.25    31.03    30.04    27.85    26.32    28.11    29.13    27.88    26.65
32  Miocene Yellow Sand L2             29.82    29.90    29.44    28.45    27.17    26.96    27.61    28.94    28.09    37.99
                                       42.61    35.48    32.39    31.61    31.69    32.90    34.46    32.66    31.26    29.86
                                       29.50    29.22    31.00    30.00    27.82    26.29    28.08    29.10    27.85    26.62
34  Miocene Yellow Sand L3             29.80    29.88    29.42    28.43    27.15    26.94    27.59    28.92    28.07    37.96
                                       42.58    35.46    32.38    31.59    31.68    32.88    34.44    32.64    31.24    29.84
                                       29.48    29.20    30.98    29.98    27.80    26.27    28.06    29.08    27.83    26.60


* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

------------------------------------------------------------YEAR   75 (PC 1)-----------------------------------------------
                                                  PRESSURES AT INJECTION WELL COORD (PSI)
                          WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                0.00     0.00     0.00     0.00     0.00
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4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	17.82	17.11	17.42	17.41	17.30
32	Miocene Yellow Sand L2	17.87	17.15	17.47	17.45	17.35
34	Miocene Yellow Sand L3	17.81	17.10	17.41	17.40	17.29

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	17.46	17.46	17.45	17.39	17.48	17.45	17.32	17.44	17.49	17.74
		17.71	17.79	17.89	17.82	17.87	17.86	17.79	17.78	17.75	17.68
		17.64	17.69	17.72	17.67	17.51	17.33	17.47	17.50	17.40	17.34
32	Miocene Yellow Sand L2	17.50	17.51	17.49	17.43	17.52	17.49	17.37	17.49	17.54	17.79

		17.76	17.84	17.95	17.88	17.93	17.92	17.85	17.84	17.81	17.74
		17.70	17.74	17.77	17.72	17.56	17.38	17.52	17.54	17.44	17.38
34	Miocene Yellow Sand L3	17.45	17.45	17.44	17.38	17.47	17.44	17.31	17.43	17.48	17.73
		17.70	17.78	17.89	17.82	17.86	17.85	17.79	17.78	17.74	17.68
		17.64	17.68	17.71	17.66	17.50	17.32	17.46	17.49	17.39	17.33

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 76 (PC 2)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	14.53	14.18	14.33	14.34	14.28
32	Miocene Yellow Sand L2	14.58	14.22	14.38	14.38	14.32
34	Miocene Yellow Sand L3	14.53	14.17	14.33	14.33	14.28

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	20196.5	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	14.35	14.35	14.34	14.31	14.37	14.36	14.28	14.34	14.37	14.49
		14.48	14.52	14.57	14.53	14.56	14.55	14.52	14.51	14.50	14.47
		14.45	14.47	14.48	14.46	14.38	14.29	14.36	14.37	14.32	14.29
32	Miocene Yellow Sand L2	14.39	14.40	14.39	14.36	14.42	14.40	14.32	14.39	14.41	14.54
		14.52	14.56	14.62	14.58	14.61	14.60	14.57	14.56	14.55	14.51
		14.49	14.52	14.53	14.50	14.42	14.33	14.40	14.41	14.36	14.33
34	Miocene Yellow Sand L3	14.34	14.35	14.34	14.31	14.37	14.35	14.28	14.34	14.36	14.49
		14.47	14.51	14.57	14.53	14.55	14.55	14.51	14.51	14.49	14.46
		14.44	14.47	14.48	14.45	14.37	14.28	14.35	14.36	14.31	14.28

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 77 (PC 3)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	12.64	12.41	12.51	12.52	12.48
32	Miocene Yellow Sand L2	12.69	12.45	12.55	12.56	12.52
34	Miocene Yellow Sand L3	12.64	12.40	12.51	12.51	12.47

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	12.52	12.52	12.52	12.50	12.54	12.53	12.48	12.52	12.53	12.62
		12.60	12.63	12.66	12.64	12.66	12.65	12.63	12.63	12.62	12.60
		12.58	12.60	12.61	12.59	12.54	12.48	12.53	12.53	12.50	12.48
32	Miocene Yellow Sand L2	12.56	12.56	12.56	12.54	12.58	12.57	12.51	12.56	12.57	12.66
		12.65	12.67	12.71	12.68	12.70	12.70	12.67	12.67	12.66	12.64
		12.63	12.64	12.65	12.63	12.58	12.52	12.57	12.57	12.54	12.52
34	Miocene Yellow Sand L3	12.52	12.52	12.51	12.49	12.54	12.53	12.47	12.51	12.53	12.61
		12.60	12.63	12.66	12.64	12.65	12.65	12.63	12.63	12.61	12.59
		12.58	12.60	12.61	12.59	12.53	12.48	12.52	12.53	12.50	12.48

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 78 (PC 4)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	11.33	11.16	11.23	11.24	11.21
32	Miocene Yellow Sand L2	11.37	11.19	11.27	11.27	11.25
34	Miocene Yellow Sand L3	11.33	11.16	11.23	11.23	11.21

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	11.24	11.24	11.24	11.22	11.25	11.25	11.21	11.24	11.25	11.31
		11.30	11.32	11.35	11.33	11.34	11.34	11.32	11.32	11.31	11.30
		11.29	11.30	11.31	11.29	11.25	11.21	11.24	11.25	11.23	11.21
32	Miocene Yellow Sand L2	11.28	11.28	11.27	11.26	11.29	11.28	11.24	11.27	11.29	11.35
		11.34	11.36	11.39	11.37	11.38	11.38	11.36	11.36	11.35	11.33
		11.33	11.34	11.34	11.33	11.29	11.25	11.28	11.29	11.26	11.25
34	Miocene Yellow Sand L3	11.24	11.24	11.23	11.22	11.25	11.24	11.20	11.23	11.25	11.31
		11.30	11.32	11.34	11.33	11.34	11.33	11.32	11.32	11.31	11.29
		11.28	11.30	11.30	11.29	11.25	11.21	11.24	11.25	11.22	11.21

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* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   79 (PC 5)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00     0.00     0.00     0.00     0.00
 4  Sand                                     0.00     0.00     0.00     0.00     0.00
 6  Sand                                     0.00     0.00     0.00     0.00     0.00
 8  Sand                                     0.00     0.00     0.00     0.00     0.00
10  Sand                                     0.00     0.00     0.00     0.00     0.00
12  Sand                                     0.00     0.00     0.00     0.00     0.00
14  Sand                                     0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00     0.00     0.00     0.00     0.00
18  Sand                                     0.00     0.00     0.00     0.00     0.00
20  Sand                                     0.00     0.00     0.00     0.00     0.00
22  Sand                                     0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  10.34    10.20    10.26    10.27    10.24
32  Miocene Yellow Sand L2                  10.37    10.24    10.29    10.30    10.28
34  Miocene Yellow Sand L3                  10.33    10.20    10.26    10.26    10.24
                                  * PERFORATED INJECTION ZONE

                                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                   0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)     20196.5      0.0    945.1    272.8    105.6



                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
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26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	10.27	10.27	10.26	10.25	10.28	10.27	10.24	10.26	10.27	10.32
		10.31	10.33	10.35	10.34	10.34	10.34	10.33	10.33	10.32	10.31
		10.30	10.31	10.32	10.31	10.28	10.24	10.27	10.27	10.25	10.24
32	Miocene Yellow Sand L2	10.30	10.30	10.30	10.29	10.31	10.31	10.27	10.30	10.31	10.36
		10.35	10.36	10.39	10.37	10.38	10.38	10.37	10.36	10.36	10.35
		10.34	10.35	10.35	10.34	10.31	10.28	10.30	10.31	10.29	10.28
34	Miocene Yellow Sand L3	10.26	10.26	10.26	10.25	10.28	10.27	10.24	10.26	10.27	10.32
		10.31	10.33	10.35	10.33	10.34	10.34	10.33	10.33	10.32	10.31
		10.30	10.31	10.32	10.31	10.27	10.24	10.27	10.27	10.25	10.24

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 80 (PC 6)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	9.55	9.44	9.48	9.49	9.47
32	Miocene Yellow Sand L2	9.58	9.47	9.52	9.52	9.50
34	Miocene Yellow Sand L3	9.54	9.43	9.48	9.49	9.47

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	9.49	9.49	9.49	9.48	9.50	9.49	9.47	9.49	9.49	9.53
		9.53	9.54	9.56	9.54	9.55	9.55	9.54	9.54	9.53	9.52
		9.52	9.53	9.53	9.52	9.50	9.47	9.49	9.49	9.48	9.47
32	Miocene Yellow Sand L2	9.52	9.52	9.52	9.51	9.53	9.53	9.50	9.52	9.53	9.57
		9.56	9.57	9.59	9.58	9.59	9.58	9.57	9.57	9.57	9.56
		9.55	9.56	9.56	9.55	9.53	9.50	9.52	9.53	9.51	9.50
34	Miocene Yellow Sand L3	9.49	9.49	9.48	9.47	9.50	9.49	9.47	9.48	9.49	9.53
		9.53	9.54	9.55	9.54	9.55	9.55	9.54	9.54	9.53	9.52
		9.52	9.52	9.53	9.52	9.49	9.47	9.49	9.49	9.48	9.47

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 81 (PC 7)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	8.89	8.80	8.84	8.84	8.83
32	Miocene Yellow Sand L2	8.92	8.83	8.87	8.87	8.86
34	Miocene Yellow Sand L3	8.89	8.80	8.84	8.84	8.83

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	8.84	8.84	8.84	8.83	8.85	8.85	8.83	8.84	8.85	8.88
		8.88	8.89	8.90	8.89	8.90	8.90	8.89	8.89	8.88	8.87
		8.87	8.88	8.88	8.87	8.85	8.83	8.85	8.85	8.84	8.83
32	Miocene Yellow Sand L2	8.87	8.88	8.87	8.86	8.88	8.88	8.86	8.87	8.88	8.91
		8.91	8.92	8.93	8.92	8.93	8.93	8.92	8.92	8.91	8.91
		8.90	8.91	8.91	8.90	8.88	8.86	8.88	8.88	8.87	8.86
34	Miocene Yellow Sand L3	8.84	8.84	8.84	8.83	8.85	8.85	8.83	8.84	8.85	8.88
		8.88	8.89	8.90	8.89	8.90	8.90	8.89	8.89	8.88	8.87
		8.87	8.88	8.88	8.87	8.85	8.83	8.85	8.85	8.84	8.83

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 82 (PC 8)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	8.34	8.26	8.30	8.30	8.29
32	Miocene Yellow Sand L2	8.37	8.29	8.32	8.33	8.31
34	Miocene Yellow Sand L3	8.34	8.26	8.29	8.30	8.28

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	20196.5	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	8.30	8.30	8.30	8.29	8.31	8.30	8.28	8.30	8.30	8.33
		8.33	8.34	8.35	8.34	8.34	8.34	8.34	8.34	8.33	8.32
		8.32	8.33	8.33	8.32	8.31	8.29	8.30	8.30	8.29	8.29
32	Miocene Yellow Sand L2	8.33	8.33	8.33	8.32	8.34	8.33	8.31	8.33	8.33	8.36
		8.36	8.37	8.38	8.37	8.37	8.37	8.37	8.37	8.36	8.35
		8.35	8.36	8.36	8.35	8.33	8.31	8.33	8.33	8.32	8.31
34	Miocene Yellow Sand L3	8.30	8.30	8.30	8.29	8.31	8.30	8.28	8.30	8.30	8.33
		8.33	8.33	8.35	8.34	8.34	8.34	8.34	8.33	8.33	8.32
		8.32	8.33	8.33	8.32	8.30	8.28	8.30	8.30	8.29	8.28

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 83 (PC 9)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	7.86	7.80	7.83	7.83	7.82
32	Miocene Yellow Sand L2	7.89	7.82	7.85	7.86	7.84
34	Miocene Yellow Sand L3	7.86	7.80	7.82	7.83	7.82

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	7.83	7.83	7.83	7.82	7.83	7.83	7.82	7.83	7.83	7.86
		7.85	7.86	7.87	7.86	7.87	7.87	7.86	7.86	7.86	7.85
		7.85	7.85	7.85	7.85	7.83	7.82	7.83	7.83	7.82	7.82
32	Miocene Yellow Sand L2	7.86	7.86	7.85	7.85	7.86	7.86	7.84	7.85	7.86	7.88
		7.88	7.89	7.90	7.89	7.90	7.89	7.89	7.89	7.88	7.88
		7.87	7.88	7.88	7.88	7.86	7.84	7.86	7.86	7.85	7.84
34	Miocene Yellow Sand L3	7.83	7.83	7.83	7.82	7.83	7.83	7.81	7.83	7.83	7.86
		7.85	7.86	7.87	7.86	7.87	7.87	7.86	7.86	7.86	7.85
		7.85	7.85	7.85	7.85	7.83	7.82	7.83	7.83	7.82	7.82

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 84 (PC10)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	7.45	7.39	7.41	7.42	7.41
32	Miocene Yellow Sand L2	7.47	7.41	7.44	7.44	7.43

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34  Miocene Yellow Sand L3                 7.45     7.39     7.41     7.42     7.41
                                  * PERFORATED INJECTION ZONE

                                                                   INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                 0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                 0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                 0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)    20196.5      0.0    945.1    272.8    105.6


                                                                PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                 7.42     7.42     7.42     7.41     7.42     7.42     7.41     7.42     7.42     7.44
                                           7.44     7.44     7.45     7.45     7.45     7.45     7.44     7.44     7.44     7.44
                                           7.43     7.44     7.44     7.43     7.42     7.41     7.42     7.42     7.41     7.41
32  Miocene Yellow Sand L2                 7.44     7.44     7.44     7.44     7.45     7.45     7.43     7.44     7.45     7.47
                                           7.46     7.47     7.48     7.47     7.48     7.48     7.47     7.47     7.47     7.46
                                           7.46     7.46     7.47     7.46     7.45     7.43     7.44     7.45     7.44     7.43
34  Miocene Yellow Sand L3                 7.42     7.42     7.41     7.41     7.42     7.42     7.40     7.41     7.42     7.44
                                           7.44     7.44     7.45     7.45     7.45     7.45     7.44     7.44     7.44     7.44
                                           7.43     7.44     7.44     7.43     7.42     7.41     7.42     7.42     7.41     7.41


* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   85 (PC11)-------------------------------------------------
                                                            PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                   0.00     0.00     0.00     0.00     0.00
```

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	7.08	7.03	7.05	7.05	7.04
32	Miocene Yellow Sand L2	7.11	7.05	7.07	7.08	7.07
34	Miocene Yellow Sand L3	7.08	7.03	7.05	7.05	7.04

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	7.05	7.05	7.05	7.05	7.06	7.06	7.04	7.05	7.06	7.07
		7.07	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.07	7.07
		7.07	7.07	7.07	7.07	7.06	7.04	7.05	7.06	7.05	7.04
32	Miocene Yellow Sand L2	7.08	7.08	7.08	7.07	7.08	7.08	7.07	7.08	7.08	7.10

		7.10	7.10	7.11	7.11	7.11	7.11	7.10	7.10	7.10	7.10
		7.09	7.10	7.10	7.09	7.08	7.07	7.08	7.08	7.07	7.07
34	Miocene Yellow Sand L3	7.05	7.05	7.05	7.05	7.06	7.05	7.04	7.05	7.05	7.07
		7.07	7.08	7.08	7.08	7.08	7.08	7.08	7.08	7.07	7.07
		7.07	7.07	7.07	7.07	7.06	7.04	7.05	7.05	7.05	7.04

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 86 (PC12)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	6.75	6.70	6.73	6.72
32	Miocene Yellow Sand L2	6.78	6.73	6.75	6.74
34	Miocene Yellow Sand L3	6.75	6.70	6.73	6.72

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	6.73	6.73	6.73	6.72	6.73	6.73	6.72	6.73	6.73	6.75
		6.74	6.75	6.76	6.75	6.75	6.75	6.75	6.75	6.75	6.74
		6.74	6.74	6.75	6.74	6.73	6.72	6.73	6.73	6.72	6.72
32	Miocene Yellow Sand L2	6.75	6.75	6.75	6.75	6.76	6.75	6.74	6.75	6.75	6.77
		6.77	6.77	6.78	6.78	6.78	6.78	6.77	6.77	6.77	6.77
		6.76	6.77	6.77	6.77	6.76	6.74	6.75	6.75	6.75	6.74
34	Miocene Yellow Sand L3	6.73	6.73	6.73	6.72	6.73	6.73	6.72	6.73	6.73	6.75
		6.74	6.75	6.76	6.75	6.75	6.75	6.75	6.75	6.75	6.74
		6.74	6.74	6.75	6.74	6.73	6.72	6.73	6.73	6.72	6.72

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 87 (PC13)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	6.46	6.41	6.43	6.43	6.43
32	Miocene Yellow Sand L2	6.48	6.44	6.46	6.46	6.45
34	Miocene Yellow Sand L3	6.46	6.41	6.43	6.43	6.43

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	6.43	6.44	6.43	6.43	6.44	6.44	6.43	6.43	6.44	6.45
		6.45	6.45	6.46	6.46	6.46	6.46	6.46	6.45	6.45	6.45
		6.45	6.45	6.45	6.45	6.44	6.43	6.44	6.44	6.43	6.43
32	Miocene Yellow Sand L2	6.46	6.46	6.46	6.45	6.46	6.46	6.45	6.46	6.46	6.48
		6.47	6.48	6.49	6.48	6.48	6.48	6.48	6.48	6.48	6.47
		6.47	6.47	6.47	6.47	6.46	6.45	6.46	6.46	6.45	6.45
34	Miocene Yellow Sand L3	6.43	6.43	6.43	6.43	6.44	6.44	6.43	6.43	6.44	6.45
		6.45	6.45	6.46	6.46	6.46	6.46	6.46	6.45	6.45	6.45
		6.45	6.45	6.45	6.45	6.44	6.43	6.44	6.44	6.43	6.43

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 88 (PC14)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	6.19	6.15	6.17	6.17	6.16
32	Miocene Yellow Sand L2	6.21	6.17	6.19	6.19	6.18
34	Miocene Yellow Sand L3	6.19	6.15	6.17	6.17	6.16

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	6.17	6.17	6.17	6.17	6.17	6.17	6.16	6.17	6.17	6.19
		6.18	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.18
		6.18	6.18	6.18	6.18	6.17	6.16	6.17	6.17	6.17	6.16
32	Miocene Yellow Sand L2	6.19	6.19	6.19	6.19	6.20	6.19	6.18	6.19	6.19	6.21
		6.21	6.21	6.22	6.21	6.21	6.21	6.21	6.21	6.21	6.20
		6.20	6.21	6.21	6.20	6.19	6.18	6.19	6.19	6.19	6.19
34	Miocene Yellow Sand L3	6.17	6.17	6.17	6.17	6.17	6.17	6.16	6.17	6.17	6.19
		6.18	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.19	6.18
		6.18	6.18	6.18	6.18	6.17	6.16	6.17	6.17	6.17	6.16

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* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

------------------------------------------------------------YEAR   89 (PC15)-------------------------------------------------
                                                            PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                      0.00     0.00     0.00     0.00     0.00
 4  Sand                                      0.00     0.00     0.00     0.00     0.00
 6  Sand                                      0.00     0.00     0.00     0.00     0.00
 8  Sand                                      0.00     0.00     0.00     0.00     0.00
10  Sand                                      0.00     0.00     0.00     0.00     0.00
12  Sand                                      0.00     0.00     0.00     0.00     0.00
14  Sand                                      0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                     0.00     0.00     0.00     0.00     0.00
18  Sand                                      0.00     0.00     0.00     0.00     0.00
20  Sand                                      0.00     0.00     0.00     0.00     0.00
22  Sand                                      0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                    0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                    0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                    0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                    5.95     5.91     5.93     5.93     5.92
32  Miocene Yellow Sand L2                    5.97     5.93     5.95     5.95     5.94
34  Miocene Yellow Sand L3                    5.95     5.91     5.93     5.93     5.92
                                  * PERFORATED INJECTION ZONE

                                                                        INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                    0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                    0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                    0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                    0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                    0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                    0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)    20196.5      0.0    945.1    272.8    105.6


                                                                    PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                   0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                             0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
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26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	5.93	5.93	5.93	5.92	5.93	5.93	5.92	5.93	5.93	5.94
		5.94	5.94	5.95	5.95	5.95	5.95	5.94	5.94	5.94	5.94
		5.94	5.94	5.94	5.94	5.93	5.92	5.93	5.93	5.92	5.92
32	Miocene Yellow Sand L2	5.95	5.95	5.95	5.95	5.95	5.95	5.94	5.95	5.95	5.96
		5.96	5.97	5.97	5.97	5.97	5.97	5.97	5.97	5.96	5.96
		5.96	5.96	5.96	5.96	5.95	5.94	5.95	5.95	5.95	5.94
34	Miocene Yellow Sand L3	5.93	5.93	5.93	5.92	5.93	5.93	5.92	5.93	5.93	5.94
		5.94	5.94	5.95	5.95	5.95	5.95	5.94	5.94	5.94	5.94
		5.94	5.94	5.94	5.94	5.93	5.92	5.93	5.93	5.92	5.92

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 90 (PC16)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	5.72	5.69	5.70	5.71	5.70
32	Miocene Yellow Sand L2	5.74	5.71	5.73	5.73	5.72
34	Miocene Yellow Sand L3	5.72	5.69	5.70	5.71	5.70

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	5.71	5.71	5.71	5.70	5.71	5.71	5.70	5.71	5.71	5.72
		5.72	5.72	5.73	5.72	5.73	5.72	5.72	5.72	5.72	5.72
		5.71	5.72	5.72	5.72	5.71	5.70	5.71	5.71	5.70	5.70
32	Miocene Yellow Sand L2	5.73	5.73	5.73	5.72	5.73	5.73	5.72	5.73	5.73	5.74
		5.74	5.74	5.75	5.74	5.75	5.75	5.74	5.74	5.74	5.74
		5.74	5.74	5.74	5.74	5.73	5.72	5.73	5.73	5.72	5.72
34	Miocene Yellow Sand L3	5.71	5.71	5.71	5.70	5.71	5.71	5.70	5.71	5.71	5.72
		5.72	5.72	5.73	5.72	5.73	5.72	5.72	5.72	5.72	5.72
		5.72	5.72	5.72	5.72	5.71	5.70	5.71	5.71	5.70	5.70

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 91 (PC17)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	5.52	5.49	5.50	5.50	5.50
32	Miocene Yellow Sand L2	5.54	5.51	5.52	5.52	5.52
34	Miocene Yellow Sand L3	5.52	5.49	5.50	5.50	5.50

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	5.50	5.50	5.50	5.50	5.51	5.50	5.50	5.50	5.50	5.51
		5.51	5.52	5.52	5.52	5.52	5.52	5.52	5.52	5.51	5.51
		5.51	5.51	5.51	5.51	5.50	5.50	5.50	5.50	5.50	5.50
32	Miocene Yellow Sand L2	5.52	5.52	5.52	5.52	5.53	5.52	5.52	5.52	5.52	5.53
		5.53	5.54	5.54	5.54	5.54	5.54	5.54	5.54	5.54	5.53
		5.53	5.53	5.53	5.53	5.52	5.52	5.52	5.52	5.52	5.52
34	Miocene Yellow Sand L3	5.50	5.50	5.50	5.50	5.51	5.50	5.50	5.50	5.50	5.51
		5.51	5.52	5.52	5.52	5.52	5.52	5.52	5.52	5.51	5.51
		5.51	5.51	5.51	5.51	5.50	5.50	5.50	5.50	5.50	5.50

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 92 (PC18)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	5.33	5.30	5.31	5.31	5.31
32	Miocene Yellow Sand L2	5.35	5.32	5.33	5.33	5.33
34	Miocene Yellow Sand L3	5.33	5.30	5.31	5.31	5.31

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	5.31	5.31	5.31	5.31	5.32	5.32	5.31	5.31	5.31	5.32
		5.32	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.32
		5.32	5.32	5.32	5.32	5.32	5.31	5.31	5.31	5.31	5.31
32	Miocene Yellow Sand L2	5.33	5.33	5.33	5.33	5.34	5.33	5.33	5.33	5.33	5.34
		5.34	5.35	5.35	5.35	5.35	5.35	5.35	5.35	5.34	5.34
		5.34	5.34	5.34	5.34	5.33	5.33	5.33	5.33	5.33	5.33
34	Miocene Yellow Sand L3	5.31	5.31	5.31	5.31	5.32	5.32	5.31	5.31	5.32	5.33
		5.32	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.33	5.32
		5.32	5.32	5.32	5.32	5.32	5.31	5.31	5.32	5.31	5.31

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 93 (PC19)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	5.14	5.11	5.12	5.12	5.12
32	Miocene Yellow Sand L2	5.16	5.13	5.14	5.14	5.14
34	Miocene Yellow Sand L3	5.14	5.11	5.12	5.12	5.12

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	5.12	5.12	5.12	5.12	5.13	5.12	5.12	5.12	5.12	5.13
		5.13	5.13	5.14	5.14	5.14	5.14	5.13	5.13	5.13	5.13
		5.13	5.13	5.13	5.13	5.12	5.12	5.12	5.12	5.12	5.12
32	Miocene Yellow Sand L2	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.14	5.15
		5.15	5.15	5.16	5.16	5.16	5.16	5.15	5.15	5.15	5.15
		5.15	5.15	5.15	5.15	5.14	5.14	5.14	5.14	5.14	5.14
34	Miocene Yellow Sand L3	5.12	5.12	5.12	5.12	5.13	5.12	5.12	5.12	5.12	5.13
		5.13	5.13	5.14	5.14	5.14	5.14	5.14	5.13	5.13	5.13
		5.13	5.13	5.13	5.13	5.12	5.12	5.12	5.12	5.12	5.12

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 94 (PC20)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.96	4.93	4.95	4.95	4.94
32	Miocene Yellow Sand L2	4.98	4.95	4.96	4.96	4.96

```
34  Miocene Yellow Sand L3                 4.96     4.94     4.95     4.95     4.94
                                 * PERFORATED INJECTION ZONE

                                                                   INJECTION RATES (GPM)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                 0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                 0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                 0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)    20196.5      0.0    945.1    272.8    105.6


                                                                PRESSURES AT MONITOR COORD (PSI)
                              MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                          ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                          ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                 0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                 4.95     4.95     4.95     4.94     4.95     4.95     4.94     4.95     4.95     4.96
                                           4.95     4.96     4.96     4.96     4.96     4.96     4.96     4.96     4.96     4.95
                                           4.95     4.95     4.96     4.95     4.95     4.94     4.95     4.95     4.94     4.94
32  Miocene Yellow Sand L2                 4.96     4.96     4.96     4.96     4.97     4.97     4.96     4.96     4.97     4.97
                                           4.97     4.98     4.98     4.98     4.98     4.98     4.98     4.98     4.97     4.97
                                           4.97     4.97     4.97     4.97     4.97     4.96     4.96     4.97     4.96     4.96
34  Miocene Yellow Sand L3                 4.95     4.95     4.95     4.94     4.95     4.95     4.94     4.95     4.95     4.96
                                           4.96     4.96     4.96     4.96     4.96     4.96     4.96     4.96     4.96     4.95
                                           4.95     4.95     4.96     4.95     4.95     4.94     4.95     4.95     4.94     4.94


* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   95 (PC21)-----------------------------------------------------
                                                            PRESSURES AT INJECTION WELL COORD (PSI)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                   0.00     0.00     0.00     0.00     0.00
```

4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.79	4.77	4.78	4.78	4.78
32	Miocene Yellow Sand L2	4.81	4.79	4.80	4.80	4.80
34	Miocene Yellow Sand L3	4.79	4.77	4.78	4.78	4.78

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.78	4.78	4.78	4.78	4.78	4.78	4.78	4.78	4.78	4.79
		4.79	4.79	4.80	4.79	4.80	4.79	4.79	4.79	4.79	4.79
		4.79	4.79	4.79	4.79	4.78	4.78	4.78	4.78	4.78	4.78
32	Miocene Yellow Sand L2	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.80	4.81

		4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81
		4.81	4.81	4.81	4.81	4.80	4.80	4.80	4.80	4.80	4.80
34	Miocene Yellow Sand L3	4.78	4.78	4.78	4.78	4.78	4.78	4.78	4.78	4.78	4.79
		4.79	4.79	4.80	4.79	4.80	4.80	4.79	4.79	4.79	4.79
		4.79	4.79	4.79	4.79	4.78	4.78	4.78	4.78	4.78	4.78

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 96 (PC22)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.64	4.62	4.63	4.63	4.63
32	Miocene Yellow Sand L2	4.66	4.64	4.65	4.65	4.64
34	Miocene Yellow Sand L3	4.64	4.62	4.63	4.63	4.63

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

	FORMATION LEVEL	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.63	4.63	4.63	4.63	4.63	4.63	4.63	4.63	4.63	4.64
		4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64
		4.64	4.64	4.64	4.64	4.63	4.63	4.63	4.63	4.63	4.63
32	Miocene Yellow Sand L2	4.65	4.65	4.65	4.65	4.65	4.65	4.64	4.65	4.65	4.66
		4.66	4.66	4.66	4.66	4.66	4.66	4.66	4.66	4.66	4.65
		4.65	4.65	4.66	4.65	4.65	4.64	4.65	4.65	4.65	4.64
34	Miocene Yellow Sand L3	4.63	4.63	4.63	4.63	4.63	4.63	4.63	4.63	4.63	4.64
		4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64	4.64
		4.64	4.64	4.64	4.64	4.63	4.63	4.63	4.63	4.63	4.63

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 97 (PC23)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.50	4.48	4.49	4.49	4.49
32	Miocene Yellow Sand L2	4.52	4.50	4.50	4.51	4.50
34	Miocene Yellow Sand L3	4.50	4.48	4.49	4.49	4.49

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)

	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.50
		4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
		4.49	4.50	4.50	4.49	4.49	4.49	4.49	4.49	4.49	4.49
32	Miocene Yellow Sand L2	4.51	4.51	4.50	4.50	4.51	4.51	4.50	4.50	4.51	4.51
		4.51	4.51	4.52	4.52	4.52	4.52	4.51	4.51	4.51	4.51
		4.51	4.51	4.51	4.51	4.51	4.50	4.51	4.51	4.50	4.50
34	Miocene Yellow Sand L3	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.49	4.50
		4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
		4.49	4.50	4.50	4.50	4.49	4.49	4.49	4.49	4.49	4.49

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 98 (PC24)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00

14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.37	4.35	4.36	4.36	4.35
32	Miocene Yellow Sand L2	4.38	4.36	4.37	4.37	4.37
34	Miocene Yellow Sand L3	4.37	4.35	4.36	4.36	4.35

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.36	4.36	4.36	4.35	4.36	4.36	4.35	4.36	4.36	4.36
		4.36	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.36	4.36
		4.36	4.36	4.36	4.36	4.36	4.35	4.36	4.36	4.36	4.35
32	Miocene Yellow Sand L2	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.38
		4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38	4.38
		4.38	4.38	4.38	4.38	4.37	4.37	4.37	4.37	4.37	4.37
34	Miocene Yellow Sand L3	4.36	4.36	4.36	4.36	4.36	4.36	4.35	4.36	4.36	4.36
		4.36	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.36
		4.36	4.36	4.36	4.36	4.36	4.35	4.36	4.36	4.36	4.35

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* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   99 (PC25)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00     0.00     0.00     0.00     0.00
 4  Sand                                    0.00     0.00     0.00     0.00     0.00
 6  Sand                                    0.00     0.00     0.00     0.00     0.00
 8  Sand                                    0.00     0.00     0.00     0.00     0.00
10  Sand                                    0.00     0.00     0.00     0.00     0.00
12  Sand                                    0.00     0.00     0.00     0.00     0.00
14  Sand                                    0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00     0.00     0.00     0.00     0.00
18  Sand                                    0.00     0.00     0.00     0.00     0.00
20  Sand                                    0.00     0.00     0.00     0.00     0.00
22  Sand                                    0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                  0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                  0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  4.24     4.23     4.23     4.23     4.23
32  Miocene Yellow Sand L2                  4.26     4.24     4.25     4.25     4.25
34  Miocene Yellow Sand L3                  4.24     4.23     4.23     4.23     4.23
                                  * PERFORATED INJECTION ZONE

                                                                          INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                  0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                  0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                  0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)    20196.5      0.0    945.1    272.8    105.6


                                                                  PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                            0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                            0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
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26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.23	4.23	4.23	4.23	4.24	4.23	4.23	4.23	4.23	4.24
		4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24	4.24
		4.24	4.24	4.24	4.24	4.24	4.23	4.23	4.23	4.23	4.23
32	Miocene Yellow Sand L2	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.25	4.26
		4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26	4.26
		4.25	4.26	4.26	4.26	4.25	4.25	4.25	4.25	4.25	4.25
34	Miocene Yellow Sand L3	4.23	4.23	4.23	4.23	4.24	4.24	4.23	4.23	4.24	4.24
		4.24	4.24	4.25	4.24	4.24	4.24	4.24	4.24	4.24	4.24
		4.24	4.24	4.24	4.24	4.24	4.23	4.23	4.24	4.23	4.23

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 100 (PC26)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.13	4.11	4.12	4.12	4.12
32	Miocene Yellow Sand L2	4.14	4.13	4.13	4.13	4.13
34	Miocene Yellow Sand L3	4.13	4.11	4.12	4.12	4.12

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.13
		4.12	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.12
		4.12	4.12	4.13	4.12	4.12	4.12	4.12	4.12	4.12	4.12
32	Miocene Yellow Sand L2	4.13	4.13	4.13	4.13	4.14	4.14	4.13	4.13	4.14	4.14
		4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14	4.14
		4.14	4.14	4.14	4.14	4.14	4.13	4.13	4.14	4.13	4.13
34	Miocene Yellow Sand L3	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.12	4.13
		4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.13	4.12
		4.12	4.13	4.13	4.12	4.12	4.12	4.12	4.12	4.12	4.12

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 101 (PC27)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00

24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.02	4.00	4.01	4.01	4.01
32	Miocene Yellow Sand L2	4.03	4.02	4.03	4.03	4.02
34	Miocene Yellow Sand L3	4.02	4.00	4.01	4.01	4.01

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.02
		4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02
		4.02	4.02	4.02	4.02	4.01	4.01	4.01	4.01	4.01	4.01
32	Miocene Yellow Sand L2	4.03	4.03	4.03	4.02	4.03	4.03	4.02	4.03	4.03	4.03
		4.03	4.03	4.04	4.03	4.04	4.04	4.03	4.03	4.03	4.03
		4.03	4.03	4.03	4.03	4.03	4.02	4.03	4.03	4.03	4.02
34	Miocene Yellow Sand L3	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.01	4.02
		4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02	4.02
		4.02	4.02	4.02	4.02	4.01	4.01	4.01	4.01	4.01	4.01

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

YEAR 102 (PC28)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	3.92	3.90	3.91	3.91	3.91
32	Miocene Yellow Sand L2	3.93	3.92	3.92	3.93	3.92
34	Miocene Yellow Sand L3	3.92	3.90	3.91	3.91	3.91

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		20196.5	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.92
		3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
		3.92	3.92	3.92	3.92	3.91	3.91	3.91	3.91	3.91	3.91
32	Miocene Yellow Sand L2	3.93	3.93	3.93	3.92	3.93	3.93	3.92	3.93	3.93	3.93
		3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93
		3.93	3.93	3.93	3.93	3.93	3.92	3.93	3.93	3.92	3.92
34	Miocene Yellow Sand L3	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.91	3.92
		3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
		3.92	3.92	3.92	3.92	3.91	3.91	3.91	3.91	3.91	3.91

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 103 (PC29)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	3.81	3.80	3.80	3.80	3.80
32	Miocene Yellow Sand L2	3.83	3.81	3.82	3.82	3.82
34	Miocene Yellow Sand L3	3.81	3.80	3.80	3.80	3.80

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	20196.5	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	3.80	3.80	3.80	3.80	3.81	3.81	3.80	3.80	3.81	3.81
		3.81	3.81	3.81	3.81	3.81	3.81	3.81	3.81	3.81	3.81
		3.81	3.81	3.81	3.81	3.81	3.80	3.80	3.81	3.80	3.80
32	Miocene Yellow Sand L2	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82
		3.82	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.82	3.82
		3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82
34	Miocene Yellow Sand L3	3.80	3.80	3.80	3.80	3.81	3.81	3.80	3.80	3.81	3.81
		3.81	3.81	3.81	3.81	3.81	3.81	3.81	3.81	3.81	3.81
		3.81	3.81	3.81	3.81	3.81	3.80	3.81	3.81	3.80	3.80

* * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *

----------YEAR 104 (PC30)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	3.71	3.70	3.70	3.70	3.70
32	Miocene Yellow Sand L2	3.72	3.71	3.72	3.72	3.72

```
 34  Miocene Yellow Sand L3                3.71     3.70     3.70     3.70     3.70
                              * PERFORATED INJECTION ZONE

                                                                  INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
     INJECTION LEVEL
 24  Miocene Orange Sand L1                0.00     0.00     0.00     0.00     0.00
 26  Miocene Orange Sand L2                0.00     0.00     0.00     0.00     0.00
 28  Miocene Orange Sand L3                0.00     0.00     0.00     0.00     0.00
 30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00
 32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00
 34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00

 CUMULATIVE INJECTION TO DATE (MMGAL)    20196.5      0.0    945.1    272.8    105.6


                                                        PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
     FORMATION LEVEL
 24  Miocene Orange Sand L1                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
 26  Miocene Orange Sand L2                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
 28  Miocene Orange Sand L3                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                           0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
 30  Miocene Yellow Sand L1                3.70     3.70     3.70     3.70     3.71     3.70     3.70     3.70     3.70     3.71
                                           3.71     3.71     3.71     3.71     3.71     3.71     3.71     3.71     3.71     3.71
                                           3.71     3.71     3.71     3.71     3.70     3.70     3.70     3.70     3.70     3.70
 32  Miocene Yellow Sand L2                3.72     3.72     3.72     3.72     3.72     3.72     3.72     3.72     3.72     3.72
                                           3.72     3.72     3.73     3.72     3.73     3.73     3.72     3.72     3.72     3.72
                                           3.72     3.72     3.72     3.72     3.72     3.72     3.72     3.72     3.72     3.72
 34  Miocene Yellow Sand L3                3.70     3.70     3.70     3.70     3.71     3.71     3.70     3.70     3.71     3.71
                                           3.71     3.71     3.71     3.71     3.71     3.71     3.71     3.71     3.71     3.71
                                           3.71     3.71     3.71     3.71     3.71     3.70     3.70     3.71     3.70     3.70
1


 * * * BLUEBONNET YELLOW SAND Job to Generate Pressure * * *


                                  RESIDUAL UPWARD PENETRATION INTO CONFINING LAYERS -- [FEET]
                                    CALCULATED USING INJECTION HISTORY FROM 1983 TO PC30

 CONFINING    THICKNESS
```

LAYERS	[FEET]	WELLS				
		(M1)	(M2)	(D3)	(D3)	(D1)
1	120.0	0.000	0.000	0.000	0.000	0.000
3	45.0	0.000	0.000	0.000	0.000	0.000
5	54.0	0.000	0.000	0.000	0.000	0.000
7	70.0	0.000	0.000	0.000	0.000	0.000
9	146.0	0.000	0.000	0.000	0.000	0.000
11	59.0	0.000	0.000	0.000	0.000	0.000
13	125.0	0.000	0.000	0.000	0.000	0.000
15	130.0	0.000	0.000	0.000	0.000	0.000
17	29.0	0.000	0.000	0.000	0.000	0.000
19	108.0	0.000	0.000	0.000	0.000	0.000
21	68.0	0.000	0.000	0.000	0.000	0.000
23	67.0	0.000	0.000	0.000	0.000	0.000
25	24.0	0.000	0.000	0.000	0.000	0.000
27	79.0	0.000	0.000	0.000	0.000	0.000
29	64.0	0.000	0.000	0.000	0.000	0.000
31	66.0	0.000	0.000	0.000	0.000	0.000
33	54.0	0.000	0.000	0.000	0.000	0.000

* PENETRATION GREATER THAN CONFINING LAYER THICKESS

APPENDIX VII-4

B. DUPONT MULTILAYER VERTICAL PERMEATION MODEL

Geostock Sandia

ANNUAL PERMEATION

INPUT .RCV FILE

Geostock Sandia

```
TITLE    BLUEBONNET Job to Generate Permeation
YEAR  74.       30.              TINJ, TPC
34    -6    24   34              NLEV, NINJ, & INJECTION LEVELS
0                                NSKIP & SKIPPED LEVELS
FAULT                            FAULT CALCULATED
-8762. -18951., 21346. -4329.
PCNT                             PRESSURE CONTOUR PLOT DATA CALCULATED
20.                              RANGE FOR GRID (MI)
3    44     54     74            CONTOUR TIME PERIODS
    120.    .114  2.6E-6  .748    7.00E-05  Top Confining Zone Shale
     22.     .25   1.000  .746    1.00E-05  Sand
     45.    .114  2.6E-6  .744    7.00E-05  Shale
     67.     .25   1.000  .742    1.00E-05  Sand
     54.    .114  2.6E-6  .740    7.00E-05  Shale
     26.     .25   1.000  .737    9.86E-06  Sand
     70.    .114  2.6E-6  .735    7.00E-05  Shale
     10.     .25   1.000  .733    9.74E-06  Sand
    146.    .113  2.6E-6  .729    7.00E-05  Shale
     18.     .25   1.000  .724    9.55E-06  Sand
     59.    .113  2.6E-6  .722    7.00E-05  Shale
     73.     .25   1.000  .719    9.47E-06  Sand
    125.    .113  2.6E-6  .715    7.00E-05  Shale
     45.     .25   1.000  .710    9.25E-06  Sand
    130.    .112  2.6E-6  .706    7.00E-05  Shale
     77.     .25   1.000  .702    9.07E-06  Top of Injection Zone
     29.    .111  2.6E-6  .701    7.00E-05  Containment Int Shale
     12.     .25   1.000  .699    8.96E-06  Sand
    108.    .111  2.6E-6  .694    7.00E-05  Containment Int Shale
     80.     .25   1.000  .689    8.84E-06  Sand
     68.    .110  2.6E-6  .686    7.00E-05  Containment Int Shale
     51.     .25   1.000  .682    8.70E-06  Sand
     67.    .110  2.6E-6  .688    7.00E-05  Containment Int Shale
     55.     .27   4.000  .694    10.4E-06  Miocene Orange Sand L1
     24.    .109  2.6E-6  .690    7.00E-05  Shale
     70.     .27   4.000  .686    10.4E-06  Miocene Orange Sand L2
     79.    .109  2.6E-6  .682    7.00E-05  Shale
     45.     .31   4.000  .678    10.4E-06  Miocene Orange Sand L3
     64.    .109  1.E-15  .672    7.00E-05  Shale
     85.     .29   4.000  .666    9.58E-06  Miocene Yellow Sand L1
     66.    .109  1.E-15  .662    7.00E-05  Shale
     45.     .30   4.000  .657    9.96E-06  Miocene Yellow Sand L2
     54.    .109  1.E-15  .654    7.00E-05  Shale
     60.     .30   4.000  .652    9.86E-06  Miocene Yellow Sand L3
```

```
5  INJECTION WELLS
  M1          0.         0.
  M2     -15217.     11583.
 TD3     -14487.     -1953.
 LD3       -959.     13856.
 LD1      -1135.     15284.
30  MONITOR LOCATIONS
    1     -2511.      7955.
    2     -2552.      7821.
    3     -4406.      7663.
    4     -7372.      7307.
    5     -5018.     11507.
    6     -2402.     12915.
    7       -49.     12046.
    8      1882.      9723.
    9      8870.      8697.
   10     -1782.       982.
   11      -739.      -461.
   12      3292.     -2427.
   13      7214.     -6088.
   14      9544.     -6488.
   15      9522.     -8192.
   16       176.     -7992.
   17      -725.     -5054.
   18     -2755.     -6811.
   19     -5185.     -7659.
   20     -7777.     -8418.
   22     -8947.     -7320.
   23     -9854.     -6023.
   24     -7418.     -3254.
   25     -8940.     -3132.
   26    -12825.     -2139.
   30    -15996.      -889.
   31    -12103.      -368.
   32     -9731.      1882.
   33    -11509.      3152.
   34    -14725.      1379.
1983     0.     0.  58.3     0.     0.
      24-28  24-28  24-28  24-28  24-28
1984     0.     0.  80.8     0.     0.
      24-28  24-28  24-28  24-28  24-28
1985     0.     0.  74.9     0.     0.
      24-28  24-28  24-28  24-28  24-28
1986     0.     0.  42.2     0.     0.
      24-28  24-28  24-28  24-28  24-28
```

```
1987    0.    0.  23.7    0.    0.
     24-28 24-28 24-28 24-28 24-28
1988    0.    0.   5.2    0.    0.
     24-28 24-28 24-28 24-28 24-28
1989    0.    0. 145.2    0.    0.
     24-28 24-28 24-28 24-28 24-28
1990    0.    0. 159.1    0.    0.
     24-28 24-28 24-28 24-28 24-28
1991    0.    0. 148.5    0.    0.
     24-28 24-28 24-28 24-28 24-28
1992    0.    0. 141.3    0.    0.
     24-28 24-28 24-28 24-28 24-28
1993    0.    0. 102.6    0.    0.
     24-28 24-28 24-28 24-28 24-28
1994    0.    0. 104.7    0.    0.
     24-28 24-28 24-28 24-28 24-28
1995    0.    0. 161.8    0.    0.
     24-28 24-28 24-28 24-28 24-28
1996    0.    0. 155.4    0.    0.
     24-28 24-28 24-28 24-28 24-28
1997    0.    0. 217.4    0.    0.
     24-28 24-28 24-28 24-28 24-28
1998    0.    0.  90.0    0.    0.
     24-28 24-28 24-28 24-28 24-28
1999    0.    0.  16.7    0.    0.
     24-28 24-28 24-28 24-28 24-28
2000    0.    0.  37.7    0.    0.
     24-28 24-28 24-28 24-28 24-28
2001    0.    0.  16.2    0.    0.
     24-28 24-28 24-28 24-28 24-28
2002    0.    0.   2.0    0.    0.
     24-28 24-28 24-28 24-28 24-28
2003    0.    0.  10.4    0.    0.
     24-28 24-28 24-28 24-28 24-28
2004    0.    0.   2.7    0.    0.
     24-28 24-28 24-28 24-28 24-28
2005    0.    0.    0.    0.    0.
     24-28 24-28 24-28 24-28 24-28
2006    0.    0.    0.    0.    0.
     24-28 24-28 24-28 24-28 24-28
2007    0.    0.    0.    0.    0.
     24-28 24-28 24-28 24-28 24-28
2008    0.    0.    0.    0.    0.
     24-28 24-28 24-28 24-28 24-28
2009    0.    0.    0.    0.    0.
```

```
     24-28 24-28 24-28 24-28 24-28
2010    0.    0.    0.    0.    0.
     24-28 24-28 24-28 24-28 24-28
2011    0.    0.    0.    0.    0.
     24-28 24-28 24-28 24-28 24-28
2012    0.    0.    0.    0.    0.
     24-28 24-28 24-28 24-28 24-28
2013    0.    0.    0.    0.   3.0
     24-28 24-28 24-28 24-28 24-28
2014    0.    0.    0.   5.2   9.8
     24-28 24-28 24-28 24-28 24-28
2015    0.    0.    0.  30.7   9.3
     24-28 24-28 24-28 24-28 24-28
2016    0.    0.    0.  18.1   9.0
     24-28 24-28 24-28 24-28 24-28
2017    0.    0.    0.  20.2   5.5
     24-28 24-28 24-28 24-28 24-28
2018    0.    0.    0.  22.4   8.9
     24-28 24-28 24-28 24-28 24-28
2019    0.    0.    0.  20.9   9.4
     24-28 24-28 24-28 24-28 24-28
2020    0.    0.    0.   6.9   9.5
     24-28 24-28 24-28 24-28 24-28
2021    0.    0.    0.  16.4   0.6
     24-28 24-28 24-28 24-28 24-28
2022    0.    0.    0.  40.5   0.0
     24-28 24-28 24-28 24-28 24-28
2023    0.    0.    0.   7.4   3.7
     24-28 24-28 24-28 24-28 24-28
2024    0.    0.    0.   10.    4.
     24-28 24-28 24-28 24-28 24-28
2025  975.  00.0    0.   10.    4.
     24-28 24-28 24-28 24-28 24-28
```

ANNUAL PERMEATION

INPUT .PRM FILE

Geostock Sandia

```
      PARAMETER (NLEV=34)
C     NLEV IS THE TOTAL NUMBER OF LAYERS (AQUIFER+CONFINING)
C     NLEV MUST = NLEVEL READ FROM INPUT FILE
C
      PARAMETER (MXWELL=5)
C     MXWELL IS THE NUMBER OF INJECTION WELLS TO BE CALCULATED
C     MXWELL MUST = NWELL READ FROM INPUT FILE
C
      PARAMETER (MXINJ=6)
C     MXINJ IS THE NUMBER OF INJECTION LEVELS TO BE INCLUDED
C     MXINJ MUST = NINJ READ FROM INPUT FILE
C
      PARAMETER (MXTM=110)
C     MXTM IS THE MAXIMUM ALLOWABLE NUMBER OF TIME PERIODS FOR CALC
C     MXTM MUST BE >= NUMBER OF TIME PERIODS FROM INPUT FILE
C
      PARAMETER (MXMON=100)
C     MXMON IS THE MAXIMUM ALLOWABLE NUMBER OF MONITOR COORDIATES
C     MXMON MUST BE >= NMON READ FORM INPUT FILE
C
      PARAMETER (MXMONC=100)
C     MXMONC IS THE MAXIMUM NUMBER OF MONITOR COORDIATES
C       TO WILL BE CALCULATED
C     MXMONC MUST BE >= THE NUMBER OF UNSTARRED MONITOR COORD
C       READ FORM INPUT FILE
C
      PARAMETER (NTPSCL=50)
C     NTPSCL IS THE NUMBER OF TIME PERIODS INTO THE INJECTION HISTORY
C     WHICH WILL BE USED BEFORE CHANGING TO A MORE COARSE TIME SCALE (10
C     NTPSCL SHOULD BE AS LARGE AS POSSIBLE WITHOUT EXAUSTING THE
C     AVAILABLE MEMORY.  VALUES DOWN TO ABOUT 40 SHOULD WORK.
C
      PARAMETER (NTPTEN=50)
C     NTPTEN IS THE MAXIMUM NUMBER OF COARSE TIME PERIODS ALLOWED
C     THE VALUE OF NTPSCL+10*NTPTEN MUST BE >= NUMBER OF TIME
C     PERIODS FROM INPUT FILE
C
      PARAMETER (MXCTP=10)
C     MXCTP IS THE MAXIMUM NUMBER OF TIME PERIODS THAT CAN BE SPECIFIED
C     FOR OUTPUT INTO THE (.PCNT) FILE FOR PRESSURE CONTOUR PLOTS
```

ANNUAL PERMEATION

OUTPUT .SUM FILE

Geostock Sandia

```
* * * BLUEBONNET Job to Generate Pressure * * *

 INJECTION PERIOD    ---      74.00  YEAR
 POST CLOSURE PERIOD ---      30.00  YEAR

CALCULATED INJECTION LEVELS IN INJECTION RANGE
 24  26  28  30  32  34
SKIPPED LEVELS IN INJECTION RANGE


 TOTAL BLOCKAGE FAULT INCLUDED IN CALCULATION WITH COORDINATES:
-8762.0,-18951.0         21346.0, -4329.0

 DEFAULT BORE RADIUS (0.5 FT) USED FOR ALL WELLS

 NO SKIN FACTORS APPLIED TO INJECTION WELLS

 PRESSURES CALCULATED ON A GRID FOR CONTOUR PLOTTING

 CONTOURS CALCULATED OUT TO   20.0     MILES

 THE CONTOUR PLOT DATA WILL BE CENTERED AT THE CENTROID
  OF ACTIVE WELLS IN EACH INJECTION LAYER

  CONTOURS CALCULATED FOR THE FOLLOWING YEAR :
  44     2026
  54     2036
  74     2056

 INJECTION HISTORY
    YEAR          WELL ID
             (M1 ) (M2 ) (D3 ) (D3 ) (D1 )
   1 1983     0.0   0.0  58.3   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   2 1984     0.0   0.0  80.8   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   3 1985     0.0   0.0  74.9   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   4 1986     0.0   0.0  42.2   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   5 1987     0.0   0.0  23.7   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   6 1988     0.0   0.0   5.2   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   7 1989     0.0   0.0 145.2   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
   8 1990     0.0   0.0 159.1   0.0   0.0
             24-28 24-28 24-28 24-28 24-28
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 9 1991     0.0   0.0 148.5   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
10 1992     0.0   0.0 141.3   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
11 1993     0.0   0.0 102.6   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
12 1994     0.0   0.0 104.7   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
13 1995     0.0   0.0 161.8   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
14 1996     0.0   0.0 155.4   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
15 1997     0.0   0.0 217.4   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
16 1998     0.0   0.0  90.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
17 1999     0.0   0.0  16.7   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
18 2000     0.0   0.0  37.7   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
19 2001     0.0   0.0  16.2   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
20 2002     0.0   0.0   2.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
21 2003     0.0   0.0  10.4   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
22 2004     0.0   0.0   2.7   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
23 2005     0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
24 2006     0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
25 2007     0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
26 2008     0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
27 2009     0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
28 2010     0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
29 2011     0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
30 2012     0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
31 2013     0.0   0.0   0.0   0.0   3.0
           24-28 24-28 24-28 24-28 24-28
32 2014     0.0   0.0   0.0   5.2   9.8
           24-28 24-28 24-28 24-28 24-28
33 2015     0.0   0.0   0.0  30.7   9.3
           24-28 24-28 24-28 24-28 24-28
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34	2016	0.0	0.0	0.0	18.1	9.0
		24-28	24-28	24-28	24-28	24-28
35	2017	0.0	0.0	0.0	20.2	5.5
		24-28	24-28	24-28	24-28	24-28
36	2018	0.0	0.0	0.0	22.4	8.9
		24-28	24-28	24-28	24-28	24-28
37	2019	0.0	0.0	0.0	20.9	9.4
		24-28	24-28	24-28	24-28	24-28
38	2020	0.0	0.0	0.0	6.9	9.5
		24-28	24-28	24-28	24-28	24-28
39	2021	0.0	0.0	0.0	16.4	0.6
		24-28	24-28	24-28	24-28	24-28
40	2022	0.0	0.0	0.0	40.5	0.0
		24-28	24-28	24-28	24-28	24-28
41	2023	0.0	0.0	0.0	7.4	3.7
		24-28	24-28	24-28	24-28	24-28
42	2024	0.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
43	2025	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
44	2026*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
45	2027*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
46	2028*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
47	2029*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
48	2030*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
49	2031*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
50	2032*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
51	2033*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
52	2034*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
53	2035*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
54	2036*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
55	2037*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
56	2038*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
57	2039*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28
58	2040*	975.0	0.0	0.0	10.0	4.0
		24-28	24-28	24-28	24-28	24-28

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 59 2041*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 60 2042*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 61 2043*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 62 2044*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 63 2045*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 64 2046*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 65 2047*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 66 2048*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 67 2049*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 68 2050*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 69 2051*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 70 2052*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 71 2053*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 72 2054*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 73 2055*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 74 2056*  975.0   0.0   0.0  10.0   4.0
           24-28 24-28 24-28 24-28 24-28
 75 PC 1#    0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
 76 PC 2#    0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
 77 PC 3#    0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
 78 PC 4#    0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
 79 PC 5#    0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
 80 PC 6#    0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
 81 PC 7#    0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
 82 PC 8#    0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
 83 PC 9#    0.0   0.0   0.0   0.0   0.0
           24-28 24-28 24-28 24-28 24-28
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   84 PC10#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   85 PC11#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   86 PC12#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   87 PC13#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   88 PC14#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   89 PC15#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   90 PC16#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   91 PC17#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   92 PC18#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   93 PC19#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   94 PC20#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   95 PC21#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   96 PC22#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   97 PC23#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   98 PC24#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   99 PC25#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
  100 PC26#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
  101 PC27#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
  102 PC28#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
  103 PC29#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
  104 PC30#     0.0    0.0    0.0    0.0    0.0
              24-28  24-28  24-28  24-28  24-28
   * 2025 INJECTION RATES PROJECTED FORWARD
   # YEAR  POST CLOSURE

  INJECTION IN AQUIFER LEVELS   24  26  28  30  32  34
1

 * * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *
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		INPUT PARAMETERS				
LEVEL		THICKNESS FT	POROSITY	PERMEABILITY DARCY	VISCOSITY CP	COMPRESSIBILITY* 1/PSI
1	Top Confining Zone Shale	120.00	0.114	0.1000E-14	0.748	0.700E-04
2	Sand	22.00	0.250	1.000	0.746	0.100E-04
3	Shale	45.00	0.114	0.1000E-14	0.744	0.700E-04
4	Sand	67.00	0.250	1.000	0.742	0.100E-04
5	Shale	54.00	0.114	0.1000E-14	0.740	0.700E-04
6	Sand	26.00	0.250	1.000	0.737	0.986E-05
7	Shale	70.00	0.114	0.1000E-14	0.735	0.700E-04
8	Sand	10.00	0.250	1.000	0.733	0.974E-05
9	Shale	146.00	0.113	0.1000E-14	0.729	0.700E-04
10	Sand	18.00	0.250	1.000	0.724	0.955E-05
11	Shale	59.00	0.113	0.1000E-14	0.722	0.700E-04
12	Sand	73.00	0.250	1.000	0.719	0.947E-05
13	Shale	125.00	0.113	0.1000E-14	0.715	0.700E-04
14	Sand	45.00	0.250	1.000	0.710	0.925E-05
15	Shale	130.00	0.112	0.1000E-14	0.706	0.700E-04
16	Top of Injection Zone	77.00	0.250	1.000	0.702	0.907E-05
17	Containment Int Shale	29.00	0.111	0.1000E-14	0.701	0.700E-04
18	Sand	12.00	0.250	1.000	0.699	0.896E-05
19	Containment Int Shale	108.00	0.111	0.1000E-14	0.694	0.700E-04
20	Sand	80.00	0.250	1.000	0.689	0.884E-05
21	Containment Int Shale	68.00	0.110	0.1000E-14	0.686	0.700E-04
22	Sand	51.00	0.250	1.000	0.682	0.870E-05
23	Containment Int Shale	67.00	0.110	0.1000E-14	0.688	0.700E-04
24	Miocene Orange Sand L1	55.00	0.270	4.000	0.694	0.104E-04
25	Shale	24.00	0.109	0.1000E-14	0.690	0.700E-04
26	Miocene Orange Sand L2	70.00	0.270	4.000	0.686	0.104E-04
27	Shale	79.00	0.109	0.1000E-14	0.682	0.700E-04
28	Miocene Orange Sand L3	45.00	0.310	4.000	0.678	0.104E-04
29	Shale	64.00	0.109	0.1000E-14	0.672	0.700E-04
30	Miocene Yellow Sand L1	85.00	0.290	4.000	0.666	0.958E-05
31	Shale	66.00	0.109	0.1000E-14	0.662	0.700E-04
32	Miocene Yellow Sand L2	45.00	0.300	4.000	0.657	0.996E-05
33	Shale	54.00	0.109	0.1000E-14	0.654	0.700E-04
34	Miocene Yellow Sand L3	60.00	0.300	4.000	0.652	0.986E-05

* Alpha as defined in Groundwater, Freeze and Cherry, Eqn. 2.52, pg. 54
== (porosity) * (oilfield formation compressibility)

		DERIVED PARAMETERS		
LEVEL		STORATIVITY	VERT. LEAKANCE 1/YEAR	TRANSMISSIVITY DARCY-FT
1	Top Confining Zone Shale	0.3658E-02	0.1111E-13	0.1200E-12
2	Sand	0.1026E-03	60.76	22.00
3	Shale	0.1372E-02	0.2978E-13	0.4500E-13

4	Sand	0.3124E-03	20.06	67.00
5	Shale	0.1646E-02	0.2495E-13	0.5400E-13
6	Sand	0.1196E-03	52.04	26.00
7	Shale	0.2134E-02	0.1938E-13	0.7000E-13
8	Sand	0.4549E-04	136.0	10.00
9	Shale	0.4450E-02	0.9368E-14	0.1460E-12
10	Sand	0.8041E-04	76.51	18.00
11	Shale	0.1798E-02	0.2341E-13	0.5900E-13
12	Sand	0.3236E-03	19.00	73.00
13	Shale	0.3810E-02	0.1116E-13	0.1250E-12
14	Sand	0.1952E-03	31.21	45.00
15	Shale	0.3962E-02	0.1086E-13	0.1300E-12
16	Top of Injection Zone	0.3279E-03	18.45	77.00
17	Containment Int Shale	0.8839E-03	0.4905E-13	0.2900E-13
18	Sand	0.5054E-04	118.9	12.00
19	Containment Int Shale	0.3292E-02	0.1330E-13	0.1080E-12
20	Sand	0.3328E-03	18.09	80.00
21	Containment Int Shale	0.2073E-02	0.2138E-13	0.6800E-13
22	Sand	0.2090E-03	28.67	51.00
23	Containment Int Shale	0.2042E-02	0.2163E-13	0.6700E-13
24	Miocene Orange Sand L1	0.2674E-03	104.5	220.0
25	Shale	0.7314E-03	0.6021E-13	0.2400E-13
26	Miocene Orange Sand L2	0.3403E-03	83.06	280.0
27	Shale	0.2408E-02	0.1851E-13	0.7900E-13
28	Miocene Orange Sand L3	0.2211E-03	130.7	180.0
29	Shale	0.1951E-02	0.2318E-13	0.6400E-13
30	Miocene Yellow Sand L1	0.3853E-03	70.45	340.0
31	Shale	0.2011E-02	0.2282E-13	0.6600E-13
32	Miocene Yellow Sand L2	0.2120E-03	134.9	180.0
33	Shale	0.1646E-02	0.2823E-13	0.5400E-13
34	Miocene Yellow Sand L3	0.2800E-03	102.0	240.0

	INJECTION WELL		DIST TO OTHER INJ WELLS (FT)				
#	ID	COORDINATES	(M1)	(M2)	(D3)	(D3)	(D1)
1	(M1)	0. 0.	0.0	19123.9	14618.0	13889.1	15326.1
2	(M2)	-15217. 11583.	19123.9	0.0	13555.7	14438.0	14560.2
3	(D3)	-14487. -1953.	14618.0	13555.7	0.0	20807.0	21803.4
4	(D3)	-959. 13856.	13889.1	14438.0	20807.0	0.0	1438.8
5	(D1)	-1135. 15284.	15326.1	14560.2	21803.4	1438.8	0.0

COORDINATES OF MODEL GENERATED IMAGE WELLS
BASED ON FAULT COORDINATES: (-8762.,******), (21346.,-4329.)

#	&	IMAGE COORDINATES									
1		11550.	-23782.	2	11245.	-42904.	3	1057.	-33961.	4	21847.	-33103.	5	22860.	-34125.

PRESS MONITOR POINTS DIST TO INJ WELLS (FT)

#	ID	COORDINATES		(M1)	(M2)	(D3)	(D3)	(D1)
1	(1)	-2511.	7955.	8341.9	13213.8	15543.3	6101.7	7457.1
2	(2)	-2552.	7821.	8226.8	13211.9	15426.4	6241.7	7596.3
3	(3)	-4406.	7663.	8839.4	11499.7	13931.8	7087.7	8293.3
4	(4)	-7372.	7307.	10379.7	8934.7	11677.8	9166.0	10125.8
5	(5)	-5018.	11507.	12553.5	10199.3	16457.0	4689.7	5417.0
6	(6)	-2402.	12915.	13136.5	12884.0	19160.0	1722.7	2686.5
7	(7)	-49.	12046.	12046.1	15175.1	20110.4	2025.9	3415.3
8	(8)	1882.	9723.	9903.5	17199.9	20106.5	5015.3	6326.7
9	(9)	8870.	8697.	12422.3	24259.3	25670.4	11100.7	11978.7
10	(10)	-1782.	982.	2034.7	17113.7	13039.6	12900.3	14316.6
11	(11)	-739.	-461.	871.0	18832.7	13828.7	14318.7	15750.0
12	(12)	3292.	-2427.	4089.9	23213.4	17785.3	16828.8	18255.9
13	(13)	7214.	-6088.	9439.6	28555.5	22091.4	21553.7	22944.9
14	(14)	9544.	-6488.	11540.5	30654.0	24455.2	22895.2	24250.0
15	(15)	9522.	-8192.	12560.9	31671.3	24806.4	24412.4	25781.7
16	(16)	176.	-7992.	7993.9	24902.3	15857.9	21877.5	23312.9
17	(17)	-725.	-5054.	5105.7	22063.7	14107.0	18911.4	20342.1
18	(18)	-2755.	-6811.	7347.1	22218.0	12698.0	20744.9	22154.3
19	(19)	-5185.	-7659.	9249.0	21700.1	10912.6	21926.1	23297.7
20	(20)	-7777.	-8418.	11460.6	21340.0	9317.7	23294.1	24615.1
21	(22)	-8947.	-7320.	11559.9	19915.7	7713.4	22632.5	23915.9
22	(23)	-9854.	-6023.	11548.9	18404.7	6166.8	21778.3	23021.9
23	(24)	-7418.	-3254.	8100.3	16761.9	7187.7	18288.5	19573.8
24	(25)	-8940.	-3132.	9472.8	15997.9	5670.9	18769.4	20001.7
25	(26)	-12825.	-2139.	13002.2	13928.9	1672.4	19915.9	20981.3
26	(30)	-15996.	-889.	16020.7	12496.3	1846.4	21060.1	21964.0
27	(31)	-12103.	-368.	12108.6	12350.0	2862.8	18069.6	19112.4
28	(32)	-9731.	1882.	9911.3	11144.8	6109.6	14843.3	15921.8
29	(33)	-11509.	3152.	11932.8	9210.4	5910.1	15029.2	15962.6
30	(34)	-14725.	1379.	14789.4	10215.9	3340.5	18579.0	19443.2

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 1 (1983)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.52*	0.47*	3.45*	0.36*	0.34*
26	Miocene Orange Sand L2	0.52*	0.47*	3.45*	0.36*	0.34*
28	Miocene Orange Sand L3	0.52*	0.47*	3.45*	0.36*	0.34*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.01	0.01	18.66	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	24.02	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	15.62	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	30.7	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.45	0.46	0.48	0.53	0.43	0.38	0.37	0.38	0.32	0.55
		0.54	0.48	0.45	0.42	0.43	0.56	0.56	0.60	0.65	0.70
		0.74	0.79	0.73	0.80	1.13	1.09	0.97	0.75	0.74	0.90
26	Miocene Orange Sand L2	0.46	0.46	0.49	0.53	0.43	0.38	0.37	0.38	0.32	0.55
		0.54	0.49	0.45	0.42	0.43	0.57	0.57	0.61	0.65	0.70
		0.74	0.79	0.74	0.80	1.13	1.09	0.97	0.75	0.74	0.90
28	Miocene Orange Sand L3	0.46	0.46	0.49	0.53	0.43	0.38	0.37	0.38	0.32	0.55
		0.54	0.49	0.45	0.42	0.43	0.57	0.57	0.61	0.65	0.70
		0.74	0.79	0.74	0.80	1.13	1.09	0.97	0.75	0.74	0.90
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 2 (1984)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.90*	0.82*	4.96*	0.66*	0.63*
26	Miocene Orange Sand L2	0.90*	0.82*	4.96*	0.66*	0.63*
28	Miocene Orange Sand L3	0.90*	0.82*	4.96*	0.66*	0.63*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.01	0.01	25.87	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	33.28	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	21.65	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	73.2	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.80	0.81	0.85	0.91	0.76	0.69	0.68	0.69	0.61	0.94
		0.93	0.85	0.80	0.76	0.78	0.97	0.97	1.03	1.09	1.15
		1.21	1.28	1.20	1.29	1.75	1.69	1.53	1.21	1.20	1.43
26	Miocene Orange Sand L2	0.81	0.81	0.85	0.92	0.76	0.69	0.68	0.70	0.61	0.94
		0.93	0.85	0.81	0.77	0.78	0.97	0.97	1.03	1.09	1.16
		1.21	1.28	1.20	1.29	1.75	1.69	1.53	1.21	1.20	1.43
28	Miocene Orange Sand L3	0.81	0.81	0.85	0.92	0.76	0.69	0.68	0.70	0.61	0.94

		0.93	0.85	0.81	0.77	0.78	0.97	0.97	1.03	1.09	1.16
		1.21	1.28	1.20	1.29	1.75	1.69	1.53	1.21	1.20	1.43
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 3 (1985)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.03*	0.94*	4.79*	0.79*	0.77*
26	Miocene Orange Sand L2	1.03*	0.94*	4.79*	0.79*	0.77*
28	Miocene Orange Sand L3	1.03*	0.94*	4.79*	0.79*	0.77*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.01	0.01	23.98	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	30.85	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	20.07	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	112.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.93	0.94	0.97	1.04	0.89	0.82	0.81	0.83	0.74	1.06
		1.05	0.98	0.94	0.90	0.91	1.09	1.09	1.15	1.21	1.27
		1.32	1.39	1.31	1.39	1.82	1.76	1.61	1.32	1.31	1.52
26	Miocene Orange Sand L2	0.93	0.94	0.97	1.04	0.89	0.82	0.81	0.83	0.75	1.06
		1.05	0.98	0.94	0.90	0.92	1.09	1.10	1.15	1.21	1.27
		1.32	1.39	1.31	1.39	1.82	1.76	1.61	1.32	1.31	1.52
28	Miocene Orange Sand L3	0.93	0.94	0.97	1.04	0.89	0.83	0.81	0.83	0.75	1.06
		1.06	0.98	0.94	0.90	0.92	1.09	1.10	1.15	1.21	1.27
		1.32	1.39	1.31	1.39	1.82	1.76	1.61	1.32	1.31	1.52
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 4 (1986)

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.84*	0.78*	2.96*	0.69*	0.67*
26	Miocene Orange Sand L2	0.84*	0.78*	2.96*	0.69*	0.67*
28	Miocene Orange Sand L3	0.84*	0.78*	2.96*	0.69*	0.67*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	13.51	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	17.38	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	11.31	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	134.7	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.78	0.78	0.80	0.84	0.75	0.71	0.71	0.72	0.67	0.86
		0.85	0.81	0.79	0.77	0.78	0.88	0.88	0.92	0.95	0.98
		1.01	1.05	1.00	1.05	1.29	1.25	1.17	1.00	1.00	1.12
26	Miocene Orange Sand L2	0.78	0.78	0.80	0.84	0.75	0.71	0.71	0.72	0.67	0.86
		0.85	0.81	0.79	0.77	0.78	0.88	0.88	0.92	0.95	0.99
		1.01	1.05	1.00	1.05	1.29	1.25	1.17	1.00	1.00	1.12
28	Miocene Orange Sand L3	0.78	0.78	0.80	0.84	0.75	0.71	0.71	0.72	0.67	0.86
		0.85	0.81	0.79	0.77	0.78	0.88	0.88	0.92	0.95	0.99
		1.01	1.05	1.00	1.05	1.29	1.25	1.17	1.00	1.00	1.12
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 5 (1987)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					

2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.65*	0.61*	1.85*	0.56*	0.55*
26	Miocene Orange Sand L2	0.65*	0.61*	1.85*	0.56*	0.55*
28	Miocene Orange Sand L3	0.65*	0.61*	1.85*	0.56*	0.55*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	7.59	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	9.76	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	6.35	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	147.2	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.62	0.62	0.63	0.65	0.60	0.58	0.57	0.58	0.55	0.66
		0.66	0.64	0.63	0.61	0.62	0.68	0.68	0.70	0.72	0.74
		0.76	0.77	0.75	0.77	0.91	0.88	0.84	0.74	0.74	0.81
26	Miocene Orange Sand L2	0.62	0.62	0.63	0.65	0.60	0.58	0.57	0.58	0.55	0.66
		0.66	0.64	0.63	0.61	0.62	0.68	0.68	0.70	0.72	0.74
		0.76	0.77	0.75	0.77	0.91	0.88	0.84	0.74	0.74	0.81
28	Miocene Orange Sand L3	0.62	0.62	0.63	0.65	0.60	0.58	0.57	0.58	0.55	0.66
		0.66	0.64	0.63	0.61	0.62	0.68	0.68	0.70	0.72	0.74
		0.76	0.77	0.75	0.77	0.91	0.88	0.84	0.74	0.75	0.81
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 6 (1988)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.44*	0.42*	0.70*	0.40*	0.40*
26	Miocene Orange Sand L2	0.44*	0.42*	0.70*	0.40*	0.40*
28	Miocene Orange Sand L3	0.44*	0.42*	0.70*	0.40*	0.40*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	1.66	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	2.14	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	1.39	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	149.9	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.43	0.43	0.43	0.43	0.42	0.41	0.41	0.41	0.40	0.44
		0.44	0.43	0.43	0.43	0.43	0.45	0.45	0.45	0.46	0.46
		0.47	0.47	0.46	0.47	0.49	0.49	0.48	0.46	0.46	0.47
26	Miocene Orange Sand L2	0.43	0.43	0.43	0.43	0.42	0.41	0.41	0.41	0.40	0.44
		0.44	0.43	0.43	0.43	0.43	0.45	0.45	0.45	0.46	0.46
		0.47	0.47	0.46	0.47	0.49	0.49	0.48	0.46	0.46	0.47
28	Miocene Orange Sand L3	0.43	0.43	0.43	0.43	0.42	0.41	0.41	0.41	0.40	0.44
		0.44	0.43	0.43	0.43	0.43	0.45	0.45	0.45	0.46	0.46
		0.47	0.47	0.46	0.47	0.49	0.49	0.48	0.46	0.46	0.47
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 7 (1989)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.61*	1.48*	8.91*	1.19*	1.15*
26	Miocene Orange Sand L2	1.61*	1.48*	8.91*	1.19*	1.15*
28	Miocene Orange Sand L3	1.61*	1.48*	8.91*	1.19*	1.15*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.02	0.02	46.48	0.01	0.01
26	Miocene Orange Sand L2	-0.01	-0.01	59.81	-0.01	-0.01
28	Miocene Orange Sand L3	-0.01	-0.01	38.90	-0.01	-0.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	226.3	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.44	1.45	1.51	1.64	1.37	1.25	1.23	1.25	1.10	1.67
		1.66	1.52	1.43	1.36	1.38	1.72	1.72	1.82	1.94	2.05
		2.15	2.28	2.14	2.30	3.13	3.02	2.73	2.17	2.14	2.56
26	Miocene Orange Sand L2	1.44	1.45	1.52	1.64	1.37	1.25	1.23	1.25	1.10	1.67
		1.66	1.52	1.43	1.37	1.39	1.72	1.73	1.83	1.94	2.05
		2.16	2.29	2.15	2.30	3.14	3.03	2.73	2.17	2.15	2.56
28	Miocene Orange Sand L3	1.44	1.45	1.52	1.64	1.37	1.25	1.23	1.25	1.10	1.67
		1.66	1.52	1.43	1.37	1.39	1.72	1.73	1.83	1.94	2.05
		2.16	2.29	2.15	2.30	3.14	3.03	2.73	2.17	2.15	2.56
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 8 (1990)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00

12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.12*	1.95*	10.12*	1.63*	1.58*
26	Miocene Orange Sand L2	2.12*	1.95*	10.12*	1.63*	1.58*
28	Miocene Orange Sand L3	2.12*	1.95*	10.12*	1.63*	1.58*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.02	0.02	50.93	0.01	0.01
26	Miocene Orange Sand L2	-0.01	-0.01	65.54	-0.01	-0.01
28	Miocene Orange Sand L3	-0.01	-0.01	42.63	-0.01	-0.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	310.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.92	1.93	2.00	2.14	1.83	1.70	1.67	1.70	1.53	2.19
		2.17	2.02	1.93	1.85	1.88	2.25	2.26	2.37	2.50	2.62
		2.73	2.87	2.71	2.89	3.79	3.67	3.35	2.73	2.71	3.16
26	Miocene Orange Sand L2	1.92	1.93	2.01	2.14	1.83	1.70	1.67	1.71	1.53	2.19
		2.18	2.03	1.93	1.85	1.88	2.26	2.26	2.38	2.51	2.63
		2.74	2.88	2.72	2.89	3.80	3.67	3.35	2.73	2.71	3.16
28	Miocene Orange Sand L3	1.92	1.93	2.01	2.14	1.83	1.70	1.68	1.71	1.53	2.19
		2.18	2.03	1.93	1.85	1.88	2.26	2.26	2.38	2.51	2.63
		2.74	2.88	2.72	2.89	3.80	3.67	3.35	2.73	2.71	3.16
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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                                  0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

------------------------------------------------------------YEAR    9 (1991)-----------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00     0.00     0.00     0.00     0.00
 4  Sand                                    0.00     0.00     0.00     0.00     0.00
 6  Sand                                    0.00     0.00     0.00     0.00     0.00
 8  Sand                                    0.00     0.00     0.00     0.00     0.00
10  Sand                                    0.00     0.00     0.00     0.00     0.00
12  Sand                                    0.00     0.00     0.00     0.00     0.00
14  Sand                                    0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00     0.00     0.00     0.00     0.00
18  Sand                                    0.00     0.00     0.00     0.00     0.00
20  Sand                                    0.00     0.00     0.00     0.00     0.00
22  Sand                                    0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  2.30*    2.12*    9.77*    1.82*    1.77*
26  Miocene Orange Sand L2                  2.30*    2.12*    9.77*    1.82*    1.77*
28  Miocene Orange Sand L3                  2.30*    2.12*    9.77*    1.82*    1.77*
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                  0.02     0.02    47.54     0.01     0.01
26  Miocene Orange Sand L2                 -0.01    -0.01    61.17    -0.01    -0.01
28  Miocene Orange Sand L3                 -0.01    -0.01    39.79    -0.01    -0.01
30  Miocene Yellow Sand L1                  0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)        0.0      0.0    388.1      0.0      0.0


                                                                PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  2.11     2.12     2.19     2.31     2.01     1.89     1.87     1.90     1.73     2.36
                                            2.35     2.21     2.12     2.05     2.08     2.43     2.44     2.55     2.67     2.78
```

		2.89	3.01	2.86	3.02	3.86	3.75	3.45	2.87	2.85	3.28
26	Miocene Orange Sand L2	2.11	2.12	2.19	2.32	2.02	1.89	1.87	1.90	1.74	2.37
		2.35	2.21	2.13	2.05	2.08	2.43	2.44	2.55	2.67	2.79
		2.89	3.02	2.86	3.02	3.87	3.75	3.45	2.87	2.86	3.28
28	Miocene Orange Sand L3	2.11	2.12	2.19	2.32	2.02	1.89	1.87	1.90	1.74	2.37
		2.35	2.21	2.13	2.05	2.08	2.43	2.44	2.55	2.67	2.79
		2.89	3.02	2.86	3.02	3.87	3.75	3.45	2.87	2.86	3.28
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 10 (1992)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.40*	2.22*	9.50*	1.93*	1.88*
26	Miocene Orange Sand L2	2.40*	2.22*	9.50*	1.93*	1.88*
28	Miocene Orange Sand L3	2.40*	2.22*	9.50*	1.93*	1.88*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.01	0.01	45.23	0.01	0.01
26	Miocene Orange Sand L2	-0.01	-0.01	58.21	-0.01	-0.01
28	Miocene Orange Sand L3	-0.01	-0.01	37.86	0.00	-0.01

30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 0.0 0.0 462.4 0.0 0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	2.21	2.22	2.29	2.41	2.12	2.00	1.98	2.01	1.85	2.46
		2.45	2.31	2.23	2.16	2.19	2.52	2.53	2.64	2.75	2.86
		2.96	3.08	2.93	3.09	3.89	3.77	3.49	2.94	2.93	3.33
26	Miocene Orange Sand L2	2.22	2.22	2.29	2.41	2.12	2.00	1.98	2.02	1.85	2.46
		2.45	2.32	2.23	2.16	2.19	2.53	2.53	2.64	2.76	2.86
		2.96	3.08	2.94	3.09	3.89	3.78	3.49	2.94	2.93	3.33
28	Miocene Orange Sand L3	2.22	2.22	2.29	2.41	2.12	2.00	1.98	2.02	1.85	2.46
		2.45	2.32	2.23	2.16	2.19	2.53	2.53	2.64	2.76	2.86
		2.96	3.08	2.94	3.09	3.89	3.78	3.49	2.94	2.93	3.33
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 11 (1993)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.16*	2.02*	7.32*	1.81*	1.77*
26	Miocene Orange Sand L2	2.16*	2.02*	7.32*	1.81*	1.77*
28	Miocene Orange Sand L3	2.16*	2.02*	7.32*	1.81*	1.77*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.01	0.01	32.84	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	42.27	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	27.49	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	516.4	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	2.02	2.03	2.08	2.17	1.95	1.86	1.84	1.87	1.75	2.21
		2.20	2.10	2.04	1.99	2.01	2.26	2.26	2.35	2.43	2.51
		2.58	2.66	2.56	2.67	3.25	3.16	2.95	2.55	2.55	2.84
26	Miocene Orange Sand L2	2.02	2.03	2.08	2.17	1.95	1.86	1.84	1.87	1.75	2.21
		2.20	2.10	2.05	1.99	2.01	2.26	2.27	2.35	2.43	2.51
		2.58	2.67	2.56	2.67	3.25	3.16	2.96	2.56	2.55	2.84
28	Miocene Orange Sand L3	2.02	2.03	2.08	2.17	1.95	1.86	1.84	1.87	1.75	2.21
		2.20	2.10	2.05	1.99	2.01	2.26	2.27	2.35	2.43	2.51
		2.58	2.67	2.56	2.67	3.25	3.16	2.96	2.56	2.55	2.84
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 12 (1994)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.16*	2.02*	7.42*	1.80*	1.77*
26	Miocene Orange Sand L2	2.16*	2.02*	7.42*	1.80*	1.77*
28	Miocene Orange Sand L3	2.16*	2.02*	7.42*	1.80*	1.77*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.01	0.01	33.51	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	43.13	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	28.05	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	571.4	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	2.02	2.02	2.08	2.16	1.95	1.86	1.84	1.87	1.75	2.20
		2.19	2.10	2.04	1.98	2.00	2.26	2.26	2.34	2.43	2.51
		2.58	2.67	2.56	2.67	3.26	3.18	2.97	2.56	2.55	2.85
26	Miocene Orange Sand L2	2.02	2.03	2.08	2.17	1.95	1.86	1.84	1.87	1.75	2.20
		2.20	2.10	2.04	1.98	2.00	2.26	2.26	2.34	2.43	2.51
		2.58	2.67	2.56	2.67	3.26	3.18	2.97	2.56	2.55	2.85
28	Miocene Orange Sand L3	2.02	2.03	2.08	2.17	1.95	1.86	1.84	1.87	1.75	2.20

		2.20	2.10	2.04	1.98	2.01	2.26	2.26	2.34	2.43	2.51
		2.58	2.67	2.56	2.67	3.26	3.18	2.97	2.56	2.55	2.85
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 13 (1995)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.69*	2.50*	10.82*	2.18*	2.12*
26	Miocene Orange Sand L2	2.69*	2.50*	10.82*	2.18*	2.12*
28	Miocene Orange Sand L3	2.69*	2.50*	10.82*	2.18*	2.12*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.02	0.02	51.79	0.01	0.01
26	Miocene Orange Sand L2	-0.01	-0.01	66.65	-0.01	-0.01
28	Miocene Orange Sand L3	-0.01	-0.01	43.35	-0.01	-0.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	656.5	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	2.48	2.49	2.57	2.71	2.38	2.25	2.22	2.26	2.08	2.76
		2.74	2.59	2.49	2.41	2.44	2.83	2.83	2.95	3.08	3.21
		3.32	3.46	3.29	3.47	4.39	4.26	3.94	3.31	3.29	3.75
26	Miocene Orange Sand L2	2.49	2.49	2.57	2.71	2.39	2.25	2.23	2.26	2.08	2.76
		2.74	2.59	2.50	2.42	2.45	2.83	2.83	2.95	3.09	3.21
		3.32	3.46	3.30	3.47	4.39	4.27	3.94	3.31	3.29	3.75
28	Miocene Orange Sand L3	2.49	2.49	2.57	2.71	2.39	2.25	2.23	2.26	2.08	2.76
		2.74	2.59	2.50	2.42	2.45	2.83	2.83	2.96	3.09	3.21
		3.32	3.46	3.30	3.47	4.39	4.27	3.94	3.31	3.29	3.75
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 14 (1996)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.84*	2.64*	10.65*	2.32*	2.27*
26	Miocene Orange Sand L2	2.84*	2.64*	10.65*	2.32*	2.27*
28	Miocene Orange Sand L3	2.84*	2.64*	10.65*	2.32*	2.27*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

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32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00
                                 * PERFORATED INJECTION ZONE

                                                                  INJECTION RATES (GPM)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                0.01     0.02    49.74     0.01     0.01
26  Miocene Orange Sand L2               -0.01    -0.01    64.02    -0.01    -0.01
28  Miocene Orange Sand L3               -0.01    -0.01    41.64    -0.01    -0.01
30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)       0.0      0.0    738.3      0.0      0.0


                                                          PRESSURES AT MONITOR COORD (PSI)
                              MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                          ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                          ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                2.63     2.64     2.71     2.85     2.53     2.40     2.37     2.41     2.23     2.90
                                          2.89     2.74     2.65     2.57     2.60     2.97     2.98     3.10     3.22     3.34
                                          3.45     3.58     3.42     3.59     4.47     4.35     4.03     3.43     3.41     3.86
26  Miocene Orange Sand L2                2.63     2.64     2.72     2.85     2.53     2.40     2.38     2.41     2.24     2.90
                                          2.89     2.74     2.65     2.57     2.60     2.98     2.98     3.10     3.23     3.35
                                          3.45     3.58     3.42     3.59     4.47     4.35     4.04     3.43     3.42     3.86
28  Miocene Orange Sand L3                2.63     2.64     2.72     2.85     2.53     2.40     2.38     2.41     2.24     2.90
                                          2.89     2.74     2.65     2.57     2.60     2.98     2.98     3.10     3.23     3.35
                                          3.45     3.58     3.42     3.59     4.47     4.35     4.04     3.43     3.42     3.86
30  Miocene Yellow Sand L1                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00
                                          0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

-----------------------------------------------------------YEAR   15 (1997)-------------------------------------------------
                                                          PRESSURES AT INJECTION WELL COORD (PSI)
                                 WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
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2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	3.51*	3.26*	14.43*	2.82*	2.75*
26	Miocene Orange Sand L2	3.51*	3.26*	14.43*	2.82*	2.75*
28	Miocene Orange Sand L3	3.51*	3.26*	14.43*	2.82*	2.75*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.02	0.02	69.59	0.02	0.02
26	Miocene Orange Sand L2	-0.01	-0.01	89.56	-0.01	-0.01
28	Miocene Orange Sand L3	-0.01	-0.01	58.25	-0.01	-0.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	852.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	3.23	3.24	3.35	3.53	3.10	2.91	2.88	2.93	2.69	3.60
		3.58	3.37	3.24	3.13	3.18	3.69	3.70	3.86	4.03	4.20
		4.35	4.54	4.32	4.56	5.79	5.62	5.18	4.34	4.31	4.93
26	Miocene Orange Sand L2	3.23	3.25	3.35	3.53	3.10	2.92	2.89	2.93	2.69	3.60
		3.58	3.38	3.25	3.14	3.18	3.70	3.70	3.86	4.04	4.21
		4.36	4.55	4.33	4.56	5.80	5.63	5.19	4.34	4.32	4.94
28	Miocene Orange Sand L3	3.23	3.25	3.35	3.53	3.10	2.92	2.89	2.93	2.69	3.60
		3.58	3.38	3.25	3.14	3.18	3.70	3.70	3.86	4.04	4.21
		4.36	4.55	4.33	4.56	5.80	5.63	5.19	4.34	4.32	4.94
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 16 (1998)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	2.65*	2.50*	7.18*	2.31*	2.26*
26	Miocene Orange Sand L2	2.65*	2.50*	7.18*	2.31*	2.26*
28	Miocene Orange Sand L3	2.65*	2.50*	7.18*	2.31*	2.26*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.01	28.80	0.01	0.01
26	Miocene Orange Sand L2	0.00	0.00	37.08	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	24.12	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	900.0	0.0	0.0					

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	2.52	2.52	2.57	2.65	2.44	2.36	2.34	2.38	2.26	2.69
		2.69	2.60	2.55	2.50	2.53	2.75	2.76	2.84	2.91	2.98
		3.04	3.11	3.01	3.10	3.61	3.53	3.35	2.99	3.00	3.26
26	Miocene Orange Sand L2	2.52	2.52	2.57	2.65	2.44	2.36	2.35	2.38	2.26	2.69
		2.69	2.60	2.56	2.50	2.53	2.75	2.76	2.84	2.91	2.98
		3.04	3.11	3.01	3.11	3.61	3.53	3.35	3.00	3.00	3.26
28	Miocene Orange Sand L3	2.52	2.52	2.57	2.65	2.44	2.36	2.35	2.38	2.26	2.69
		2.69	2.60	2.56	2.50	2.53	2.75	2.76	2.84	2.91	2.98
		3.04	3.11	3.01	3.11	3.61	3.53	3.35	3.00	3.00	3.26
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 17 (1999)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.80*	1.73*	2.65*	1.69*	1.67*
26	Miocene Orange Sand L2	1.80*	1.73*	2.65*	1.69*	1.67*
28	Miocene Orange Sand L3	1.80*	1.73*	2.65*	1.69*	1.67*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	5.34	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	6.88	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	4.48	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	908.7	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.76	1.76	1.77	1.79	1.73	1.71	1.71	1.72	1.69	1.81
		1.81	1.80	1.79	1.78	1.79	1.84	1.84	1.87	1.88	1.90
		1.90	1.91	1.88	1.90	1.99	1.96	1.93	1.86	1.87	1.93
26	Miocene Orange Sand L2	1.76	1.76	1.77	1.79	1.73	1.71	1.71	1.72	1.69	1.81
		1.81	1.80	1.79	1.78	1.79	1.84	1.84	1.86	1.88	1.89
		1.90	1.91	1.88	1.90	1.99	1.96	1.93	1.86	1.87	1.93
28	Miocene Orange Sand L3	1.76	1.76	1.77	1.79	1.73	1.71	1.71	1.72	1.69	1.81
		1.81	1.80	1.79	1.78	1.79	1.84	1.84	1.86	1.88	1.89
		1.90	1.91	1.88	1.90	1.99	1.96	1.93	1.86	1.87	1.93
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 18 (2000)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00

12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.68*	1.62*	3.58*	1.54*	1.52*
26	Miocene Orange Sand L2	1.68*	1.62*	3.58*	1.54*	1.52*
28	Miocene Orange Sand L3	1.68*	1.62*	3.58*	1.54*	1.52*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	12.06	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	15.53	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	10.10	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	928.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.63	1.63	1.65	1.68	1.59	1.56	1.55	1.57	1.52	1.70
		1.70	1.66	1.64	1.62	1.63	1.72	1.73	1.76	1.79	1.82
		1.84	1.87	1.83	1.87	2.08	2.05	1.97	1.82	1.83	1.94
26	Miocene Orange Sand L2	1.63	1.63	1.65	1.68	1.59	1.56	1.55	1.57	1.52	1.70
		1.70	1.66	1.64	1.62	1.63	1.72	1.73	1.76	1.79	1.82
		1.84	1.87	1.83	1.87	2.08	2.05	1.97	1.82	1.83	1.94
28	Miocene Orange Sand L3	1.63	1.63	1.65	1.68	1.59	1.56	1.55	1.57	1.52	1.70
		1.70	1.66	1.64	1.62	1.63	1.72	1.73	1.76	1.79	1.82
		1.84	1.87	1.83	1.87	2.08	2.05	1.97	1.82	1.83	1.94
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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                                  0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

------------------------------------------------------------YEAR   19 (2001)-----------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00      0.00     0.00     0.00     0.00
 4  Sand                                    0.00      0.00     0.00     0.00     0.00
 6  Sand                                    0.00      0.00     0.00     0.00     0.00
 8  Sand                                    0.00      0.00     0.00     0.00     0.00
10  Sand                                    0.00      0.00     0.00     0.00     0.00
12  Sand                                    0.00      0.00     0.00     0.00     0.00
14  Sand                                    0.00      0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00      0.00     0.00     0.00     0.00
18  Sand                                    0.00      0.00     0.00     0.00     0.00
20  Sand                                    0.00      0.00     0.00     0.00     0.00
22  Sand                                    0.00      0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  1.37*     1.33*    2.19*    1.29*    1.28*
26  Miocene Orange Sand L2                  1.37*     1.33*    2.19*    1.29*    1.28*
28  Miocene Orange Sand L3                  1.37*     1.33*    2.19*    1.29*    1.28*
30  Miocene Yellow Sand L1                  0.00      0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00      0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00      0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                        INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                  0.00      0.00     5.18     0.00     0.00
26  Miocene Orange Sand L2                  0.00      0.00     6.68     0.00     0.00
28  Miocene Orange Sand L3                  0.00      0.00     4.34     0.00     0.00
30  Miocene Yellow Sand L1                  0.00      0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00      0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00      0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)         0.0       0.0    937.1      0.0      0.0


                                                                        PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)     (  2)     (  3)     (  4)     (  5)     (  6)     (  7)     (  8)     (  9)     ( 10)
                                            ( 11)     ( 12)     ( 13)     ( 14)     ( 15)     ( 16)     ( 17)     ( 18)     ( 19)     ( 20)
                                            ( 22)     ( 23)     ( 24)     ( 25)     ( 26)     ( 30)     ( 31)     ( 32)     ( 33)     ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  1.34      1.35      1.35      1.37      1.32      1.31      1.30      1.31      1.29      1.38
                                            1.38      1.37      1.36      1.35      1.35      1.40      1.40      1.42      1.43      1.44
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		1.45	1.46	1.44	1.46	1.55	1.53	1.50	1.43	1.44	1.49
26	Miocene Orange Sand L2	1.34	1.35	1.35	1.37	1.32	1.31	1.30	1.31	1.29	1.38
		1.38	1.37	1.36	1.35	1.35	1.40	1.40	1.42	1.43	1.44
		1.45	1.46	1.44	1.46	1.55	1.53	1.50	1.43	1.44	1.49
28	Miocene Orange Sand L3	1.34	1.35	1.35	1.37	1.32	1.31	1.30	1.31	1.29	1.38
		1.38	1.37	1.36	1.35	1.35	1.40	1.40	1.42	1.43	1.44
		1.45	1.46	1.44	1.46	1.55	1.53	1.50	1.43	1.44	1.49
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 20 (2002)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.10*	1.07*	1.20*	1.07*	1.06*
26	Miocene Orange Sand L2	1.10*	1.07*	1.20*	1.07*	1.06*
28	Miocene Orange Sand L3	1.10*	1.07*	1.20*	1.07*	1.06*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.64	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.83	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.54	0.00	0.00

30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 0.0 0.0 938.1 0.0 0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.09	1.09	1.09	1.09	1.08	1.07	1.07	1.08	1.07	1.10
		1.10	1.10	1.10	1.10	1.10	1.11	1.11	1.12	1.12	1.12
		1.12	1.12	1.11	1.11	1.12	1.12	1.11	1.10	1.11	1.12
26	Miocene Orange Sand L2	1.09	1.09	1.09	1.09	1.08	1.07	1.07	1.08	1.07	1.10
		1.10	1.10	1.10	1.10	1.10	1.11	1.11	1.11	1.12	1.12
		1.12	1.12	1.11	1.11	1.12	1.12	1.11	1.10	1.11	1.12
28	Miocene Orange Sand L3	1.09	1.09	1.09	1.09	1.08	1.07	1.07	1.08	1.07	1.10
		1.10	1.10	1.10	1.09	1.10	1.11	1.11	1.11	1.12	1.12
		1.12	1.12	1.11	1.11	1.12	1.12	1.11	1.10	1.11	1.12
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 21 (2003)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	1.03*	1.00*	1.55*	0.98*	0.98*
26	Miocene Orange Sand L2	1.03*	1.00*	1.55*	0.98*	0.98*
28	Miocene Orange Sand L3	1.03*	1.00*	1.55*	0.98*	0.98*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	3.33	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	4.29	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	2.79	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	943.6	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.01	1.01	1.02	1.03	1.00	0.99	0.99	0.99	0.98	1.03
		1.03	1.02	1.02	1.01	1.02	1.04	1.04	1.05	1.06	1.07
		1.08	1.08	1.07	1.08	1.14	1.13	1.11	1.07	1.07	1.10
26	Miocene Orange Sand L2	1.01	1.01	1.02	1.03	1.00	0.99	0.99	0.99	0.98	1.03
		1.03	1.02	1.02	1.01	1.01	1.04	1.04	1.05	1.06	1.07
		1.08	1.08	1.07	1.08	1.14	1.13	1.11	1.07	1.07	1.10
28	Miocene Orange Sand L3	1.01	1.01	1.02	1.03	1.00	0.99	0.99	0.99	0.98	1.03
		1.03	1.02	1.02	1.01	1.01	1.04	1.04	1.05	1.06	1.07
		1.08	1.08	1.07	1.08	1.14	1.13	1.11	1.07	1.07	1.10
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 22 (2004)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.88*	0.87*	1.02*	0.86*	0.86*
26	Miocene Orange Sand L2	0.88*	0.87*	1.02*	0.86*	0.86*
28	Miocene Orange Sand L3	0.88*	0.87*	1.02*	0.86*	0.86*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.86	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	1.11	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.72	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 0.0 0.0 945.0 0.0 0.0

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.88	0.88	0.88	0.88	0.87	0.86	0.86	0.87	0.86	0.88
		0.89	0.88	0.88	0.88	0.88	0.89	0.89	0.90	0.90	0.90
		0.90	0.90	0.90	0.90	0.91	0.91	0.90	0.89	0.90	0.90
26	Miocene Orange Sand L2	0.88	0.88	0.88	0.88	0.87	0.86	0.86	0.87	0.86	0.88
		0.88	0.88	0.88	0.88	0.88	0.89	0.89	0.90	0.90	0.90
		0.90	0.90	0.90	0.90	0.91	0.91	0.90	0.89	0.90	0.90
28	Miocene Orange Sand L3	0.88	0.88	0.88	0.88	0.87	0.86	0.86	0.87	0.86	0.88

		0.88	0.88	0.88	0.88	0.88	0.89	0.89	0.90	0.90	0.90
		0.90	0.90	0.90	0.90	0.91	0.91	0.90	0.89	0.90	0.90
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 23 (2005)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.77*	0.76*	0.77*	0.76*	0.76*
26	Miocene Orange Sand L2	0.77*	0.76*	0.77*	0.76*	0.76*
28	Miocene Orange Sand L3	0.77*	0.76*	0.77*	0.76*	0.76*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	945.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.77	0.77	0.77	0.77	0.77	0.76	0.76	0.77	0.76	0.77
		0.77	0.77	0.78	0.77	0.78	0.78	0.78	0.78	0.78	0.78
		0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.78	0.78
26	Miocene Orange Sand L2	0.77	0.77	0.77	0.77	0.76	0.76	0.76	0.77	0.76	0.77
		0.77	0.77	0.77	0.77	0.77	0.78	0.78	0.78	0.78	0.78
		0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.78	0.78
28	Miocene Orange Sand L3	0.77	0.77	0.77	0.77	0.76	0.76	0.76	0.77	0.76	0.77
		0.77	0.77	0.77	0.77	0.77	0.78	0.78	0.78	0.78	0.78
		0.78	0.78	0.78	0.78	0.77	0.77	0.77	0.77	0.78	0.78
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 24 (2006)

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.70*	0.69*	0.70*	0.69*	0.69*
26	Miocene Orange Sand L2	0.70*	0.69*	0.70*	0.69*	0.69*
28	Miocene Orange Sand L3	0.70*	0.69*	0.70*	0.69*	0.69*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.70	0.70	0.70	0.70	0.69	0.69	0.69	0.69	0.69	0.70
		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
26	Miocene Orange Sand L2	0.70	0.70	0.70	0.70	0.69	0.69	0.69	0.69	0.69	0.70
		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
28	Miocene Orange Sand L3	0.70	0.70	0.70	0.70	0.69	0.69	0.69	0.69	0.69	0.70
		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
		0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 25 (2007)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					

2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.64*	0.63*	0.64*	0.63*	0.63*
26	Miocene Orange Sand L2	0.64*	0.63*	0.64*	0.63*	0.63*
28	Miocene Orange Sand L3	0.64*	0.63*	0.64*	0.63*	0.63*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.65
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
26	Miocene Orange Sand L2	0.64	0.64	0.64	0.64	0.64	0.63	0.64	0.64	0.64	0.64
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.65
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
28	Miocene Orange Sand L3	0.64	0.64	0.64	0.64	0.64	0.63	0.64	0.64	0.64	0.64
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.65
		0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 26 (2008)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.59*	0.59*	0.59*	0.59*	0.59*
26	Miocene Orange Sand L2	0.59*	0.59*	0.59*	0.59*	0.59*
28	Miocene Orange Sand L3	0.59*	0.59*	0.59*	0.59*	0.59*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	945.0	0.0	0.0					

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
		0.59	0.59	0.59	0.59	0.59	0.60	0.60	0.60	0.60	0.60
		0.60	0.60	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
26	Miocene Orange Sand L2	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
		0.59	0.59	0.59	0.59	0.59	0.59	0.60	0.60	0.60	0.60
		0.60	0.60	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
28	Miocene Orange Sand L3	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
		0.59	0.59	0.59	0.59	0.59	0.59	0.60	0.60	0.60	0.60
		0.60	0.60	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 27 (2009)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.55*	0.55*	0.55*	0.55*	0.55*
26	Miocene Orange Sand L2	0.55*	0.55*	0.55*	0.55*	0.55*
28	Miocene Orange Sand L3	0.55*	0.55*	0.55*	0.55*	0.55*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	0.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.56	0.56	0.56
		0.56	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
26	Miocene Orange Sand L2	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.56	0.56	0.56
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
28	Miocene Orange Sand L3	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.56	0.56	0.56
		0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 28 (2010)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00

12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.52*	0.51*	0.52*	0.51*	0.51*
26	Miocene Orange Sand L2	0.52*	0.51*	0.52*	0.51*	0.51*
28	Miocene Orange Sand L3	0.52*	0.51*	0.52*	0.51*	0.51*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
INJECTION LEVEL					
24 Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26 Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28 Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30 Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)	0.0	0.0	945.0	0.0	0.0

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
FORMATION LEVEL										
24 Miocene Orange Sand L1	0.52	0.52	0.52	0.52	0.51	0.51	0.51	0.52	0.51	0.52
	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
26 Miocene Orange Sand L2	0.52	0.52	0.52	0.52	0.51	0.51	0.51	0.52	0.51	0.52
	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
28 Miocene Orange Sand L3	0.52	0.52	0.52	0.52	0.51	0.51	0.51	0.51	0.51	0.52
	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52	0.52
30 Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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                                  0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00     0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

------------------------------------------------------------YEAR   29 (2011)-----------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                   0.00     0.00     0.00     0.00     0.00
 4  Sand                                   0.00     0.00     0.00     0.00     0.00
 6  Sand                                   0.00     0.00     0.00     0.00     0.00
 8  Sand                                   0.00     0.00     0.00     0.00     0.00
10  Sand                                   0.00     0.00     0.00     0.00     0.00
12  Sand                                   0.00     0.00     0.00     0.00     0.00
14  Sand                                   0.00     0.00     0.00     0.00     0.00
16  Top of Injection Zone                  0.00     0.00     0.00     0.00     0.00
18  Sand                                   0.00     0.00     0.00     0.00     0.00
20  Sand                                   0.00     0.00     0.00     0.00     0.00
22  Sand                                   0.00     0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                 0.49*    0.48*    0.49*    0.48*    0.48*
26  Miocene Orange Sand L2                 0.49*    0.48*    0.49*    0.48*    0.48*
28  Miocene Orange Sand L3                 0.49*    0.48*    0.49*    0.48*    0.48*
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                      INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                 0.00     0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                 0.00     0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                 0.00     0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                 0.00     0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                 0.00     0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                 0.00     0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)        0.0      0.0    945.0      0.0      0.0


                                                                      PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                 0.49     0.49     0.49     0.49     0.48     0.48     0.48     0.49     0.48     0.49
                                           0.49     0.49     0.49     0.49     0.49     0.49     0.49     0.49     0.49     0.49
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		0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
26	Miocene Orange Sand L2	0.49	0.49	0.49	0.49	0.48	0.48	0.48	0.48	0.48	0.49
		0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
		0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
28	Miocene Orange Sand L3	0.49	0.49	0.49	0.49	0.48	0.48	0.48	0.48	0.48	0.49
		0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
		0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 30 (2012)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.46*	0.46*	0.46*	0.46*
26	Miocene Orange Sand L2	0.46*	0.46*	0.46*	0.46*
28	Miocene Orange Sand L3	0.46*	0.46*	0.46*	0.46*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00

30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 0.0 0.0 945.0 0.0 0.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
26	Miocene Orange Sand L2	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
28	Miocene Orange Sand L3	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 31 (2013)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.46*	0.45*	0.45*	0.49*	0.61*
26	Miocene Orange Sand L2	0.46*	0.45*	0.45*	0.49*	0.61*
28	Miocene Orange Sand L3	0.46*	0.45*	0.45*	0.49*	0.61*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.96
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	1.24
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.80
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	0.0	1.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.47	0.47	0.47	0.46	0.47	0.48	0.48	0.47	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.45	0.45	0.46	0.46	0.46	0.46
26	Miocene Orange Sand L2	0.47	0.47	0.47	0.46	0.47	0.48	0.48	0.47	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.45	0.45	0.46	0.46	0.46	0.46
28	Miocene Orange Sand L3	0.47	0.47	0.47	0.46	0.47	0.48	0.48	0.47	0.46	0.46
		0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
		0.46	0.46	0.46	0.46	0.45	0.45	0.46	0.46	0.46	0.46
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 32 (2014)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.55*	0.53*	0.51*	0.91*	1.08*
26	Miocene Orange Sand L2	0.55*	0.53*	0.51*	0.91*	1.08*
28	Miocene Orange Sand L3	0.55*	0.53*	0.51*	0.91*	1.08*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	1.66	3.14
26	Miocene Orange Sand L2	0.00	0.00	0.00	2.14	4.04
28	Miocene Orange Sand L3	0.00	0.00	0.00	1.39	2.63
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	2.8	6.7

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.59	0.59	0.58	0.57	0.61	0.67	0.65	0.60	0.56	0.55
		0.54	0.54	0.53	0.53	0.53	0.53	0.53	0.53	0.52	0.51
		0.51	0.52	0.53	0.52	0.52	0.51	0.52	0.53	0.53	0.52
26	Miocene Orange Sand L2	0.59	0.59	0.58	0.57	0.61	0.67	0.65	0.60	0.56	0.55
		0.54	0.54	0.53	0.53	0.53	0.53	0.53	0.53	0.52	0.51
		0.51	0.52	0.53	0.52	0.52	0.51	0.52	0.54	0.53	0.52
28	Miocene Orange Sand L3	0.59	0.59	0.58	0.57	0.61	0.67	0.65	0.60	0.56	0.55

		0.54	0.54	0.53	0.53	0.53	0.53	0.53	0.53	0.52	0.51
		0.51	0.52	0.53	0.52	0.52	0.51	0.52	0.54	0.53	0.52
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 33 (2015)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.78*	0.72*	0.69*	2.39*	1.55*
26	Miocene Orange Sand L2	0.78*	0.72*	0.69*	2.39*	1.55*
28	Miocene Orange Sand L3	0.78*	0.72*	0.69*	2.39*	1.55*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	9.83	2.98
26	Miocene Orange Sand L2	0.00	0.00	0.00	12.65	3.83
28	Miocene Orange Sand L3	0.00	0.00	0.00	8.23	2.49
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	18.9	11.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.91	0.91	0.88	0.83	0.95	1.14	1.11	0.95	0.81	0.79
		0.77	0.77	0.74	0.74	0.74	0.73	0.74	0.73	0.71	0.69
		0.69	0.69	0.72	0.71	0.70	0.68	0.71	0.75	0.74	0.70
26	Miocene Orange Sand L2	0.91	0.91	0.88	0.83	0.96	1.14	1.11	0.95	0.81	0.79
		0.78	0.77	0.75	0.74	0.74	0.73	0.74	0.73	0.71	0.69
		0.69	0.69	0.72	0.72	0.70	0.68	0.71	0.75	0.74	0.70
28	Miocene Orange Sand L3	0.91	0.91	0.88	0.83	0.96	1.14	1.11	0.95	0.81	0.79
		0.78	0.77	0.75	0.74	0.74	0.73	0.74	0.73	0.71	0.69
		0.69	0.69	0.72	0.72	0.70	0.68	0.71	0.75	0.74	0.70
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 34 (2016)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.76*	0.71*	0.68*	1.74*	1.38*
26	Miocene Orange Sand L2	0.76*	0.71*	0.68*	1.74*	1.38*
28	Miocene Orange Sand L3	0.76*	0.71*	0.68*	1.74*	1.38*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	5.79	2.88
26	Miocene Orange Sand L2	0.00	0.00	0.00	7.46	3.71
28	Miocene Orange Sand L3	0.00	0.00	0.00	4.85	2.41
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	28.4	16.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.84	0.84	0.82	0.78	0.87	0.99	0.96	0.86	0.77	0.76
		0.75	0.75	0.73	0.73	0.73	0.72	0.73	0.72	0.71	0.69
		0.69	0.69	0.72	0.71	0.69	0.68	0.70	0.73	0.72	0.69
26	Miocene Orange Sand L2	0.84	0.84	0.82	0.78	0.87	0.99	0.96	0.86	0.77	0.76
		0.75	0.75	0.73	0.73	0.73	0.72	0.73	0.72	0.71	0.70
		0.69	0.69	0.72	0.71	0.69	0.68	0.70	0.73	0.72	0.69
28	Miocene Orange Sand L3	0.84	0.84	0.82	0.78	0.87	0.99	0.96	0.86	0.77	0.76
		0.75	0.75	0.73	0.73	0.73	0.72	0.73	0.72	0.71	0.70
		0.69	0.69	0.72	0.71	0.69	0.68	0.70	0.73	0.72	0.69
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 35 (2017)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					

2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.76*	0.71*	0.69*	1.80*	1.22*
26	Miocene Orange Sand L2	0.76*	0.71*	0.69*	1.80*	1.22*
28	Miocene Orange Sand L3	0.76*	0.71*	0.69*	1.80*	1.22*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	6.47	1.76
26	Miocene Orange Sand L2	0.00	0.00	0.00	8.32	2.27
28	Miocene Orange Sand L3	0.00	0.00	0.00	5.41	1.47
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	39.0	19.3

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.84	0.83	0.82	0.78	0.86	0.98	0.96	0.86	0.77	0.76
		0.75	0.75	0.74	0.73	0.73	0.72	0.73	0.72	0.71	0.70
		0.70	0.70	0.72	0.71	0.70	0.68	0.71	0.73	0.72	0.70
26	Miocene Orange Sand L2	0.84	0.83	0.82	0.78	0.86	0.98	0.96	0.86	0.77	0.76
		0.75	0.75	0.74	0.73	0.73	0.72	0.73	0.72	0.71	0.70
		0.70	0.70	0.72	0.71	0.70	0.68	0.71	0.73	0.72	0.70
28	Miocene Orange Sand L3	0.84	0.83	0.82	0.78	0.86	0.98	0.96	0.86	0.77	0.76
		0.75	0.75	0.74	0.73	0.73	0.72	0.73	0.72	0.71	0.70
		0.70	0.70	0.72	0.71	0.70	0.68	0.71	0.73	0.72	0.70
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 36 (2018)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.81*	0.75*	0.73*	2.00*	1.47*
26	Miocene Orange Sand L2	0.81*	0.75*	0.73*	2.00*	1.47*
28	Miocene Orange Sand L3	0.81*	0.75*	0.73*	2.00*	1.47*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	7.17	2.85
26	Miocene Orange Sand L2	0.00	0.00	0.00	9.23	3.67
28	Miocene Orange Sand L3	0.00	0.00	0.00	6.00	2.38
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	50.8	23.9

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.91	0.90	0.88	0.84	0.94	1.08	1.05	0.94	0.83	0.81
		0.80	0.80	0.78	0.78	0.78	0.77	0.78	0.77	0.75	0.74
		0.74	0.74	0.76	0.75	0.74	0.72	0.75	0.78	0.77	0.74
26	Miocene Orange Sand L2	0.91	0.90	0.88	0.84	0.94	1.08	1.05	0.94	0.83	0.81
		0.80	0.80	0.78	0.78	0.78	0.77	0.78	0.77	0.75	0.74
		0.74	0.74	0.76	0.76	0.74	0.72	0.75	0.78	0.77	0.74
28	Miocene Orange Sand L3	0.91	0.90	0.88	0.84	0.94	1.08	1.05	0.94	0.83	0.81
		0.80	0.80	0.78	0.78	0.78	0.77	0.78	0.77	0.75	0.74
		0.74	0.74	0.76	0.76	0.74	0.72	0.75	0.78	0.77	0.74
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 37 (2019)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.82*	0.77*	0.74*	1.94*	1.49*
26	Miocene Orange Sand L2	0.82*	0.77*	0.74*	1.94*	1.49*
28	Miocene Orange Sand L3	0.82*	0.77*	0.74*	1.94*	1.49*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	6.69	3.01
26	Miocene Orange Sand L2	0.00	0.00	0.00	8.61	3.87
28	Miocene Orange Sand L3	0.00	0.00	0.00	5.60	2.52
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	61.8	28.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.92	0.91	0.89	0.85	0.94	1.08	1.06	0.94	0.84	0.83
		0.82	0.81	0.80	0.79	0.79	0.78	0.79	0.78	0.77	0.75
		0.75	0.75	0.78	0.77	0.75	0.73	0.76	0.79	0.78	0.75
26	Miocene Orange Sand L2	0.92	0.91	0.89	0.85	0.95	1.08	1.06	0.94	0.84	0.83
		0.82	0.81	0.80	0.80	0.79	0.78	0.79	0.78	0.77	0.75
		0.75	0.75	0.78	0.77	0.75	0.73	0.76	0.79	0.79	0.75
28	Miocene Orange Sand L3	0.92	0.91	0.89	0.85	0.95	1.08	1.06	0.94	0.84	0.83
		0.82	0.81	0.80	0.80	0.79	0.78	0.79	0.78	0.77	0.75
		0.75	0.75	0.78	0.77	0.75	0.73	0.76	0.79	0.79	0.75
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 38 (2020)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00

12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.72*	0.68*	0.67*	1.15*	1.25*
26	Miocene Orange Sand L2	0.72*	0.68*	0.67*	1.15*	1.25*
28	Miocene Orange Sand L3	0.72*	0.68*	0.67*	1.15*	1.25*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	2.21	3.04
26	Miocene Orange Sand L2	0.00	0.00	0.00	2.84	3.91
28	Miocene Orange Sand L3	0.00	0.00	0.00	1.85	2.55
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	65.4	33.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.76	0.76	0.75	0.73	0.78	0.84	0.83	0.78	0.73	0.72
		0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.69	0.69	0.68
		0.68	0.68	0.69	0.69	0.67	0.66	0.68	0.70	0.69	0.67
26	Miocene Orange Sand L2	0.76	0.76	0.75	0.73	0.78	0.84	0.83	0.78	0.73	0.72
		0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.69	0.69	0.68
		0.68	0.68	0.69	0.69	0.67	0.66	0.68	0.70	0.69	0.67
28	Miocene Orange Sand L3	0.76	0.76	0.75	0.73	0.78	0.84	0.83	0.78	0.73	0.72
		0.71	0.71	0.70	0.70	0.70	0.70	0.70	0.69	0.69	0.68
		0.68	0.68	0.69	0.69	0.67	0.66	0.68	0.70	0.69	0.67
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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                                  0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

------------------------------------------------------------YEAR   39 (2021)-----------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00      0.00     0.00     0.00     0.00
 4  Sand                                    0.00      0.00     0.00     0.00     0.00
 6  Sand                                    0.00      0.00     0.00     0.00     0.00
 8  Sand                                    0.00      0.00     0.00     0.00     0.00
10  Sand                                    0.00      0.00     0.00     0.00     0.00
12  Sand                                    0.00      0.00     0.00     0.00     0.00
14  Sand                                    0.00      0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00      0.00     0.00     0.00     0.00
18  Sand                                    0.00      0.00     0.00     0.00     0.00
20  Sand                                    0.00      0.00     0.00     0.00     0.00
22  Sand                                    0.00      0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  0.69*     0.66*    0.64*    1.50*    0.88*
26  Miocene Orange Sand L2                  0.69*     0.66*    0.64*    1.50*    0.88*
28  Miocene Orange Sand L3                  0.69*     0.66*    0.64*    1.50*    0.88*
30  Miocene Yellow Sand L1                  0.00      0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00      0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00      0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                          INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                  0.00      0.00     0.00     5.25     0.19
26  Miocene Orange Sand L2                  0.00      0.00     0.00     6.76     0.25
28  Miocene Orange Sand L3                  0.00      0.00     0.00     4.39     0.16
30  Miocene Yellow Sand L1                  0.00      0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00      0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00      0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)         0.0       0.0    945.0     74.1     34.2


                                                                 PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)     (  2)     (  3)     (  4)     (  5)     (  6)     (  7)     (  8)     (  9)     ( 10)
                                            ( 11)     ( 12)     ( 13)     ( 14)     ( 15)     ( 16)     ( 17)     ( 18)     ( 19)     ( 20)
                                            ( 22)     ( 23)     ( 24)     ( 25)     ( 26)     ( 30)     ( 31)     ( 32)     ( 33)     ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  0.75      0.74      0.73      0.71      0.76      0.84      0.83      0.76      0.70      0.70
                                            0.69      0.69      0.68      0.68      0.68      0.67      0.68      0.67      0.66      0.65
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		0.65	0.65	0.67	0.66	0.65	0.64	0.66	0.67	0.67	0.65
26	Miocene Orange Sand L2	0.75	0.74	0.73	0.71	0.76	0.84	0.83	0.76	0.70	0.70
		0.69	0.69	0.68	0.68	0.68	0.67	0.68	0.67	0.66	0.65
		0.65	0.65	0.67	0.66	0.65	0.64	0.66	0.67	0.67	0.65
28	Miocene Orange Sand L3	0.75	0.74	0.73	0.71	0.76	0.84	0.83	0.76	0.70	0.70
		0.69	0.69	0.68	0.68	0.68	0.67	0.68	0.67	0.66	0.65
		0.65	0.65	0.67	0.66	0.65	0.64	0.66	0.67	0.67	0.65
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 40 (2022)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.88*	0.81*	0.77*	2.87*	1.28*
26	Miocene Orange Sand L2	0.88*	0.81*	0.77*	2.87*	1.28*
28	Miocene Orange Sand L3	0.88*	0.81*	0.77*	2.87*	1.28*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	12.96	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	16.68	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	10.85	0.00

30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 0.0 0.0 945.0 95.4 34.2

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	1.01	1.01	0.98	0.92	1.05	1.25	1.22	1.05	0.91	0.88
		0.87	0.86	0.84	0.84	0.83	0.82	0.84	0.82	0.81	0.78
		0.78	0.78	0.82	0.81	0.78	0.76	0.80	0.84	0.83	0.79
26	Miocene Orange Sand L2	1.01	1.01	0.98	0.93	1.05	1.25	1.22	1.05	0.91	0.88
		0.87	0.86	0.84	0.84	0.83	0.82	0.84	0.82	0.81	0.78
		0.78	0.78	0.82	0.81	0.78	0.76	0.80	0.84	0.83	0.79
28	Miocene Orange Sand L3	1.01	1.01	0.98	0.93	1.05	1.25	1.22	1.05	0.91	0.89
		0.87	0.86	0.84	0.84	0.83	0.83	0.84	0.82	0.81	0.78
		0.78	0.78	0.82	0.81	0.78	0.76	0.80	0.84	0.83	0.79
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 41 (2023)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.69*	0.65*	0.65*	1.08*	0.93*
26	Miocene Orange Sand L2	0.69*	0.65*	0.65*	1.08*	0.93*
28	Miocene Orange Sand L3	0.69*	0.65*	0.65*	1.08*	0.93*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	2.37	1.18
26	Miocene Orange Sand L2	0.00	0.00	0.00	3.05	1.52
28	Miocene Orange Sand L3	0.00	0.00	0.00	1.98	0.99
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	99.3	36.1

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	0.71	0.71	0.70	0.69	0.72	0.77	0.76	0.72	0.69	0.69
		0.68	0.68	0.68	0.68	0.68	0.67	0.67	0.67	0.66	0.66
		0.66	0.66	0.67	0.66	0.65	0.64	0.66	0.67	0.66	0.65
26	Miocene Orange Sand L2	0.71	0.71	0.70	0.69	0.72	0.77	0.76	0.72	0.69	0.69
		0.68	0.68	0.68	0.68	0.68	0.67	0.67	0.67	0.66	0.66
		0.66	0.66	0.67	0.66	0.65	0.64	0.66	0.67	0.66	0.65
28	Miocene Orange Sand L3	0.71	0.71	0.70	0.69	0.72	0.77	0.76	0.72	0.69	0.69
		0.68	0.68	0.68	0.68	0.68	0.67	0.67	0.67	0.66	0.66
		0.66	0.66	0.67	0.66	0.65	0.64	0.66	0.67	0.66	0.65
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 42 (2024)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	0.66*	0.63*	0.61*	1.18*	0.95*
26	Miocene Orange Sand L2	0.66*	0.63*	0.61*	1.18*	0.95*
28	Miocene Orange Sand L3	0.66*	0.63*	0.61*	1.18*	0.95*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	3.20	1.28
26	Miocene Orange Sand L2	0.00	0.00	0.00	4.12	1.65
28	Miocene Orange Sand L3	0.00	0.00	0.00	2.68	1.07
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		0.0	0.0	945.0	104.5	38.3

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	0.70	0.69	0.69	0.67	0.71	0.77	0.76	0.71	0.66	0.66
		0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.63	0.62
		0.62	0.62	0.63	0.63	0.62	0.61	0.63	0.64	0.63	0.62
26	Miocene Orange Sand L2	0.70	0.69	0.69	0.67	0.71	0.77	0.76	0.71	0.66	0.66
		0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.63	0.62
		0.62	0.62	0.63	0.63	0.62	0.61	0.63	0.64	0.63	0.62
28	Miocene Orange Sand L3	0.70	0.69	0.69	0.67	0.71	0.77	0.76	0.71	0.66	0.66

		0.65	0.65	0.64	0.64	0.64	0.64	0.64	0.64	0.63	0.62
		0.62	0.62	0.63	0.63	0.62	0.61	0.63	0.64	0.63	0.62
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 43 (2025)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	59.39*	7.12*	9.34*	9.43*	8.66*
26	Miocene Orange Sand L2	59.39*	7.12*	9.34*	9.43*	8.66*
28	Miocene Orange Sand L3	59.39*	7.12*	9.34*	9.43*	8.66*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.13	0.12	0.13	3.30	1.38
26	Miocene Orange Sand L2	401.63	-0.06	-0.07	4.06	1.59
28	Miocene Orange Sand L3	261.23	-0.05	-0.06	2.63	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		512.8	0.0	945.0	109.8	40.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	11.95	12.03	11.60	10.73	9.43	9.28	10.01	11.14	10.27	19.37
		23.78	16.95	13.92	13.25	13.29	14.43	15.98	14.29	13.00	11.74
		11.44	11.13	12.79	11.90	10.00	8.72	10.28	11.22	10.14	9.03
26	Miocene Orange Sand L2	11.98	12.05	11.62	10.75	9.46	9.30	10.03	11.16	10.30	19.40
		23.80	16.98	13.96	13.29	13.32	14.47	16.01	14.32	13.03	11.77
		11.47	11.16	12.82	11.93	10.02	8.75	10.31	11.24	10.16	9.06
28	Miocene Orange Sand L3	11.98	12.05	11.63	10.75	9.46	9.30	10.03	11.16	10.31	19.40
		23.80	16.98	13.96	13.29	13.32	14.47	16.01	14.32	13.03	11.78
		11.47	11.16	12.82	11.93	10.02	8.75	10.31	11.25	10.16	9.06
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 44 (2026)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	62.57*	9.95*	12.33*	12.40*	11.58*
26	Miocene Orange Sand L2	62.57*	9.95*	12.33*	12.40*	11.58*
28	Miocene Orange Sand L3	62.57*	9.95*	12.33*	12.40*	11.58*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.11	0.11	0.12	3.30	1.38
26	Miocene Orange Sand L2	401.64	-0.06	-0.07	4.07	1.59
28	Miocene Orange Sand L3	261.24	-0.05	-0.05	2.64	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		1025.6	0.0	945.0	115.0	42.5

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	14.96	15.04	14.60	13.70	12.43	12.26	12.95	14.14	13.30	22.52
		26.91	20.13	17.15	16.45	16.51	17.65	19.17	17.46	16.15	14.87
		14.55	14.25	15.93	15.01	13.03	11.67	13.30	14.25	13.12	11.98
26	Miocene Orange Sand L2	14.98	15.06	14.63	13.72	12.45	12.28	12.97	14.16	13.33	22.54
		26.93	20.16	17.18	16.48	16.53	17.68	19.19	17.49	16.18	14.89
		14.57	14.28	15.95	15.03	13.05	11.69	13.32	14.27	13.14	12.00
28	Miocene Orange Sand L3	14.98	15.06	14.63	13.72	12.46	12.28	12.97	14.16	13.33	22.54
		26.93	20.16	17.18	16.48	16.54	17.68	19.19	17.49	16.18	14.89
		14.57	14.28	15.95	15.04	13.05	11.69	13.32	14.27	13.14	12.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 45 (2027)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	FORMATION LEVEL					

2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	64.46*	11.71*	14.15*	14.21*	13.38*
26	Miocene Orange Sand L2	64.46*	11.71*	14.15*	14.21*	13.38*
28	Miocene Orange Sand L3	64.46*	11.71*	14.15*	14.21*	13.38*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.10	0.11	0.11	3.29	1.37
26	Miocene Orange Sand L2	401.65	-0.06	-0.06	4.07	1.60
28	Miocene Orange Sand L3	261.25	-0.05	-0.05	2.64	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		1538.4	0.0	945.0	120.3	44.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	16.79	16.87	16.43	15.51	14.27	14.09	14.76	15.96	15.13	24.40
		28.78	22.02	19.06	18.34	18.41	19.55	21.05	19.35	18.03	16.74
		16.41	16.12	17.80	16.88	14.87	13.47	15.13	16.08	14.93	13.79
26	Miocene Orange Sand L2	16.81	16.89	16.45	15.53	14.29	14.11	14.77	15.98	15.16	24.42
		28.80	22.04	19.09	18.37	18.43	19.57	21.08	19.37	18.06	16.76
		16.43	16.15	17.82	16.90	14.89	13.49	15.15	16.10	14.95	13.81
28	Miocene Orange Sand L3	16.81	16.89	16.45	15.53	14.29	14.11	14.78	15.98	15.16	24.42
		28.80	22.04	19.09	18.37	18.43	19.57	21.08	19.37	18.06	16.76
		16.43	16.15	17.82	16.90	14.89	13.50	15.15	16.10	14.96	13.81
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 46 (2028)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	65.81*	13.00*	15.46*	15.53*	14.69*
26	Miocene Orange Sand L2	65.81*	13.00*	15.46*	15.53*	14.69*
28	Miocene Orange Sand L3	65.81*	13.00*	15.46*	15.53*	14.69*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.10	0.10	0.10	3.29	1.37
26	Miocene Orange Sand L2	401.65	-0.06	-0.06	4.07	1.60
28	Miocene Orange Sand L3	261.25	-0.05	-0.05	2.64	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		2051.2	0.0	945.0	125.6	46.7

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	18.10	18.18	17.74	16.82	15.59	15.41	16.06	17.28	16.45	25.74
		30.12	23.37	20.42	19.69	19.76	20.90	22.40	20.70	19.38	18.07
		17.74	17.46	19.14	18.21	16.19	14.78	16.45	17.40	16.24	15.09
26	Miocene Orange Sand L2	18.12	18.20	17.76	16.84	15.60	15.42	16.08	17.30	16.48	25.76
		30.14	23.39	20.44	19.72	19.79	20.93	22.42	20.72	19.40	18.10
		17.76	17.48	19.16	18.23	16.21	14.80	16.47	17.42	16.26	15.11
28	Miocene Orange Sand L3	18.12	18.20	17.76	16.84	15.61	15.43	16.08	17.30	16.48	25.76
		30.14	23.39	20.44	19.72	19.79	20.93	22.42	20.72	19.40	18.10
		17.76	17.48	19.16	18.23	16.21	14.80	16.47	17.42	16.26	15.12
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 47 (2029)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	66.86*	14.01*	16.49*	16.56*	15.71*
26	Miocene Orange Sand L2	66.86*	14.01*	16.49*	16.56*	15.71*
28	Miocene Orange Sand L3	66.86*	14.01*	16.49*	16.56*	15.71*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.09	0.10	0.10	3.28	1.37
26	Miocene Orange Sand L2	401.66	-0.05	-0.06	4.07	1.60
28	Miocene Orange Sand L3	261.25	-0.05	-0.04	2.64	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		2564.0	0.0	945.0	130.8	48.8

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	19.13	19.21	18.77	17.85	16.62	16.44	17.08	18.31	17.48	26.79
		31.17	24.41	21.47	20.74	20.81	21.95	23.45	21.74	20.42	19.12
		18.78	18.50	20.19	19.25	17.22	15.80	17.48	18.43	17.27	16.12
26	Miocene Orange Sand L2	19.15	19.23	18.79	17.87	16.64	16.45	17.10	18.32	17.51	26.81
		31.18	24.43	21.49	20.77	20.84	21.98	23.47	21.76	20.44	19.14
		18.80	18.53	20.21	19.27	17.24	15.82	17.49	18.45	17.29	16.14
28	Miocene Orange Sand L3	19.15	19.23	18.79	17.87	16.64	16.46	17.10	18.33	17.51	26.81
		31.18	24.43	21.50	20.77	20.84	21.98	23.47	21.77	20.45	19.14
		18.80	18.53	20.21	19.27	17.24	15.82	17.50	18.45	17.29	16.14
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 48 (2030)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00

12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	67.72*	14.84*	17.33*	17.40*	16.55*
26	Miocene Orange Sand L2	67.72*	14.84*	17.33*	17.40*	16.55*
28	Miocene Orange Sand L3	67.72*	14.84*	17.33*	17.40*	16.55*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.09	0.10	0.10	3.28	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.60
28	Miocene Orange Sand L3	261.25	-0.04	-0.04	2.64	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		3076.8	0.0	945.0	136.1	50.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	19.98	20.06	19.62	18.69	17.47	17.28	17.92	19.15	18.33	27.64
		32.02	25.27	22.33	21.60	21.67	22.81	24.31	22.60	21.28	19.97
		19.63	19.36	21.04	20.11	18.07	16.64	18.32	19.28	18.11	16.96
26	Miocene Orange Sand L2	20.00	20.07	19.64	18.71	17.48	17.30	17.94	19.17	18.35	27.66
		32.04	25.29	22.36	21.62	21.70	22.84	24.33	22.62	21.30	19.99
		19.65	19.38	21.06	20.13	18.09	16.66	18.34	19.30	18.13	16.98
28	Miocene Orange Sand L3	20.00	20.08	19.64	18.71	17.48	17.30	17.94	19.17	18.35	27.66
		32.04	25.29	22.36	21.62	21.70	22.84	24.33	22.62	21.30	19.99
		19.66	19.38	21.06	20.13	18.09	16.66	18.34	19.30	18.13	16.98
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 49 (2031)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	68.44*	15.55*	18.05*	18.12*	17.26*
26	Miocene Orange Sand L2	68.44*	15.55*	18.05*	18.12*	17.26*
28	Miocene Orange Sand L3	68.44*	15.55*	18.05*	18.12*	17.26*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.09	0.10	0.10	3.28	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.60
28	Miocene Orange Sand L3	261.25	-0.04	-0.04	2.64	1.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		3589.6	0.0	945.0	141.3	53.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	20.70	20.77	20.33	19.41	18.18	18.00	18.64	19.87	19.05	28.37
		32.74	26.00	23.06	22.33	22.40	23.54	25.03	23.33	22.00	20.69

		20.36	20.08	21.76	20.83	18.79	17.36	19.04	20.00	18.83	17.67
26	Miocene Orange Sand L2	20.71	20.79	20.35	19.42	18.20	18.02	18.65	19.89	19.07	28.39
		32.76	26.02	23.08	22.35	22.42	23.56	25.05	23.35	22.02	20.71
		20.38	20.10	21.78	20.85	18.80	17.37	19.06	20.02	18.85	17.69
28	Miocene Orange Sand L3	20.71	20.79	20.35	19.42	18.20	18.02	18.65	19.89	19.07	28.39
		32.76	26.02	23.08	22.35	22.42	23.56	25.05	23.35	22.03	20.71
		20.38	20.10	21.78	20.85	18.80	17.37	19.06	20.02	18.85	17.69
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 50 (2032)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	69.07*	16.16*	18.67*	18.74*	17.88*
26	Miocene Orange Sand L2	69.07*	16.16*	18.67*	18.74*	17.88*
28	Miocene Orange Sand L3	69.07*	16.16*	18.67*	18.74*	17.88*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	312.08	0.10	0.09	3.28	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.60
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.64	1.04

30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		4102.4	0.0	945.0	146.6	55.1

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	21.32	21.40	20.96	20.03	18.81	18.63	19.26	20.49	19.67	29.00
		33.37	26.63	23.69	22.96	23.03	24.17	25.66	23.96	22.63	21.32
		20.98	20.71	22.39	21.46	19.41	17.98	19.66	20.62	19.45	18.29
26	Miocene Orange Sand L2	21.33	21.41	20.97	20.04	18.82	18.64	19.27	20.51	19.69	29.01
		33.39	26.64	23.71	22.98	23.06	24.19	25.68	23.98	22.65	21.34
		21.00	20.73	22.41	21.47	19.43	17.99	19.68	20.64	19.47	18.31
28	Miocene Orange Sand L3	21.34	21.41	20.97	20.04	18.83	18.64	19.27	20.51	19.69	29.01
		33.39	26.64	23.71	22.98	23.06	24.19	25.68	23.98	22.65	21.34
		21.00	20.73	22.41	21.48	19.43	17.99	19.68	20.64	19.47	18.31
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 51 (2033)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	69.63*	16.71*	19.22*	19.29*	18.43*
26	Miocene Orange Sand L2	69.63*	16.71*	19.22*	19.29*	18.43*
28	Miocene Orange Sand L3	69.63*	16.71*	19.22*	19.29*	18.43*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.08	0.09	0.09	3.28	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		4615.2	0.0	945.0	151.9	57.2

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	21.87	21.95	21.51	20.57	19.36	19.18	19.80	21.04	20.22	29.55
		33.93	27.18	24.25	23.51	23.59	24.73	26.22	24.51	23.19	21.87
		21.54	21.26	22.95	22.01	19.96	18.52	20.21	21.17	20.00	18.84
26	Miocene Orange Sand L2	21.88	21.96	21.52	20.59	19.37	19.19	19.82	21.06	20.24	29.57
		33.94	27.20	24.27	23.53	23.61	24.75	26.23	24.53	23.21	21.89
		21.55	21.28	22.96	22.03	19.98	18.54	20.23	21.19	20.02	18.86
28	Miocene Orange Sand L3	21.88	21.96	21.52	20.59	19.38	19.19	19.82	21.06	20.24	29.57
		33.94	27.20	24.27	23.53	23.61	24.75	26.24	24.53	23.21	21.89
		21.55	21.28	22.97	22.03	19.98	18.54	20.23	21.19	20.02	18.86
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 52 (2034)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	70.13*	17.20*	19.71*	19.78*	18.92*
26	Miocene Orange Sand L2	70.13*	17.20*	19.71*	19.78*	18.92*
28	Miocene Orange Sand L3	70.13*	17.20*	19.71*	19.78*	18.92*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.08	0.09	0.09	3.28	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		5128.0	0.0	945.0	157.1	59.3

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	22.36	22.44	22.00	21.07	19.85	19.67	20.29	21.53	20.71	30.05
		34.42	27.68	24.75	24.01	24.09	25.23	26.71	25.01	23.68	22.37
		22.03	21.76	23.44	22.50	20.45	19.01	20.70	21.66	20.49	19.33
26	Miocene Orange Sand L2	22.38	22.46	22.01	21.08	19.87	19.68	20.31	21.55	20.74	30.06
		34.44	27.69	24.77	24.03	24.11	25.25	26.73	25.03	23.70	22.39
		22.05	21.78	23.46	22.52	20.47	19.03	20.72	21.68	20.51	19.35
28	Miocene Orange Sand L3	22.38	22.46	22.02	21.08	19.87	19.68	20.31	21.55	20.74	30.06

		34.44	27.70	24.77	24.03	24.11	25.25	26.73	25.03	23.70	22.39
		22.05	21.78	23.46	22.52	20.47	19.03	20.72	21.68	20.51	19.35
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 53 (2035)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	70.58*	17.64*	20.16*	20.23*	19.36*
26	Miocene Orange Sand L2	70.58*	17.64*	20.16*	20.22*	19.36*
28	Miocene Orange Sand L3	70.58*	17.64*	20.16*	20.22*	19.36*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.08	0.09	0.09	3.27	1.36
26	Miocene Orange Sand L2	401.66	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
	CUMULATIVE INJECTION TO DATE (MMGAL)	5640.8	0.0	945.0	162.4	61.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	22.81	22.88	22.44	21.51	20.30	20.11	20.74	21.98	21.16	30.50
		34.87	28.13	25.20	24.46	24.54	25.68	27.16	25.46	24.13	22.82
		22.48	22.21	23.89	22.95	20.90	19.46	21.15	22.11	20.93	19.77
26	Miocene Orange Sand L2	22.82	22.90	22.46	21.53	20.31	20.13	20.75	21.99	21.18	30.51
		34.88	28.14	25.22	24.48	24.56	25.69	27.18	25.47	24.15	22.83
		22.50	22.22	23.91	22.97	20.92	19.48	21.17	22.13	20.95	19.79
28	Miocene Orange Sand L3	22.82	22.90	22.46	21.53	20.32	20.13	20.75	21.99	21.18	30.51
		34.88	28.14	25.22	24.48	24.56	25.70	27.18	25.47	24.15	22.84
		22.50	22.23	23.91	22.97	20.92	19.48	21.17	22.13	20.95	19.79
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 54 (2036)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	70.99*	18.04*	20.56*	20.63*	19.77*
26	Miocene Orange Sand L2	70.99*	18.04*	20.56*	20.63*	19.77*
28	Miocene Orange Sand L3	70.99*	18.04*	20.56*	20.63*	19.77*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.08	0.09	0.09	3.27	1.36
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		6153.6	0.0	945.0	167.6	63.5

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	23.21	23.29	22.85	21.92	20.71	20.52	21.14	22.38	21.57	30.91
		35.28	28.54	25.61	24.87	24.95	26.09	27.57	25.87	24.54	23.23
		22.89	22.62	24.30	23.36	21.31	19.87	21.56	22.52	21.34	20.18
26	Miocene Orange Sand L2	23.23	23.31	22.87	21.93	20.72	20.54	21.16	22.40	21.59	30.92
		35.29	28.55	25.63	24.89	24.97	26.11	27.59	25.89	24.56	23.24
		22.91	22.63	24.32	23.38	21.32	19.88	21.57	22.54	21.36	20.20
28	Miocene Orange Sand L3	23.23	23.31	22.87	21.94	20.72	20.54	21.16	22.40	21.59	30.92
		35.29	28.55	25.63	24.89	24.97	26.11	27.59	25.89	24.56	23.24
		22.91	22.64	24.32	23.38	21.32	19.88	21.58	22.54	21.36	20.20
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 55 (2037)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					

2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	71.36*	18.42*	20.94*	21.01*	20.14*
26	Miocene Orange Sand L2	71.36*	18.42*	20.94*	21.01*	20.14*
28	Miocene Orange Sand L3	71.36*	18.42*	20.94*	21.01*	20.14*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.08	0.09	0.09	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		6666.4	0.0	945.0	172.9	65.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	23.59	23.67	23.23	22.29	21.08	20.90	21.52	22.76	21.95	31.29
		35.66	28.92	25.99	25.25	25.33	26.47	27.95	26.25	24.92	23.60
		23.26	22.99	24.68	23.74	21.68	20.24	21.93	22.90	21.72	20.56
26	Miocene Orange Sand L2	23.60	23.68	23.24	22.31	21.10	20.91	21.53	22.78	21.97	31.30
		35.67	28.93	26.01	25.27	25.35	26.48	27.97	26.26	24.94	23.62
		23.28	23.01	24.70	23.76	21.70	20.26	21.95	22.91	21.73	20.57
28	Miocene Orange Sand L3	23.61	23.68	23.24	22.31	21.10	20.91	21.53	22.78	21.97	31.30
		35.67	28.93	26.01	25.27	25.35	26.48	27.97	26.26	24.94	23.62
		23.28	23.01	24.70	23.76	21.70	20.26	21.95	22.91	21.73	20.57
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 56 (2038)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	71.72*	18.76*	21.29*	21.36*	20.49*
26	Miocene Orange Sand L2	71.72*	18.76*	21.29*	21.36*	20.49*
28	Miocene Orange Sand L3	71.72*	18.76*	21.29*	21.36*	20.49*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.08	0.09	0.09	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		7179.2	0.0	945.0	178.2	67.7

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	23.94	24.02	23.58	22.64	21.43	21.25	21.87	23.11	22.29	31.64
		36.01	29.27	26.34	25.60	25.68	26.82	28.30	26.60	25.27	23.95
		23.61	23.34	25.03	24.09	22.03	20.59	22.28	23.24	22.07	20.90
26	Miocene Orange Sand L2	23.95	24.03	23.59	22.66	21.45	21.26	21.88	23.12	22.31	31.65
		36.02	29.28	26.36	25.62	25.70	26.84	28.32	26.61	25.29	23.97
		23.63	23.36	25.05	24.11	22.05	20.60	22.30	23.26	22.08	20.92
28	Miocene Orange Sand L3	23.95	24.03	23.59	22.66	21.45	21.26	21.88	23.13	22.32	31.65
		36.02	29.28	26.36	25.62	25.70	26.84	28.32	26.61	25.29	23.97
		23.63	23.36	25.05	24.11	22.05	20.61	22.30	23.26	22.08	20.92
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 57 (2039)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	72.04*	19.08*	21.61*	21.68*	20.81*
26	Miocene Orange Sand L2	72.04*	19.08*	21.61*	21.68*	20.81*
28	Miocene Orange Sand L3	72.04*	19.08*	21.61*	21.68*	20.81*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.09	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		7692.0	0.0	945.0	183.4	69.8

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	24.26	24.34	23.90	22.96	21.76	21.57	22.19	23.43	22.62	31.96
		36.33	29.59	26.67	25.92	26.00	27.14	28.63	26.92	25.60	24.28
		23.94	23.67	25.35	24.41	22.36	20.91	22.61	23.57	22.39	21.23
26	Miocene Orange Sand L2	24.28	24.36	23.91	22.98	21.77	21.58	22.20	23.45	22.64	31.97
		36.34	29.61	26.68	25.94	26.02	27.16	28.64	26.94	25.61	24.30
		23.96	23.69	25.37	24.43	22.37	20.93	22.62	23.58	22.40	21.24
28	Miocene Orange Sand L3	24.28	24.36	23.91	22.98	21.77	21.59	22.20	23.45	22.64	31.97
		36.34	29.61	26.68	25.94	26.02	27.16	28.64	26.94	25.61	24.30
		23.96	23.69	25.37	24.43	22.37	20.93	22.62	23.58	22.41	21.24
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 58 (2040)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00

12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	72.34*	19.38*	21.91*	21.98*	21.12*
26	Miocene Orange Sand L2	72.34*	19.38*	21.91*	21.98*	21.12*
28	Miocene Orange Sand L3	72.34*	19.38*	21.91*	21.98*	21.12*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.09	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		8204.8	0.0	945.0	188.7	71.9

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	24.56	24.64	24.20	23.27	22.06	21.87	22.49	23.73	22.92	32.26
		36.63	29.89	26.97	26.23	26.31	27.45	28.93	27.22	25.90	24.58
		24.24	23.97	25.66	24.72	22.66	21.21	22.91	23.87	22.69	21.53
26	Miocene Orange Sand L2	24.58	24.66	24.22	23.28	22.07	21.89	22.50	23.75	22.94	32.28
		36.65	29.91	26.99	26.25	26.33	27.46	28.95	27.24	25.92	24.60
		24.26	23.99	25.67	24.73	22.67	21.23	22.92	23.89	22.71	21.54
28	Miocene Orange Sand L3	24.58	24.66	24.22	23.28	22.07	21.89	22.51	23.75	22.94	32.28
		36.65	29.91	26.99	26.25	26.33	27.46	28.95	27.24	25.92	24.60
		24.26	23.99	25.67	24.73	22.67	21.23	22.92	23.89	22.71	21.55
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 59 (2041)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	72.63*	19.67*	22.20*	22.27*	21.40*
26	Miocene Orange Sand L2	72.63*	19.67*	22.20*	22.27*	21.40*
28	Miocene Orange Sand L3	72.63*	19.67*	22.20*	22.27*	21.40*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.07	0.09	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		8717.6	0.0	945.0	193.9	74.0

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	24.85	24.93	24.49	23.55	22.34	22.16	22.77	24.02	23.20	32.55
		36.92	30.18	27.26	26.51	26.59	27.73	29.22	27.51	26.19	24.87

		24.53	24.26	25.94	25.00	22.94	21.50	23.19	24.15	22.97	21.81
26	Miocene Orange Sand L2	24.86	24.94	24.50	23.57	22.36	22.17	22.79	24.03	23.22	32.56
		36.93	30.20	27.27	26.53	26.61	27.75	29.23	27.53	26.20	24.88
		24.54	24.27	25.96	25.02	22.96	21.51	23.21	24.17	22.99	21.83
28	Miocene Orange Sand L3	24.86	24.94	24.50	23.57	22.36	22.17	22.79	24.03	23.22	32.56
		36.93	30.20	27.27	26.53	26.61	27.75	29.23	27.53	26.20	24.88
		24.54	24.28	25.96	25.02	22.96	21.51	23.21	24.17	22.99	21.83
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 60 (2042)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	72.90*	19.93*	22.46*	22.53*	21.67*
26	Miocene Orange Sand L2	72.90*	19.93*	22.46*	22.53*	21.67*
28	Miocene Orange Sand L3	72.90*	19.93*	22.46*	22.53*	21.67*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	312.07	0.09	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04

30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		9230.4	0.0	945.0	199.2	76.1

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	25.12	25.20	24.75	23.82	22.61	22.43	23.04	24.29	23.47	32.82
		37.19	30.45	27.53	26.78	26.86	28.00	29.49	27.78	26.45	25.14
		24.80	24.53	26.21	25.27	23.21	21.76	23.46	24.42	23.24	22.08
26	Miocene Orange Sand L2	25.13	25.21	24.77	23.83	22.63	22.44	23.06	24.30	23.49	32.83
		37.20	30.47	27.54	26.80	26.88	28.02	29.50	27.80	26.47	25.15
		24.81	24.54	26.23	25.29	23.23	21.78	23.48	24.44	23.26	22.10
28	Miocene Orange Sand L3	25.13	25.21	24.77	23.83	22.63	22.44	23.06	24.30	23.49	32.83
		37.20	30.47	27.54	26.80	26.88	28.02	29.50	27.80	26.47	25.15
		24.81	24.54	26.23	25.29	23.23	21.78	23.48	24.44	23.26	22.10
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 61 (2043)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	73.16*	20.19*	22.72*	22.79*	21.92*
26	Miocene Orange Sand L2	73.15*	20.19*	22.72*	22.79*	21.92*
28	Miocene Orange Sand L3	73.15*	20.19*	22.72*	22.79*	21.92*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.05	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		9743.2	0.0	945.0	204.5	78.2

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	25.37	25.45	25.01	24.07	22.87	22.68	23.30	24.54	23.73	33.07
		37.44	30.71	27.78	27.04	27.12	28.26	29.74	28.04	26.71	25.39
		25.05	24.78	26.47	25.53	23.47	22.02	23.72	24.68	23.50	22.33
26	Miocene Orange Sand L2	25.38	25.46	25.02	24.09	22.88	22.69	23.31	24.56	23.75	33.09
		37.46	30.72	27.80	27.06	27.14	28.28	29.76	28.05	26.73	25.41
		25.07	24.80	26.48	25.54	23.48	22.03	23.73	24.69	23.51	22.35
28	Miocene Orange Sand L3	25.39	25.46	25.02	24.09	22.88	22.69	23.31	24.56	23.75	33.09
		37.46	30.72	27.80	27.06	27.14	28.28	29.76	28.05	26.73	25.41
		25.07	24.80	26.48	25.54	23.48	22.03	23.73	24.69	23.51	22.35
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 62 (2044)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	73.40*	20.43*	22.96*	23.03*	22.16*
26	Miocene Orange Sand L2	73.40*	20.43*	22.96*	23.03*	22.16*
28	Miocene Orange Sand L3	73.40*	20.43*	22.96*	23.03*	22.16*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.05	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		10256.0	0.0	945.0	209.7	80.3

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	25.61	25.69	25.25	24.31	23.11	22.92	23.54	24.78	23.97	33.32
		37.69	30.95	28.02	27.28	27.36	28.50	29.98	28.28	26.95	25.63
		25.29	25.02	26.71	25.77	23.71	22.26	23.96	24.92	23.74	22.57
26	Miocene Orange Sand L2	25.63	25.71	25.26	24.33	23.12	22.93	23.55	24.80	23.99	33.33
		37.70	30.96	28.04	27.30	27.38	28.52	30.00	28.29	26.97	25.65
		25.31	25.04	26.72	25.78	23.72	22.27	23.97	24.93	23.75	22.59
28	Miocene Orange Sand L3	25.63	25.71	25.26	24.33	23.12	22.94	23.55	24.80	23.99	33.33

		37.70	30.96	28.04	27.30	27.38	28.52	30.00	28.29	26.97	25.65
		25.31	25.04	26.73	25.78	23.72	22.28	23.97	24.93	23.75	22.59
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 63 (2045)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	73.63*	20.65*	23.19*	23.26*	22.39*
26	Miocene Orange Sand L2	73.63*	20.65*	23.19*	23.26*	22.39*
28	Miocene Orange Sand L3	73.63*	20.65*	23.19*	23.26*	22.39*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.04	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		10768.8	0.0	945.0	215.0	82.4

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	25.84	25.92	25.48	24.54	23.34	23.15	23.76	25.01	24.20	33.55
		37.92	31.18	28.25	27.51	27.59	28.73	30.21	28.51	27.18	25.86
		25.52	25.25	26.94	26.00	23.94	22.49	24.19	25.15	23.97	22.80
26	Miocene Orange Sand L2	25.85	25.93	25.49	24.56	23.35	23.16	23.78	25.03	24.22	33.56
		37.93	31.19	28.27	27.53	27.61	28.75	30.23	28.52	27.20	25.88
		25.54	25.27	26.95	26.01	23.95	22.50	24.20	25.16	23.98	22.82
28	Miocene Orange Sand L3	25.85	25.93	25.49	24.56	23.35	23.16	23.78	25.03	24.22	33.56
		37.93	31.19	28.27	27.53	27.61	28.75	30.23	28.52	27.20	25.88
		25.54	25.27	26.95	26.01	23.95	22.50	24.20	25.16	23.98	22.82
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 64 (2046)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	73.85*	20.87*	23.41*	23.48*	22.61*
26	Miocene Orange Sand L2	73.85*	20.87*	23.41*	23.48*	22.61*
28	Miocene Orange Sand L3	73.85*	20.87*	23.41*	23.48*	22.61*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		11281.6	0.0	945.0	220.2	84.5

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	26.06	26.14	25.70	24.76	23.56	23.37	23.98	25.23	24.42	33.76
		38.14	31.40	28.47	27.73	27.81	28.95	30.43	28.73	27.40	26.08
		25.74	25.47	27.16	26.22	24.16	22.71	24.40	25.37	24.18	23.02
26	Miocene Orange Sand L2	26.07	26.15	25.71	24.78	23.57	23.38	24.00	25.24	24.43	33.78
		38.15	31.41	28.49	27.75	27.83	28.97	30.45	28.74	27.42	26.10
		25.76	25.49	27.17	26.23	24.17	22.72	24.42	25.38	24.20	23.04
28	Miocene Orange Sand L3	26.07	26.15	25.71	24.78	23.57	23.38	24.00	25.24	24.44	33.78
		38.15	31.41	28.49	27.75	27.83	28.97	30.45	28.74	27.42	26.10
		25.76	25.49	27.17	26.23	24.17	22.72	24.42	25.38	24.20	23.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 65 (2047)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	FORMATION LEVEL					

2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.06*	21.08*	23.61*	23.69*	22.82*
26	Miocene Orange Sand L2	74.06*	21.08*	23.61*	23.69*	22.82*
28	Miocene Orange Sand L3	74.06*	21.08*	23.61*	23.69*	22.82*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		11794.4	0.0	945.0	225.5	86.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	26.27	26.35	25.90	24.97	23.76	23.58	24.19	25.44	24.63	33.97
		38.34	31.61	28.68	27.94	28.02	29.16	30.64	28.94	27.61	26.29
		25.95	25.68	27.37	26.43	24.36	22.91	24.61	25.58	24.39	23.23
26	Miocene Orange Sand L2	26.28	26.36	25.92	24.98	23.78	23.59	24.20	25.45	24.64	33.99
		38.36	31.62	28.70	27.96	28.04	29.18	30.66	28.95	27.63	26.31
		25.97	25.70	27.38	26.44	24.38	22.93	24.63	25.59	24.41	23.25
28	Miocene Orange Sand L3	26.28	26.36	25.92	24.98	23.78	23.59	24.21	25.45	24.64	33.99
		38.36	31.62	28.70	27.96	28.04	29.18	30.66	28.95	27.63	26.31
		25.97	25.70	27.38	26.44	24.38	22.93	24.63	25.59	24.41	23.25
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 66 (2048)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.26*	21.28*	23.82*	23.89*	23.02*
26	Miocene Orange Sand L2	74.26*	21.28*	23.82*	23.89*	23.02*
28	Miocene Orange Sand L3	74.26*	21.28*	23.82*	23.89*	23.02*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		12307.2	0.0	945.0	230.8	88.7

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	26.47	26.55	26.11	25.17	23.97	23.78	24.39	25.64	24.83	34.18
		38.55	31.81	28.89	28.14	28.22	29.36	30.84	29.14	27.81	26.49
		26.15	25.88	27.57	26.63	24.57	23.12	24.82	25.78	24.60	23.43
26	Miocene Orange Sand L2	26.48	26.56	26.12	25.19	23.98	23.79	24.41	25.65	24.85	34.19
		38.56	31.82	28.90	28.16	28.24	29.38	30.86	29.16	27.83	26.51
		26.17	25.90	27.59	26.64	24.58	23.13	24.83	25.79	24.61	23.45
28	Miocene Orange Sand L3	26.48	26.56	26.12	25.19	23.98	23.79	24.41	25.66	24.85	34.19
		38.56	31.82	28.90	28.16	28.24	29.38	30.86	29.16	27.83	26.51
		26.17	25.90	27.59	26.64	24.58	23.13	24.83	25.79	24.61	23.45
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 67 (2049)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.45*	21.47*	24.01*	24.08*	23.21*
26	Miocene Orange Sand L2	74.45*	21.47*	24.01*	24.08*	23.21*
28	Miocene Orange Sand L3	74.45*	21.47*	24.01*	24.08*	23.21*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		12820.0	0.0	945.0	236.0	90.8

					PRESSURES AT MONITOR COORD (PSI)						
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	26.66	26.74	26.30	25.36	24.16	23.97	24.59	25.83	25.02	34.37
		38.74	32.00	29.08	28.34	28.42	29.56	31.04	29.33	28.01	26.69
		26.35	26.08	27.76	26.82	24.76	23.31	25.01	25.97	24.79	23.63
26	Miocene Orange Sand L2	26.68	26.76	26.31	25.38	24.17	23.99	24.60	25.85	25.04	34.38
		38.75	32.02	29.10	28.36	28.44	29.57	31.05	29.35	28.02	26.70
		26.36	26.09	27.78	26.84	24.77	23.32	25.02	25.99	24.80	23.64
28	Miocene Orange Sand L3	26.68	26.76	26.32	25.38	24.18	23.99	24.60	25.85	25.04	34.38
		38.75	32.02	29.10	28.36	28.44	29.57	31.05	29.35	28.02	26.70
		26.36	26.10	27.78	26.84	24.78	23.33	25.02	25.99	24.80	23.64
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 68 (2050)----------

					PRESSURES AT INJECTION WELL COORD (PSI)	
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00

12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.64*	21.66*	24.20*	24.27*	23.40*
26	Miocene Orange Sand L2	74.64*	21.66*	24.20*	24.27*	23.40*
28	Miocene Orange Sand L3	74.64*	21.66*	24.20*	24.27*	23.40*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		13332.8	0.0	945.0	241.3	93.0

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	26.85	26.93	26.49	25.55	24.35	24.16	24.77	26.02	25.21	34.56
		38.93	32.19	29.27	28.52	28.60	29.74	31.23	29.52	28.19	26.87
		26.53	26.26	27.95	27.01	24.95	23.50	25.19	26.16	24.97	23.81
26	Miocene Orange Sand L2	26.86	26.94	26.50	25.56	24.36	24.17	24.79	26.03	25.22	34.57
		38.94	32.20	29.28	28.54	28.62	29.76	31.24	29.54	28.21	26.89
		26.55	26.28	27.96	27.02	24.96	23.51	25.21	26.17	24.99	23.83
28	Miocene Orange Sand L3	26.86	26.94	26.50	25.56	24.36	24.17	24.79	26.03	25.23	34.57
		38.94	32.20	29.28	28.54	28.62	29.76	31.24	29.54	28.21	26.89
		26.55	26.28	27.97	27.02	24.96	23.51	25.21	26.17	24.99	23.83
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 69 (2051)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.82*	21.84*	24.37*	24.45*	23.58*
26	Miocene Orange Sand L2	74.82*	21.84*	24.37*	24.45*	23.58*
28	Miocene Orange Sand L3	74.82*	21.84*	24.37*	24.45*	23.58*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.27	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		13845.6	0.0	945.0	246.5	95.1

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	27.03	27.11	26.66	25.73	24.52	24.34	24.95	26.20	25.39	34.74
		39.11	32.37	29.45	28.70	28.78	29.92	31.40	29.70	28.37	27.05

		26.71	26.44	28.13	27.19	25.13	23.67	25.37	26.34	25.15	23.99
26	Miocene Orange Sand L2	27.04	27.12	26.68	25.74	24.54	24.35	24.96	26.21	25.40	34.75
		39.12	32.38	29.46	28.72	28.80	29.94	31.42	29.71	28.39	27.07
		26.73	26.46	28.14	27.20	25.14	23.69	25.39	26.35	25.17	24.00
28	Miocene Orange Sand L3	27.04	27.12	26.68	25.74	24.54	24.35	24.96	26.21	25.40	34.75
		39.12	32.38	29.46	28.72	28.80	29.94	31.42	29.71	28.39	27.07
		26.73	26.46	28.14	27.20	25.14	23.69	25.39	26.35	25.17	24.01
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 70 (2052)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	74.99*	22.01*	24.55*	24.62*	23.75*
26	Miocene Orange Sand L2	74.99*	22.01*	24.55*	24.62*	23.75*
28	Miocene Orange Sand L3	74.99*	22.01*	24.55*	24.62*	23.75*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.26	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.08	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04

30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		14358.4	0.0	945.0	251.8	97.2

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	27.20	27.28	26.84	25.90	24.70	24.51	25.12	26.37	25.56	34.91
		39.28	32.54	29.62	28.88	28.96	30.10	31.58	29.87	28.55	27.23
		26.88	26.62	28.30	27.36	25.30	23.85	25.55	26.51	25.33	24.16
26	Miocene Orange Sand L2	27.21	27.29	26.85	25.92	24.71	24.52	25.14	26.39	25.58	34.92
		39.29	32.56	29.64	28.90	28.98	30.11	31.59	29.89	28.56	27.24
		26.90	26.63	28.32	27.38	25.31	23.86	25.56	26.52	25.34	24.18
28	Miocene Orange Sand L3	27.21	27.29	26.85	25.92	24.71	24.53	25.14	26.39	25.58	34.92
		39.29	32.56	29.64	28.90	28.98	30.11	31.59	29.89	28.56	27.24
		26.90	26.63	28.32	27.38	25.31	23.86	25.56	26.52	25.34	24.18
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 71 (2053)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	75.16*	22.18*	24.71*	24.79*	23.92*
26	Miocene Orange Sand L2	75.16*	22.18*	24.71*	24.79*	23.92*
28	Miocene Orange Sand L3	75.16*	22.18*	24.71*	24.79*	23.92*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.26	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.09	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		14871.2	0.0	945.1	257.0	99.3

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	27.37	27.45	27.00	26.07	24.86	24.68	25.29	26.54	25.73	35.08
		39.45	32.71	29.79	29.04	29.13	30.26	31.75	30.04	28.71	27.39
		27.05	26.78	28.47	27.53	25.46	24.01	25.71	26.68	25.49	24.33
26	Miocene Orange Sand L2	27.38	27.46	27.02	26.08	24.88	24.69	25.30	26.55	25.74	35.09
		39.46	32.72	29.81	29.06	29.14	30.28	31.76	30.05	28.73	27.41
		27.07	26.80	28.48	27.54	25.48	24.03	25.73	26.69	25.51	24.34
28	Miocene Orange Sand L3	27.38	27.46	27.02	26.08	24.88	24.69	25.30	26.55	25.74	35.09
		39.46	32.72	29.81	29.06	29.14	30.28	31.76	30.05	28.73	27.41
		27.07	26.80	28.48	27.54	25.48	24.03	25.73	26.69	25.51	24.34
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 72 (2054)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	75.32*	22.34*	24.87*	24.95*	24.08*
26	Miocene Orange Sand L2	75.32*	22.34*	24.87*	24.95*	24.08*
28	Miocene Orange Sand L3	75.32*	22.34*	24.87*	24.95*	24.08*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.26	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.09	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		15384.0	0.0	945.1	262.3	101.4

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
	(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL									
24	Miocene Orange Sand L1	27.53	27.61	27.17	26.23	25.03	24.84	25.45	26.70	25.89	35.24
		39.61	32.87	29.95	29.21	29.29	30.42	31.91	30.20	28.87	27.55
		27.21	26.95	28.63	27.69	25.63	24.17	25.87	26.84	25.65	24.49
26	Miocene Orange Sand L2	27.54	27.62	27.18	26.24	25.04	24.85	25.46	26.71	25.90	35.25
		39.62	32.89	29.97	29.22	29.30	30.44	31.92	30.22	28.89	27.57
		27.23	26.96	28.65	27.70	25.64	24.19	25.89	26.85	25.67	24.50
28	Miocene Orange Sand L3	27.54	27.62	27.18	26.24	25.04	24.85	25.46	26.71	25.90	35.25

		39.62	32.89	29.97	29.22	29.30	30.44	31.92	30.22	28.89	27.57
		27.23	26.96	28.65	27.70	25.64	24.19	25.89	26.85	25.67	24.50
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 73 (2055)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
FORMATION LEVEL					
2 Sand	0.00	0.00	0.00	0.00	0.00
4 Sand	0.00	0.00	0.00	0.00	0.00
6 Sand	0.00	0.00	0.00	0.00	0.00
8 Sand	0.00	0.00	0.00	0.00	0.00
10 Sand	0.00	0.00	0.00	0.00	0.00
12 Sand	0.00	0.00	0.00	0.00	0.00
14 Sand	0.00	0.00	0.00	0.00	0.00
16 Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18 Sand	0.00	0.00	0.00	0.00	0.00
20 Sand	0.00	0.00	0.00	0.00	0.00
22 Sand	0.00	0.00	0.00	0.00	0.00
24 Miocene Orange Sand L1	75.48*	22.49*	25.03*	25.10*	24.23*
26 Miocene Orange Sand L2	75.48*	22.49*	25.03*	25.10*	24.23*
28 Miocene Orange Sand L3	75.48*	22.49*	25.03*	25.10*	24.23*
30 Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
INJECTION LEVEL					
24 Miocene Orange Sand L1	312.07	0.08	0.08	3.26	1.35
26 Miocene Orange Sand L2	401.67	-0.04	-0.04	4.09	1.61
28 Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30 Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)	15896.8	0.0	945.1	267.6	103.5

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	27.68	27.76	27.32	26.38	25.18	24.99	25.61	26.85	26.04	35.39
		39.76	33.03	30.10	29.36	29.44	30.58	32.06	30.36	29.03	27.71
		27.37	27.10	28.79	27.84	25.78	24.33	26.03	26.99	25.81	24.64
26	Miocene Orange Sand L2	27.70	27.78	27.33	26.40	25.19	25.01	25.62	26.87	26.06	35.41
		39.77	33.04	30.12	29.38	29.46	30.60	32.08	30.37	29.05	27.72
		27.38	27.12	28.80	27.86	25.79	24.34	26.04	27.01	25.82	24.66
28	Miocene Orange Sand L3	27.70	27.78	27.33	26.40	25.20	25.01	25.62	26.87	26.06	35.41
		39.78	33.04	30.12	29.38	29.46	30.60	32.08	30.37	29.05	27.73
		27.38	27.12	28.80	27.86	25.79	24.34	26.04	27.01	25.82	24.66
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 74 (2056)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	75.63*	22.64*	25.18*	25.25*	24.38*
26	Miocene Orange Sand L2	75.63*	22.64*	25.18*	25.25*	24.38*
28	Miocene Orange Sand L3	75.63*	22.64*	25.18*	25.25*	24.38*
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	INJECTION LEVEL					
24	Miocene Orange Sand L1	312.07	0.08	0.08	3.26	1.35
26	Miocene Orange Sand L2	401.67	-0.04	-0.04	4.09	1.61
28	Miocene Orange Sand L3	261.26	-0.04	-0.03	2.65	1.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	27.83	27.91	27.47	26.53	25.33	25.15	25.76	27.00	26.19	35.54
		39.91	33.18	30.26	29.51	29.59	30.73	32.21	30.51	29.18	27.86
		27.52	27.25	28.94	27.99	25.93	24.48	26.18	27.14	25.96	24.79
26	Miocene Orange Sand L2	27.85	27.93	27.48	26.55	25.34	25.16	25.77	27.02	26.21	35.56
		39.93	33.19	30.27	29.53	29.61	30.75	32.23	30.52	29.20	27.88
		27.53	27.27	28.95	28.01	25.94	24.49	26.19	27.16	25.97	24.81
28	Miocene Orange Sand L3	27.85	27.93	27.48	26.55	25.35	25.16	25.77	27.02	26.21	35.56
		39.93	33.19	30.27	29.53	29.61	30.75	32.23	30.52	29.20	27.88
		27.53	27.27	28.95	28.01	25.95	24.49	26.19	27.16	25.97	24.81
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 75 (PC 1)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	FORMATION LEVEL					

2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	16.92	16.18	16.51	16.49	16.38
26	Miocene Orange Sand L2	16.90	16.17	16.49	16.47	16.36
28	Miocene Orange Sand L3	16.89	16.17	16.49	16.47	16.36
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	16.55	16.55	16.53	16.47	16.56	16.53	16.41	16.53	16.58	16.84
		16.81	16.89	17.00	16.93	16.98	16.97	16.90	16.89	16.85	16.78
		16.74	16.79	16.82	16.76	16.60	16.41	16.56	16.59	16.48	16.42
26	Miocene Orange Sand L2	16.53	16.53	16.51	16.45	16.54	16.51	16.39	16.51	16.56	16.82
		16.79	16.87	16.98	16.91	16.95	16.94	16.87	16.86	16.83	16.76
		16.72	16.77	16.79	16.74	16.58	16.39	16.54	16.56	16.46	16.40
28	Miocene Orange Sand L3	16.52	16.53	16.51	16.45	16.54	16.51	16.39	16.51	16.56	16.82
		16.78	16.86	16.98	16.90	16.95	16.94	16.87	16.86	16.83	16.76
		16.72	16.76	16.79	16.74	16.57	16.39	16.54	16.56	16.46	16.40
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 76 (PC 2)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	13.82	13.45	13.61	13.61	13.55
26	Miocene Orange Sand L2	13.80	13.43	13.59	13.59	13.53
28	Miocene Orange Sand L3	13.80	13.43	13.59	13.59	13.53
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	13.63	13.63	13.62	13.59	13.65	13.63	13.55	13.62	13.65	13.78
		13.76	13.80	13.86	13.82	13.84	13.84	13.80	13.80	13.78	13.75
		13.73	13.75	13.77	13.74	13.65	13.56	13.63	13.65	13.59	13.56
26	Miocene Orange Sand L2	13.61	13.61	13.60	13.57	13.63	13.61	13.53	13.60	13.63	13.76
		13.74	13.78	13.83	13.80	13.82	13.82	13.78	13.78	13.76	13.73
		13.71	13.73	13.74	13.72	13.63	13.54	13.61	13.63	13.57	13.54
28	Miocene Orange Sand L3	13.60	13.61	13.60	13.57	13.63	13.61	13.53	13.60	13.62	13.76
		13.74	13.78	13.83	13.80	13.82	13.81	13.78	13.78	13.76	13.72
		13.70	13.73	13.74	13.72	13.63	13.54	13.61	13.62	13.57	13.54
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 77 (PC 3)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	12.03	11.78	11.89	11.89	11.85
26	Miocene Orange Sand L2	12.01	11.76	11.87	11.87	11.84
28	Miocene Orange Sand L3	12.01	11.76	11.87	11.87	11.83
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	11.90	11.90	11.89	11.87	11.92	11.91	11.85	11.89	11.91	12.00
		11.99	12.01	12.05	12.03	12.04	12.04	12.02	12.01	12.00	11.98
		11.97	11.98	11.99	11.97	11.92	11.86	11.90	11.91	11.88	11.86
26	Miocene Orange Sand L2	11.88	11.88	11.88	11.86	11.90	11.89	11.83	11.88	11.89	11.98
		11.97	11.99	12.03	12.01	12.02	12.02	12.00	11.99	11.98	11.96
		11.95	11.96	11.97	11.95	11.90	11.84	11.89	11.89	11.86	11.84
28	Miocene Orange Sand L3	11.88	11.88	11.87	11.85	11.90	11.89	11.83	11.87	11.89	11.98
		11.97	11.99	12.03	12.01	12.02	12.02	11.99	11.99	11.98	11.96
		11.95	11.96	11.97	11.95	11.90	11.84	11.88	11.89	11.86	11.84
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 78 (PC 4)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00

12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	10.78	10.60	10.68	10.69	10.66
26	Miocene Orange Sand L2	10.76	10.59	10.66	10.67	10.64
28	Miocene Orange Sand L3	10.76	10.59	10.66	10.67	10.64
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	10.69	10.69	10.68	10.67	10.70	10.70	10.65	10.68	10.70	10.76
		10.75	10.77	10.80	10.78	10.79	10.79	10.77	10.77	10.76	10.75
		10.74	10.75	10.76	10.74	10.70	10.66	10.69	10.70	10.67	10.66
26	Miocene Orange Sand L2	10.67	10.67	10.67	10.65	10.69	10.68	10.64	10.67	10.68	10.74
		10.74	10.75	10.78	10.76	10.78	10.77	10.76	10.75	10.75	10.73
		10.72	10.73	10.74	10.73	10.68	10.64	10.68	10.68	10.66	10.64
28	Miocene Orange Sand L3	10.67	10.67	10.67	10.65	10.69	10.68	10.64	10.67	10.68	10.74
		10.73	10.75	10.78	10.76	10.77	10.77	10.76	10.75	10.74	10.73
		10.72	10.73	10.74	10.72	10.68	10.64	10.67	10.68	10.65	10.64
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 79 (PC 5)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	9.84	9.70	9.76	9.76	9.74
26	Miocene Orange Sand L2	9.82	9.68	9.74	9.75	9.73
28	Miocene Orange Sand L3	9.82	9.68	9.74	9.75	9.73
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	9.77	9.77	9.76	9.75	9.78	9.77	9.74	9.76	9.77	9.82
		9.82	9.83	9.85	9.84	9.85	9.85	9.83	9.83	9.83	9.81

		9.81	9.82	9.82	9.81	9.78	9.74	9.77	9.77	9.75	9.74
26	Miocene Orange Sand L2	9.75	9.75	9.75	9.74	9.76	9.76	9.72	9.75	9.76	9.81
		9.80	9.82	9.84	9.82	9.83	9.83	9.82	9.82	9.81	9.80
		9.79	9.80	9.80	9.79	9.76	9.73	9.75	9.76	9.74	9.73
28	Miocene Orange Sand L3	9.75	9.75	9.75	9.74	9.76	9.76	9.72	9.75	9.76	9.81
		9.80	9.81	9.84	9.82	9.83	9.83	9.82	9.81	9.81	9.80
		9.79	9.80	9.80	9.79	9.76	9.73	9.75	9.76	9.74	9.73
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 80 (PC 6)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	9.09	8.97	9.02	9.03	9.01
26	Miocene Orange Sand L2	9.07	8.96	9.01	9.01	8.99
28	Miocene Orange Sand L3	9.07	8.96	9.01	9.01	8.99
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00

30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL) 16409.6 0.0 945.1 272.8 105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	9.03	9.03	9.03	9.02	9.04	9.03	9.01	9.03	9.04	9.08
		9.07	9.08	9.10	9.09	9.10	9.09	9.08	9.08	9.08	9.07
		9.06	9.07	9.07	9.06	9.04	9.01	9.03	9.04	9.02	9.01
26	Miocene Orange Sand L2	9.01	9.02	9.01	9.00	9.03	9.02	8.99	9.01	9.02	9.06
		9.06	9.07	9.09	9.07	9.08	9.08	9.07	9.07	9.06	9.05
		9.05	9.05	9.06	9.05	9.02	8.99	9.02	9.02	9.00	9.00
28	Miocene Orange Sand L3	9.01	9.01	9.01	9.00	9.02	9.02	8.99	9.01	9.02	9.06
		9.05	9.07	9.08	9.07	9.08	9.08	9.07	9.07	9.06	9.05
		9.04	9.05	9.06	9.05	9.02	8.99	9.02	9.02	9.00	8.99
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 81 (PC 7)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	8.47	8.37	8.42	8.42	8.40
26	Miocene Orange Sand L2	8.46	8.36	8.40	8.40	8.39
28	Miocene Orange Sand L3	8.45	8.36	8.40	8.40	8.39
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	8.42	8.42	8.42	8.41	8.43	8.42	8.40	8.42	8.42	8.46
		8.45	8.46	8.48	8.47	8.48	8.47	8.47	8.46	8.46	8.45
		8.45	8.45	8.46	8.45	8.43	8.40	8.42	8.42	8.41	8.40
26	Miocene Orange Sand L2	8.41	8.41	8.40	8.40	8.41	8.41	8.39	8.40	8.41	8.44
		8.44	8.45	8.46	8.45	8.46	8.46	8.45	8.45	8.45	8.44
		8.43	8.44	8.44	8.43	8.41	8.39	8.41	8.41	8.40	8.39
28	Miocene Orange Sand L3	8.40	8.41	8.40	8.39	8.41	8.41	8.39	8.40	8.41	8.44
		8.44	8.45	8.46	8.45	8.46	8.46	8.45	8.45	8.44	8.44
		8.43	8.44	8.44	8.43	8.41	8.39	8.41	8.41	8.40	8.39
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 82 (PC 8)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	7.95	7.86	7.90	7.90	7.89
26	Miocene Orange Sand L2	7.93	7.85	7.89	7.89	7.88
28	Miocene Orange Sand L3	7.93	7.85	7.88	7.89	7.87
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6					

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	7.90	7.90	7.90	7.89	7.91	7.91	7.89	7.90	7.91	7.94
		7.93	7.94	7.95	7.95	7.95	7.95	7.94	7.94	7.94	7.93
		7.93	7.93	7.93	7.93	7.91	7.89	7.90	7.91	7.90	7.89
26	Miocene Orange Sand L2	7.89	7.89	7.89	7.88	7.90	7.89	7.87	7.89	7.89	7.92
		7.92	7.93	7.94	7.93	7.94	7.94	7.93	7.93	7.92	7.92
		7.91	7.92	7.92	7.91	7.90	7.88	7.89	7.89	7.88	7.88
28	Miocene Orange Sand L3	7.89	7.89	7.89	7.88	7.90	7.89	7.87	7.89	7.89	7.92

		7.92	7.93	7.94	7.93	7.94	7.93	7.93	7.93	7.92	7.92
		7.91	7.92	7.92	7.91	7.89	7.87	7.89	7.89	7.88	7.87
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 83 (PC 9)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
FORMATION LEVEL					
2 Sand	0.00	0.00	0.00	0.00	0.00
4 Sand	0.00	0.00	0.00	0.00	0.00
6 Sand	0.00	0.00	0.00	0.00	0.00
8 Sand	0.00	0.00	0.00	0.00	0.00
10 Sand	0.00	0.00	0.00	0.00	0.00
12 Sand	0.00	0.00	0.00	0.00	0.00
14 Sand	0.00	0.00	0.00	0.00	0.00
16 Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18 Sand	0.00	0.00	0.00	0.00	0.00
20 Sand	0.00	0.00	0.00	0.00	0.00
22 Sand	0.00	0.00	0.00	0.00	0.00
24 Miocene Orange Sand L1	7.49	7.42	7.45	7.46	7.44
26 Miocene Orange Sand L2	7.48	7.41	7.44	7.44	7.43
28 Miocene Orange Sand L3	7.48	7.41	7.44	7.44	7.43
30 Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
INJECTION LEVEL					
24 Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26 Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28 Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30 Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	7.46	7.46	7.45	7.45	7.46	7.46	7.44	7.45	7.46	7.49
		7.48	7.49	7.50	7.49	7.50	7.50	7.49	7.49	7.49	7.48
		7.48	7.48	7.48	7.48	7.46	7.44	7.46	7.46	7.45	7.44
26	Miocene Orange Sand L2	7.44	7.44	7.44	7.44	7.45	7.45	7.43	7.44	7.45	7.47
		7.47	7.48	7.49	7.48	7.48	7.48	7.48	7.48	7.47	7.47
		7.46	7.47	7.47	7.46	7.45	7.43	7.44	7.45	7.44	7.43
28	Miocene Orange Sand L3	7.44	7.44	7.44	7.43	7.45	7.45	7.43	7.44	7.45	7.47
		7.47	7.48	7.49	7.48	7.48	7.48	7.48	7.48	7.47	7.47
		7.46	7.47	7.47	7.46	7.45	7.43	7.44	7.45	7.44	7.43
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 84 (PC10)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	7.10	7.04	7.06	7.06	7.05
26	Miocene Orange Sand L2	7.09	7.02	7.05	7.05	7.04
28	Miocene Orange Sand L3	7.08	7.02	7.05	7.05	7.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	7.06	7.07	7.06	7.06	7.07	7.07	7.05	7.06	7.07	7.09
		7.09	7.09	7.10	7.10	7.10	7.10	7.09	7.09	7.09	7.09
		7.08	7.09	7.09	7.08	7.07	7.05	7.07	7.07	7.06	7.05
26	Miocene Orange Sand L2	7.05	7.05	7.05	7.05	7.06	7.06	7.04	7.05	7.06	7.08
		7.08	7.08	7.09	7.09	7.09	7.09	7.08	7.08	7.08	7.07
		7.07	7.07	7.08	7.07	7.06	7.04	7.05	7.06	7.05	7.04
28	Miocene Orange Sand L3	7.05	7.05	7.05	7.05	7.06	7.06	7.04	7.05	7.06	7.08
		7.07	7.08	7.09	7.08	7.09	7.09	7.08	7.08	7.08	7.07
		7.07	7.07	7.08	7.07	7.06	7.04	7.05	7.06	7.05	7.04
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 85 (PC11)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	FORMATION LEVEL					

2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	6.75	6.69	6.72	6.72	6.71
26	Miocene Orange Sand L2	6.74	6.68	6.71	6.71	6.70
28	Miocene Orange Sand L3	6.74	6.68	6.70	6.71	6.70
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	6.72	6.72	6.72	6.71	6.72	6.72	6.71	6.72	6.72	6.74
		6.74	6.74	6.75	6.75	6.75	6.75	6.75	6.74	6.74	6.74
		6.73	6.74	6.74	6.74	6.72	6.71	6.72	6.72	6.71	6.71
26	Miocene Orange Sand L2	6.71	6.71	6.71	6.70	6.71	6.71	6.70	6.71	6.71	6.73
		6.73	6.73	6.74	6.74	6.74	6.74	6.73	6.73	6.73	6.73
		6.72	6.73	6.73	6.72	6.71	6.70	6.71	6.71	6.70	6.70
28	Miocene Orange Sand L3	6.71	6.71	6.71	6.70	6.71	6.71	6.70	6.71	6.71	6.73
		6.73	6.73	6.74	6.74	6.74	6.74	6.73	6.73	6.73	6.72
		6.72	6.73	6.73	6.72	6.71	6.70	6.71	6.71	6.70	6.70
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 86 (PC12)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	6.44	6.39	6.41	6.41	6.40
26	Miocene Orange Sand L2	6.43	6.38	6.40	6.40	6.39
28	Miocene Orange Sand L3	6.43	6.38	6.40	6.40	6.39
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	6.41	6.41	6.41	6.41	6.42	6.41	6.40	6.41	6.41	6.43
		6.43	6.43	6.44	6.44	6.44	6.44	6.43	6.43	6.43	6.43
		6.42	6.43	6.43	6.43	6.41	6.40	6.41	6.41	6.41	6.40
26	Miocene Orange Sand L2	6.40	6.40	6.40	6.39	6.40	6.40	6.39	6.40	6.40	6.42
		6.42	6.42	6.43	6.43	6.43	6.43	6.42	6.42	6.42	6.42
		6.41	6.42	6.42	6.42	6.40	6.39	6.40	6.40	6.40	6.39
28	Miocene Orange Sand L3	6.40	6.40	6.40	6.39	6.40	6.40	6.39	6.40	6.40	6.42
		6.42	6.42	6.43	6.42	6.43	6.43	6.42	6.42	6.42	6.42
		6.41	6.42	6.42	6.41	6.40	6.39	6.40	6.40	6.39	6.39
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 87 (PC13)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	6.16	6.11	6.13	6.13	6.13
26	Miocene Orange Sand L2	6.15	6.10	6.12	6.12	6.11
28	Miocene Orange Sand L3	6.15	6.10	6.12	6.12	6.11
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	6.13	6.13	6.13	6.13	6.14	6.14	6.12	6.13	6.14	6.15
		6.15	6.15	6.16	6.16	6.16	6.16	6.15	6.15	6.15	6.15
		6.15	6.15	6.15	6.15	6.14	6.13	6.13	6.14	6.13	6.13
26	Miocene Orange Sand L2	6.12	6.12	6.12	6.12	6.13	6.12	6.11	6.12	6.13	6.14
		6.14	6.14	6.15	6.15	6.15	6.15	6.14	6.14	6.14	6.14
		6.13	6.14	6.14	6.14	6.13	6.11	6.12	6.13	6.12	6.11
28	Miocene Orange Sand L3	6.12	6.12	6.12	6.12	6.13	6.12	6.11	6.12	6.12	6.14
		6.14	6.14	6.15	6.14	6.15	6.15	6.14	6.14	6.14	6.14
		6.13	6.14	6.14	6.14	6.13	6.11	6.12	6.12	6.12	6.11
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 88 (PC14)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00

12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	5.90	5.86	5.88	5.88	5.87
26	Miocene Orange Sand L2	5.89	5.85	5.87	5.87	5.86
28	Miocene Orange Sand L3	5.89	5.85	5.87	5.87	5.86
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	5.88	5.88	5.88	5.88	5.89	5.88	5.87	5.88	5.88	5.90
		5.90	5.90	5.91	5.90	5.90	5.90	5.90	5.90	5.90	5.89
		5.89	5.90	5.90	5.89	5.88	5.87	5.88	5.88	5.88	5.87
26	Miocene Orange Sand L2	5.87	5.87	5.87	5.87	5.87	5.87	5.86	5.87	5.87	5.89
		5.89	5.89	5.90	5.89	5.89	5.89	5.89	5.89	5.89	5.88
		5.88	5.89	5.89	5.88	5.87	5.86	5.87	5.87	5.87	5.86
28	Miocene Orange Sand L3	5.87	5.87	5.87	5.87	5.87	5.87	5.86	5.87	5.87	5.89
		5.88	5.89	5.90	5.89	5.89	5.89	5.89	5.89	5.89	5.88
		5.88	5.88	5.89	5.88	5.87	5.86	5.87	5.87	5.87	5.86
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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                                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

------------------------------------------------------------YEAR   89 (PC15)-------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                     0.00      0.00     0.00     0.00     0.00
 4  Sand                                     0.00      0.00     0.00     0.00     0.00
 6  Sand                                     0.00      0.00     0.00     0.00     0.00
 8  Sand                                     0.00      0.00     0.00     0.00     0.00
10  Sand                                     0.00      0.00     0.00     0.00     0.00
12  Sand                                     0.00      0.00     0.00     0.00     0.00
14  Sand                                     0.00      0.00     0.00     0.00     0.00
16  Top of Injection Zone                    0.00      0.00     0.00     0.00     0.00
18  Sand                                     0.00      0.00     0.00     0.00     0.00
20  Sand                                     0.00      0.00     0.00     0.00     0.00
22  Sand                                     0.00      0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                   5.67      5.63     5.65     5.65     5.64
26  Miocene Orange Sand L2                   5.66      5.62     5.64     5.64     5.64
28  Miocene Orange Sand L3                   5.66      5.62     5.64     5.64     5.63
30  Miocene Yellow Sand L1                   0.00      0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00      0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00      0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                   0.00      0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                   0.00      0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                   0.00      0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                   0.00      0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                   0.00      0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                   0.00      0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)     16409.6       0.0    945.1    272.8    105.6


                                                             PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  5.65     5.65     5.65     5.65     5.66     5.65     5.64     5.65     5.65     5.67
                                            5.66     5.67     5.67     5.67     5.67     5.67     5.67     5.67     5.67     5.66
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		5.66	5.66	5.67	5.66	5.65	5.64	5.65	5.65	5.65	5.65
26	Miocene Orange Sand L2	5.64	5.64	5.64	5.64	5.65	5.64	5.63	5.64	5.64	5.66
		5.65	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.65
		5.65	5.65	5.66	5.65	5.64	5.64	5.64	5.64	5.64	5.64
28	Miocene Orange Sand L3	5.64	5.64	5.64	5.64	5.64	5.64	5.63	5.64	5.64	5.66
		5.65	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.66	5.65
		5.65	5.65	5.66	5.65	5.64	5.63	5.64	5.64	5.64	5.63
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 90 (PC16)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	5.46	5.42	5.44	5.44	5.43
26	Miocene Orange Sand L2	5.45	5.42	5.43	5.43	5.43
28	Miocene Orange Sand L3	5.45	5.41	5.43	5.43	5.42
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00

30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	5.44	5.44	5.44	5.44	5.44	5.44	5.43	5.44	5.44	5.46
		5.45	5.46	5.46	5.46	5.46	5.46	5.46	5.46	5.46	5.45
		5.45	5.45	5.45	5.45	5.44	5.43	5.44	5.44	5.44	5.43
26	Miocene Orange Sand L2	5.43	5.43	5.43	5.43	5.43	5.43	5.42	5.43	5.43	5.45
		5.44	5.45	5.45	5.45	5.45	5.45	5.45	5.45	5.45	5.44
		5.44	5.44	5.44	5.44	5.43	5.43	5.43	5.43	5.43	5.43
28	Miocene Orange Sand L3	5.43	5.43	5.43	5.43	5.43	5.43	5.42	5.43	5.43	5.44
		5.44	5.45	5.45	5.45	5.45	5.45	5.45	5.45	5.45	5.44
		5.44	5.44	5.44	5.44	5.43	5.42	5.43	5.43	5.43	5.43
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 91 (PC17)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	5.26	5.23	5.25	5.25	5.24
26	Miocene Orange Sand L2	5.25	5.22	5.24	5.24	5.23
28	Miocene Orange Sand L3	5.25	5.22	5.24	5.24	5.23
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	5.25	5.25	5.25	5.24	5.25	5.25	5.24	5.25	5.25	5.26
		5.26	5.26	5.27	5.26	5.27	5.27	5.26	5.26	5.26	5.26
		5.26	5.26	5.26	5.26	5.25	5.24	5.25	5.25	5.24	5.24
26	Miocene Orange Sand L2	5.24	5.24	5.24	5.23	5.24	5.24	5.23	5.24	5.24	5.25
		5.25	5.25	5.26	5.25	5.26	5.26	5.25	5.25	5.25	5.25
		5.25	5.25	5.25	5.25	5.24	5.23	5.24	5.24	5.24	5.23
28	Miocene Orange Sand L3	5.24	5.24	5.24	5.23	5.24	5.24	5.23	5.24	5.24	5.25
		5.25	5.25	5.26	5.25	5.26	5.26	5.25	5.25	5.25	5.25
		5.25	5.25	5.25	5.25	5.24	5.23	5.24	5.24	5.23	5.23
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 92 (PC18)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	5.08	5.05	5.07	5.07	5.06
26	Miocene Orange Sand L2	5.07	5.05	5.06	5.06	5.05
28	Miocene Orange Sand L3	5.07	5.04	5.06	5.06	5.05
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	5.07	5.07	5.07	5.06	5.07	5.07	5.06	5.07	5.07	5.08
		5.08	5.08	5.09	5.08	5.08	5.08	5.08	5.08	5.08	5.08
		5.08	5.08	5.08	5.08	5.07	5.06	5.07	5.07	5.07	5.06
26	Miocene Orange Sand L2	5.06	5.06	5.06	5.06	5.06	5.06	5.05	5.06	5.06	5.07
		5.07	5.07	5.08	5.07	5.08	5.08	5.07	5.07	5.07	5.07
		5.07	5.07	5.07	5.07	5.06	5.05	5.06	5.06	5.06	5.05
28	Miocene Orange Sand L3	5.06	5.06	5.06	5.06	5.06	5.06	5.05	5.06	5.06	5.07

		5.07	5.07	5.08	5.07	5.08	5.07	5.07	5.07	5.07	5.07
		5.07	5.07	5.07	5.07	5.06	5.05	5.06	5.06	5.06	5.05
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 93 (PC19)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
FORMATION LEVEL					
2 Sand	0.00	0.00	0.00	0.00	0.00
4 Sand	0.00	0.00	0.00	0.00	0.00
6 Sand	0.00	0.00	0.00	0.00	0.00
8 Sand	0.00	0.00	0.00	0.00	0.00
10 Sand	0.00	0.00	0.00	0.00	0.00
12 Sand	0.00	0.00	0.00	0.00	0.00
14 Sand	0.00	0.00	0.00	0.00	0.00
16 Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18 Sand	0.00	0.00	0.00	0.00	0.00
20 Sand	0.00	0.00	0.00	0.00	0.00
22 Sand	0.00	0.00	0.00	0.00	0.00
24 Miocene Orange Sand L1	4.90	4.87	4.89	4.89	4.88
26 Miocene Orange Sand L2	4.89	4.87	4.88	4.88	4.87
28 Miocene Orange Sand L3	4.89	4.86	4.88	4.88	4.87
30 Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
INJECTION LEVEL					
24 Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26 Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28 Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30 Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	4.89	4.89	4.89	4.88	4.89	4.89	4.88	4.89	4.89	4.90
		4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90
		4.89	4.90	4.90	4.89	4.89	4.88	4.89	4.89	4.88	4.88
26	Miocene Orange Sand L2	4.88	4.88	4.88	4.87	4.88	4.88	4.87	4.88	4.88	4.89
		4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89
		4.89	4.89	4.89	4.89	4.88	4.87	4.88	4.88	4.88	4.87
28	Miocene Orange Sand L3	4.88	4.88	4.88	4.87	4.88	4.88	4.87	4.88	4.88	4.89
		4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89	4.89
		4.88	4.89	4.89	4.89	4.88	4.87	4.88	4.88	4.87	4.87
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 94 (PC20)

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.73	4.71	4.72	4.72	4.71
26	Miocene Orange Sand L2	4.72	4.70	4.71	4.71	4.71
28	Miocene Orange Sand L3	4.72	4.70	4.71	4.71	4.71
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	4.72	4.72	4.72	4.72	4.72	4.72	4.71	4.72	4.72	4.73
		4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73
		4.73	4.73	4.73	4.73	4.72	4.71	4.72	4.72	4.72	4.71
26	Miocene Orange Sand L2	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.71	4.72
		4.72	4.72	4.73	4.72	4.73	4.72	4.72	4.72	4.72	4.72
		4.72	4.72	4.72	4.72	4.71	4.71	4.71	4.71	4.71	4.71
28	Miocene Orange Sand L3	4.71	4.71	4.71	4.71	4.71	4.71	4.70	4.71	4.71	4.72
		4.72	4.72	4.73	4.72	4.72	4.72	4.72	4.72	4.72	4.72
		4.72	4.72	4.72	4.72	4.71	4.71	4.71	4.71	4.71	4.71
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 95 (PC21)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)	
	FORMATION LEVEL					

2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.58	4.55	4.56	4.56	4.56
26	Miocene Orange Sand L2	4.57	4.54	4.55	4.55	4.55
28	Miocene Orange Sand L3	4.57	4.54	4.55	4.55	4.55
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.56	4.57
		4.57	4.57	4.58	4.57	4.58	4.58	4.57	4.57	4.57	4.57
		4.57	4.57	4.57	4.57	4.56	4.56	4.56	4.56	4.56	4.56
26	Miocene Orange Sand L2	4.55	4.55	4.55	4.55	4.56	4.56	4.55	4.55	4.56	4.56
		4.56	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.56	4.56
		4.56	4.56	4.56	4.56	4.56	4.55	4.56	4.56	4.55	4.55
28	Miocene Orange Sand L3	4.55	4.55	4.55	4.55	4.56	4.56	4.55	4.55	4.56	4.56
		4.56	4.57	4.57	4.57	4.57	4.57	4.57	4.57	4.56	4.56
		4.56	4.56	4.56	4.56	4.56	4.55	4.55	4.56	4.55	4.55
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 96 (PC22)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.43	4.41	4.42	4.42	4.41
26	Miocene Orange Sand L2	4.42	4.40	4.41	4.41	4.41
28	Miocene Orange Sand L3	4.42	4.40	4.41	4.41	4.41
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL				
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	4.42	4.42	4.42	4.42	4.42	4.42	4.41	4.42	4.42	4.43
		4.43	4.43	4.43	4.43	4.43	4.43	4.43	4.43	4.43	4.43
		4.42	4.43	4.43	4.43	4.42	4.41	4.42	4.42	4.42	4.41
26	Miocene Orange Sand L2	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.42
		4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
		4.42	4.42	4.42	4.42	4.41	4.41	4.41	4.41	4.41	4.41
28	Miocene Orange Sand L3	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.41	4.42
		4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42	4.42
		4.42	4.42	4.42	4.42	4.41	4.41	4.41	4.41	4.41	4.41
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 97 (PC23)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL				
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.29	4.27	4.28	4.28	4.28
26	Miocene Orange Sand L2	4.29	4.27	4.28	4.28	4.27
28	Miocene Orange Sand L3	4.29	4.27	4.27	4.28	4.27
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	4.28	4.28	4.28	4.28	4.29	4.29	4.28	4.28	4.29	4.29
		4.29	4.29	4.30	4.29	4.30	4.30	4.29	4.29	4.29	4.29
		4.29	4.29	4.29	4.29	4.29	4.28	4.28	4.29	4.28	4.28
26	Miocene Orange Sand L2	4.28	4.28	4.28	4.27	4.28	4.28	4.27	4.28	4.28	4.28
		4.28	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.28
		4.28	4.28	4.28	4.28	4.28	4.27	4.28	4.28	4.27	4.27
28	Miocene Orange Sand L3	4.28	4.28	4.28	4.27	4.28	4.28	4.27	4.28	4.28	4.28
		4.28	4.29	4.29	4.29	4.29	4.29	4.29	4.29	4.28	4.28
		4.28	4.28	4.28	4.28	4.28	4.27	4.28	4.28	4.27	4.27
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 98 (PC24)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00

12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	4.17	4.15	4.16	4.16	4.16
26	Miocene Orange Sand L2	4.16	4.14	4.15	4.15	4.15
28	Miocene Orange Sand L3	4.16	4.14	4.15	4.15	4.15
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	4.16	4.16	4.16	4.16	4.16	4.16	4.15	4.16	4.16	4.17
		4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.17	4.16
		4.16	4.17	4.17	4.16	4.16	4.15	4.16	4.16	4.16	4.16
26	Miocene Orange Sand L2	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.16
		4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16
		4.16	4.16	4.16	4.16	4.15	4.15	4.15	4.15	4.15	4.15
28	Miocene Orange Sand L3	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.15	4.16
		4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16	4.16
		4.16	4.16	4.16	4.16	4.15	4.15	4.15	4.15	4.15	4.15
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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                                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00


* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

------------------------------------------------------------YEAR   99 (PC25)-----------------------------------------------------
                                                             PRESSURES AT INJECTION WELL COORD (PSI)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    FORMATION LEVEL
 2  Sand                                    0.00      0.00     0.00     0.00     0.00
 4  Sand                                    0.00      0.00     0.00     0.00     0.00
 6  Sand                                    0.00      0.00     0.00     0.00     0.00
 8  Sand                                    0.00      0.00     0.00     0.00     0.00
10  Sand                                    0.00      0.00     0.00     0.00     0.00
12  Sand                                    0.00      0.00     0.00     0.00     0.00
14  Sand                                    0.00      0.00     0.00     0.00     0.00
16  Top of Injection Zone                   0.00      0.00     0.00     0.00     0.00
18  Sand                                    0.00      0.00     0.00     0.00     0.00
20  Sand                                    0.00      0.00     0.00     0.00     0.00
22  Sand                                    0.00      0.00     0.00     0.00     0.00
24  Miocene Orange Sand L1                  4.05      4.03     4.04     4.04     4.04
26  Miocene Orange Sand L2                  4.04      4.03     4.03     4.03     4.03
28  Miocene Orange Sand L3                  4.04      4.03     4.03     4.03     4.03
30  Miocene Yellow Sand L1                  0.00      0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00      0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00      0.00     0.00     0.00     0.00
                                  * PERFORATED INJECTION ZONE

                                                                INJECTION RATES (GPM)
                                  WELL ID  (M1 )    (M2 )    (D3 )    (D3 )    (D1 )
    INJECTION LEVEL
24  Miocene Orange Sand L1                  0.00      0.00     0.00     0.00     0.00
26  Miocene Orange Sand L2                  0.00      0.00     0.00     0.00     0.00
28  Miocene Orange Sand L3                  0.00      0.00     0.00     0.00     0.00
30  Miocene Yellow Sand L1                  0.00      0.00     0.00     0.00     0.00
32  Miocene Yellow Sand L2                  0.00      0.00     0.00     0.00     0.00
34  Miocene Yellow Sand L3                  0.00      0.00     0.00     0.00     0.00

CUMULATIVE INJECTION TO DATE (MMGAL)    16409.6       0.0    945.1    272.8    105.6


                                                             PRESSURES AT MONITOR COORD (PSI)
                                MONITOR ID  (  1)    (  2)    (  3)    (  4)    (  5)    (  6)    (  7)    (  8)    (  9)    ( 10)
                                            ( 11)    ( 12)    ( 13)    ( 14)    ( 15)    ( 16)    ( 17)    ( 18)    ( 19)    ( 20)
                                            ( 22)    ( 23)    ( 24)    ( 25)    ( 26)    ( 30)    ( 31)    ( 32)    ( 33)    ( 34)
    FORMATION LEVEL
24  Miocene Orange Sand L1                  4.04      4.04     4.04     4.04     4.04     4.04     4.04     4.04     4.04     4.05
                                            4.05      4.05     4.05     4.05     4.05     4.05     4.05     4.05     4.05     4.05
```

		4.05	4.05	4.05	4.05	4.04	4.04	4.04	4.04	4.04	4.04
26	Miocene Orange Sand L2	4.03	4.03	4.03	4.03	4.04	4.04	4.03	4.03	4.04	4.04
		4.04	4.04	4.05	4.04	4.04	4.04	4.04	4.04	4.04	4.04
		4.04	4.04	4.04	4.04	4.04	4.03	4.03	4.04	4.03	4.03
28	Miocene Orange Sand L3	4.03	4.03	4.03	4.03	4.04	4.03	4.03	4.03	4.03	4.04
		4.04	4.04	4.05	4.04	4.04	4.04	4.04	4.04	4.04	4.04
		4.04	4.04	4.04	4.04	4.04	4.03	4.03	4.03	4.03	4.03
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 100 (PC26)

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	3.94	3.92	3.93	3.93	3.93
26	Miocene Orange Sand L2	3.93	3.92	3.92	3.93	3.92
28	Miocene Orange Sand L3	3.93	3.92	3.92	3.92	3.92
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00

30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.93	3.94
		3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94	3.94
		3.94	3.94	3.94	3.94	3.93	3.93	3.93	3.93	3.93	3.93
26	Miocene Orange Sand L2	3.93	3.93	3.92	3.92	3.93	3.93	3.92	3.92	3.93	3.93
		3.93	3.93	3.94	3.93	3.94	3.93	3.93	3.93	3.93	3.93
		3.93	3.93	3.93	3.93	3.93	3.92	3.93	3.93	3.92	3.92
28	Miocene Orange Sand L3	3.92	3.92	3.92	3.92	3.93	3.93	3.92	3.92	3.93	3.93
		3.93	3.93	3.94	3.93	3.93	3.93	3.93	3.93	3.93	3.93
		3.93	3.93	3.93	3.93	3.93	3.92	3.93	3.93	3.92	3.92
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 101 (PC27)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00

22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	3.84	3.82	3.83	3.83	3.83
26	Miocene Orange Sand L2	3.83	3.82	3.82	3.82	3.82
28	Miocene Orange Sand L3	3.83	3.82	3.82	3.82	3.82
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.84
		3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84	3.84
		3.83	3.84	3.84	3.84	3.83	3.83	3.83	3.83	3.83	3.83
26	Miocene Orange Sand L2	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.83
		3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
		3.83	3.83	3.83	3.83	3.82	3.82	3.82	3.82	3.82	3.82
28	Miocene Orange Sand L3	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.82	3.83
		3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83	3.83
		3.83	3.83	3.83	3.83	3.82	3.82	3.82	3.82	3.82	3.82
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

YEAR 102 (PC28)

PRESSURES AT INJECTION WELL COORD (PSI)

	FORMATION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	3.74	3.73	3.73	3.73	3.73
26	Miocene Orange Sand L2	3.74	3.72	3.73	3.73	3.73
28	Miocene Orange Sand L3	3.74	3.72	3.73	3.73	3.72
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	INJECTION LEVEL	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

PRESSURES AT MONITOR COORD (PSI)

	FORMATION LEVEL	MONITOR ID (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
24	Miocene Orange Sand L1	3.73	3.73	3.73	3.73	3.74	3.74	3.73	3.73	3.74	3.74
		3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74
		3.74	3.74	3.74	3.74	3.74	3.73	3.73	3.74	3.73	3.73
26	Miocene Orange Sand L2	3.73	3.73	3.73	3.73	3.73	3.73	3.72	3.73	3.73	3.73
		3.73	3.73	3.74	3.74	3.74	3.74	3.74	3.73	3.73	3.73
		3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.73
28	Miocene Orange Sand L3	3.73	3.73	3.73	3.73	3.73	3.73	3.72	3.73	3.73	3.73

		3.73	3.73	3.74	3.74	3.74	3.74	3.73	3.73	3.73	3.73
		3.73	3.73	3.73	3.73	3.73	3.72	3.73	3.73	3.73	3.72
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 103 (PC29)----------

PRESSURES AT INJECTION WELL COORD (PSI)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
FORMATION LEVEL					
2 Sand	0.00	0.00	0.00	0.00	0.00
4 Sand	0.00	0.00	0.00	0.00	0.00
6 Sand	0.00	0.00	0.00	0.00	0.00
8 Sand	0.00	0.00	0.00	0.00	0.00
10 Sand	0.00	0.00	0.00	0.00	0.00
12 Sand	0.00	0.00	0.00	0.00	0.00
14 Sand	0.00	0.00	0.00	0.00	0.00
16 Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18 Sand	0.00	0.00	0.00	0.00	0.00
20 Sand	0.00	0.00	0.00	0.00	0.00
22 Sand	0.00	0.00	0.00	0.00	0.00
24 Miocene Orange Sand L1	3.64	3.63	3.63	3.63	3.63
26 Miocene Orange Sand L2	3.63	3.62	3.63	3.63	3.62
28 Miocene Orange Sand L3	3.63	3.62	3.63	3.63	3.62
30 Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

INJECTION RATES (GPM)

	WELL ID (M1)	(M2)	(D3)	(D3)	(D1)
INJECTION LEVEL					
24 Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26 Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28 Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30 Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32 Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34 Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)	16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.64
		3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64	3.64
		3.64	3.64	3.64	3.64	3.63	3.63	3.63	3.63	3.63	3.63
26	Miocene Orange Sand L2	3.63	3.63	3.63	3.62	3.63	3.63	3.62	3.63	3.63	3.63
		3.63	3.63	3.64	3.63	3.63	3.63	3.63	3.63	3.63	3.63
		3.63	3.63	3.63	3.63	3.63	3.62	3.63	3.63	3.63	3.62
28	Miocene Orange Sand L3	3.63	3.63	3.63	3.62	3.63	3.63	3.62	3.63	3.63	3.63
		3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63	3.63
		3.63	3.63	3.63	3.63	3.63	3.62	3.63	3.63	3.62	3.62
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

----------YEAR 104 (PC30)----------

		PRESSURES AT INJECTION WELL COORD (PSI)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	FORMATION LEVEL					
2	Sand	0.00	0.00	0.00	0.00	0.00
4	Sand	0.00	0.00	0.00	0.00	0.00
6	Sand	0.00	0.00	0.00	0.00	0.00
8	Sand	0.00	0.00	0.00	0.00	0.00
10	Sand	0.00	0.00	0.00	0.00	0.00
12	Sand	0.00	0.00	0.00	0.00	0.00
14	Sand	0.00	0.00	0.00	0.00	0.00
16	Top of Injection Zone	0.00	0.00	0.00	0.00	0.00
18	Sand	0.00	0.00	0.00	0.00	0.00
20	Sand	0.00	0.00	0.00	0.00	0.00
22	Sand	0.00	0.00	0.00	0.00	0.00
24	Miocene Orange Sand L1	3.54	3.53	3.54	3.54	3.53
26	Miocene Orange Sand L2	3.54	3.52	3.53	3.53	3.53
28	Miocene Orange Sand L3	3.54	3.52	3.53	3.53	3.53
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00

32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00

* PERFORATED INJECTION ZONE

		INJECTION RATES (GPM)				
	WELL ID	(M1)	(M2)	(D3)	(D3)	(D1)
	INJECTION LEVEL					
24	Miocene Orange Sand L1	0.00	0.00	0.00	0.00	0.00
26	Miocene Orange Sand L2	0.00	0.00	0.00	0.00	0.00
28	Miocene Orange Sand L3	0.00	0.00	0.00	0.00	0.00
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00
CUMULATIVE INJECTION TO DATE (MMGAL)		16409.6	0.0	945.1	272.8	105.6

		PRESSURES AT MONITOR COORD (PSI)									
	MONITOR ID	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		(22)	(23)	(24)	(25)	(26)	(30)	(31)	(32)	(33)	(34)
	FORMATION LEVEL										
24	Miocene Orange Sand L1	3.54	3.54	3.54	3.54	3.54	3.54	3.53	3.54	3.54	3.54
		3.54	3.54	3.55	3.54	3.55	3.55	3.54	3.54	3.54	3.54
		3.54	3.54	3.54	3.54	3.54	3.53	3.54	3.54	3.54	3.53
26	Miocene Orange Sand L2	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.54
		3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54
		3.53	3.54	3.54	3.54	3.53	3.53	3.53	3.53	3.53	3.53
28	Miocene Orange Sand L3	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.53	3.54
		3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54	3.54
		3.53	3.54	3.54	3.53	3.53	3.53	3.53	3.53	3.53	3.53
30	Miocene Yellow Sand L1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Miocene Yellow Sand L2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Miocene Yellow Sand L3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

1

* * * BLUEBONNET ORANGE SAND Job to Generate Pressure * * *

RESIDUAL UPWARD PENETRATION INTO CONFINING LAYERS -- [FEET]
CALCULATED USING INJECTION HISTORY FROM 1983 TO PC30

CONFINING LAYERS	THICKNESS [FEET]	WELLS (M1)	(M2)	(D3)	(D3)	(D1)
1	120.0	0.000	0.000	0.000	0.000	0.000
3	45.0	0.000	0.000	0.000	0.000	0.000
5	54.0	0.000	0.000	0.000	0.000	0.000
7	70.0	0.000	0.000	0.000	0.000	0.000
9	146.0	0.000	0.000	0.000	0.000	0.000
11	59.0	0.000	0.000	0.000	0.000	0.000
13	125.0	0.000	0.000	0.000	0.000	0.000
15	130.0	0.000	0.000	0.000	0.000	0.000
17	29.0	0.000	0.000	0.000	0.000	0.000
19	108.0	0.000	0.000	0.000	0.000	0.000
21	68.0	0.000	0.000	0.000	0.000	0.000
23	67.0	0.000	0.000	0.000	0.000	0.000
25	24.0	0.000	0.000	0.000	0.000	0.000
27	79.0	0.000	0.000	0.000	0.000	0.000
29	64.0	0.000	0.000	0.000	0.000	0.000
31	66.0	0.000	0.000	0.000	0.000	0.000
33	54.0	0.000	0.000	0.000	0.000	0.000

* PENETRATION GREATER THAN CONFINING LAYER THICKESS

APPENDIX VII-4

C. DUPONT BASIC PLUME MODEL

Geostock Sandia

C.1 ORANGE SAND LAYER

Geostock Sandia

PROJECTED PLUMES (MF = 3.5)

INPUT .RCV FILE

Geostock Sandia

```
3.5                     VELOCITY MULTIPLIER
3.                      VTYPE (TYPE OF VELOCITIES CALCULATED)
Y                       FAULT?
-8762. -18951.,  21346.  -4329.     FAULT COORDINATES (NEEDED EVEN IF NO FAULT)
1.                      OUTPUT INTERVALS PER TIME PERIOD
```

PROJECTED PLUMES (MF = 3.5)

OUTPUT .INJ FILE

Geostock Sandia

```
   6 INJECTION WELLS - ORANGE INJECTION SAND
 WELL  X COORD   Y COORD
 M1         0.        0.
 M2    -15217.     9836.
 D3    -14487.    17446.
 D3      -959.    10689.
 D1     -1135.       97.
 D2      5000.     5000.

     55.0 = THICKNESS OF INJECTION ZONE (FT)
    0.270 = POROSITY
    0.500 = PERMEABILITY (DARCIES)

     67.0 = THICKNESS OF UPPER CONFINING ZONE (FT)
    0.110 = POROSITY
0.100E-14 = PERMEABILITY (DARCIES)

 INJECTION HISTORY (GPM)
YEAR                          WELL #
         1     2     3     4     5     6     7     8     9    10
2345678901234567890123456789012345678901234567890123456789012345678901234567890
1983 0.000 0.000  25.8 0.000 0.000 0.000
1984 0.000 0.000  35.8 0.000 0.000 0.000
1985 0.000 0.000  33.2 0.000 0.000 0.000
1986 0.000 0.000  18.7 0.000 0.000 0.000
1987 0.000 0.000  10.5 0.000 0.000 0.000
1988 0.000 0.000   2.3 0.000 0.000 0.000
1989 0.000 0.000  64.3 0.000 0.000 0.000
1990 0.000 0.000  70.4 0.000 0.000 0.000
1991 0.000 0.000  65.8 0.000 0.000 0.000
1992 0.000 0.000  62.6 0.000 0.000 0.000
1993 0.000 0.000  45.4 0.000 0.000 0.000
1994 0.000 0.000  46.4 0.000 0.000 0.000
1995 0.000 0.000  71.6 0.000 0.000 0.000
1996 0.000 0.000  68.8 0.000 0.000 0.000
1997 0.000 0.000  96.3 0.000 0.000 0.000
1998 0.000 0.000  39.9 0.000 0.000 0.000
1999 0.000 0.000   7.4 0.000 0.000 0.000
2000 0.000 0.000  16.7 0.000 0.000 0.000
2001 0.000 0.000   7.2 0.000 0.000 0.000
2002 0.000 0.000   0.9 0.000 0.000 0.000
2003 0.000 0.000   4.6 0.000 0.000 0.000
2004 0.000 0.000   1.2 0.000 0.000 0.000
2005 0.000 0.000  0.01 0.000 0.000 0.000
```

2006	0.000	0.000	0.01	0.000	0.000	0.000
2007	0.000	0.000	0.01	0.000	0.000	0.000
2008	0.000	0.000	0.01	0.000	0.000	0.000
2009	0.000	0.000	0.01	0.000	0.000	0.000
2010	0.000	0.000	0.01	0.000	0.000	0.000
2011	0.000	0.000	0.01	0.000	0.000	0.000
2012	0.000	0.000	0.01	0.000	0.000	0.000
2013	0.000	0.000	0.01	1.1	0.000	0.000
2014	0.000	0.000	0.01	5.1	0.000	0.000
2015	0.000	0.000	0.01	13.5	0.000	0.000
2016	0.000	0.000	0.01	9.2	0.000	0.000
2017	0.000	0.000	0.01	8.8	0.000	0.000
2018	0.000	0.000	0.01	10.7	0.000	0.000
2019	0.000	0.000	0.01	10.3	0.000	0.000
2020	0.000	0.000	0.01	5.5	0.000	0.000
2021	0.000	0.000	0.01	5.7	0.000	0.000
2022	0.000	0.000	0.01	13.7	0.000	0.000
2023	0.000	0.000	0.01	3.9	0.000	0.000
2024	0.000	0.000	0.01	4.9	0.000	0.000
2025	312.1	0.000	0.01	5.0	0.000	0.000
2026	312.1	0.000	0.01	5.0	0.000	0.000
2027	312.1	0.000	0.01	5.0	0.000	0.000
2028	312.1	0.000	0.01	5.0	0.000	0.000
2029	312.1	0.000	0.01	5.0	0.000	0.000
2030	312.1	0.000	0.01	5.0	0.000	0.000
2031	312.1	0.000	0.01	5.0	0.000	0.000
2032	312.1	0.000	0.01	5.0	0.000	0.000
2033	312.1	0.000	0.01	5.0	0.000	0.000
2034	312.1	0.000	0.01	5.0	0.000	0.000
2035	312.1	0.000	0.01	5.0	0.000	0.000
2036	312.1	0.000	0.01	5.0	0.000	0.000
2037	312.1	0.000	0.01	5.0	0.000	0.000
2038	312.1	0.000	0.01	5.0	0.000	0.000
2039	312.1	0.000	0.01	5.0	0.000	0.000
2040	312.1	0.000	0.01	5.0	0.000	0.000
2041	312.1	0.000	0.01	5.0	0.000	0.000
2042	312.1	0.000	0.01	5.0	0.000	0.000
2043	312.1	0.000	0.01	5.0	0.000	0.000
2044	312.1	0.000	0.01	5.0	0.000	0.000
2045	312.1	0.000	0.01	5.0	0.000	0.000
2046	312.1	0.000	0.01	5.0	0.000	0.000
2047	312.1	0.000	0.01	5.0	0.000	0.000
2048	312.1	0.000	0.01	5.0	0.000	0.000
2049	312.1	0.000	0.01	5.0	0.000	0.000
2050	312.1	0.000	0.01	5.0	0.000	0.000

```
2051 312.1 0.000  0.01   5.0 0.000 0.000
2052 312.1 0.000  0.01   5.0 0.000 0.000
2053 312.1 0.000  0.01   5.0 0.000 0.000
2054 312.1 0.000  0.01   5.0 0.000 0.000
2055 312.1 0.000  0.01   5.0 0.000 0.000
2056 312.1 0.000  0.01   5.0 0.000 0.000
```

C.2 YELLOW SAND LAYER

Geostock Sandia

PROJECTED PLUMES (MF = 3.7)

INPUT .RCV FILE

Geostock Sandia

```
3.7                     VELOCITY MULTIPLIER
3.                      VTYPE (TYPE OF VELOCITIES CALCULATED)
Y                       FAULT?
-8762. -18951.,  21346.  -4329.     FAULT COORDINATES (NEEDED EVEN IF NO FAULT)
1.                      OUTPUT INTERVALS PER TIME PERIOD
```

PROJECTED PLUMES (MF = 3.7)

OUTPUT .INJ FILE

Geostock Sandia

```
   6 INJECTION WELLS -- YELLOW INJECTION SAND
 WELL  X COORD   Y COORD
 M1         0.        0.
 M2    -15217.     9836.
 D3    -14487.    17446.
 D3      -959.    10689.
 D1     -1135.       97.
 D2      5000.     5000.

     85.0 = THICKNESS OF INJECTION ZONE (FT)
    0.290 = POROSITY
    0.500 = PERMEABILITY (DARCIES)

     64.0 = THICKNESS OF UPPER CONFINING ZONE (FT)
    0.109 = POROSITY
0.100E-14 = PERMEABILITY (DARCIES)

 INJECTION HISTORY (GPM)
YEAR                          WELL #
         1     2     3     4     5     6     7     8     9    10
2345678901234567890123456789012345678901234567890123456789012345678901234567890
1983 0.000 0.000  25.8 0.000 0.000 0.000
1984 0.000 0.000  35.8 0.000 0.000 0.000
1985 0.000 0.000  33.2 0.000 0.000 0.000
1986 0.000 0.000  18.7 0.000 0.000 0.000
1987 0.000 0.000  10.5 0.000 0.000 0.000
1988 0.000 0.000   2.3 0.000 0.000 0.000
1989 0.000 0.000  64.3 0.000 0.000 0.000
1990 0.000 0.000  70.4 0.000 0.000 0.000
1991 0.000 0.000  65.8 0.000 0.000 0.000
1992 0.000 0.000  62.6 0.000 0.000 0.000
1993 0.000 0.000  45.4 0.000 0.000 0.000
1994 0.000 0.000  46.4 0.000 0.000 0.000
1995 0.000 0.000  71.6 0.000 0.000 0.000
1996 0.000 0.000  68.8 0.000 0.000 0.000
1997 0.000 0.000  96.3 0.000 0.000 0.000
1998 0.000 0.000  39.9 0.000 0.000 0.000
1999 0.000 0.000   7.4 0.000 0.000 0.000
2000 0.000 0.000  16.7 0.000 0.000 0.000
2001 0.000 0.000   7.2 0.000 0.000 0.000
2002 0.000 0.000   0.9 0.000 0.000 0.000
2003 0.000 0.000   4.6 0.000 0.000 0.000
2004 0.000 0.000   1.2 0.000 0.000 0.000
2005 0.000 0.000  0.01 0.000 0.000 0.000
2006 0.000 0.000  0.01 0.000 0.000 0.000
```

2007	0.000	0.000	0.01	0.000	0.000	0.000
2008	0.000	0.000	0.01	0.000	0.000	0.000
2009	0.000	0.000	0.01	0.000	0.000	0.000
2010	0.000	0.000	0.01	0.000	0.000	0.000
2011	0.000	0.000	0.01	0.000	0.000	0.000
2012	0.000	0.000	0.01	0.000	0.000	0.000
2013	0.000	0.000	0.01	1.3	0.000	0.000
2014	0.000	0.000	0.01	6.6	0.000	0.000
2015	0.000	0.000	0.01	17.1	0.000	0.000
2016	0.000	0.000	0.01	12.0	0.000	0.000
2017	0.000	0.000	0.01	11.3	0.000	0.000
2018	0.000	0.000	0.01	13.8	0.000	0.000
2019	0.000	0.000	0.01	13.5	0.000	0.000
2020	0.000	0.000	0.01	7.7	0.000	0.000
2021	0.000	0.000	0.01	7.6	0.000	0.000
2022	0.000	0.000	0.01	17.9	0.000	0.000
2023	0.000	0.000	0.01	4.9	0.000	0.000
2024	0.000	0.000	0.01	6.2	0.000	0.000
2025	531.4	0.000	0.01	6.0	0.000	0.000
2026	531.4	0.000	0.01	6.0	0.000	0.000
2027	531.4	0.000	0.01	6.0	0.000	0.000
2028	531.4	0.000	0.01	6.0	0.000	0.000
2029	531.4	0.000	0.01	6.0	0.000	0.000
2030	531.4	0.000	0.01	6.0	0.000	0.000
2031	531.4	0.000	0.01	6.0	0.000	0.000
2032	531.4	0.000	0.01	6.0	0.000	0.000
2033	531.4	0.000	0.01	6.0	0.000	0.000
2034	531.4	0.000	0.01	6.0	0.000	0.000
2035	531.4	0.000	0.01	6.0	0.000	0.000
2036	531.4	0.000	0.01	6.0	0.000	0.000
2037	531.4	0.000	0.01	6.0	0.000	0.000
2038	531.4	0.000	0.01	6.0	0.000	0.000
2039	531.4	0.000	0.01	6.0	0.000	0.000
2040	531.4	0.000	0.01	6.0	0.000	0.000
2041	531.4	0.000	0.01	6.0	0.000	0.000
2042	531.4	0.000	0.01	6.0	0.000	0.000
2043	531.4	0.000	0.01	6.0	0.000	0.000
2044	531.4	0.000	0.01	6.0	0.000	0.000
2045	531.4	0.000	0.01	6.0	0.000	0.000
2046	531.4	0.000	0.01	6.0	0.000	0.000
2047	531.4	0.000	0.01	6.0	0.000	0.000
2048	531.4	0.000	0.01	6.0	0.000	0.000
2049	531.4	0.000	0.01	6.0	0.000	0.000
2050	531.4	0.000	0.01	6.0	0.000	0.000
2051	531.4	0.000	0.01	6.0	0.000	0.000

```
2052 531.4 0.000  0.01   6.0 0.000 0.000
2053 531.4 0.000  0.01   6.0 0.000 0.000
2054 531.4 0.000  0.01   6.0 0.000 0.000
2055 531.4 0.000  0.01   6.0 0.000 0.000
2056 531.4 0.000  0.01   6.0 0.000 0.000
```

AREA OF REVIEW CERTIFICATION

Geostock Sandia

VIII. AREA OF REVIEW REPORT CERTIFICATION

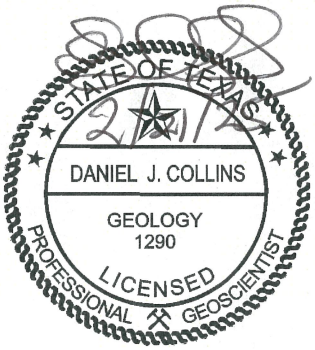
I, Daniel J. Collins , Vice President - Geosciences
(technical report supervisor) (Title)

I certify under penalty of law that Section VIII, and all applicable attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information, recommendations and specifications submitted are, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: _____ Date: 2/21/25

Document pages covered by seal include the following:

Pages VIII-1 through VIII-40
Tables VIII-1 though VIII-3
Appendices VIII-1 through VIII-3
Applicable Figures are individually sealed



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SECTION VIII

AREA OF REVIEW

Geostock Sandia

BLUEBONNET SEQUESTRATION, LLC

UIC CLASS I PERMIT APPLICATION

SECTION VIII – AREA OF REVIEW

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VIII. AREA OF REVIEW

Under Texas Administrative Code §331.42 regulations, the Area of Review for Class I Operations is defined as "*an area within which the owner or operator of a Class I injection well must identify all artificial penetrations that penetrate the confining zone and/or injection zone and determine whether they have been completed or plugged so that they do not provide conduits for fluid movement*". Artificial penetrations constitute a possible threat to human health or the environment because of their potential for conveying waste and formation fluid out of the injection zone and/or conveying fluid (waste or formation brine) into an underground source of drinking water (USDW) (non-endangerment standard). The most significant risk is posed by those wells with shallow surface casing set above potential USDWs that were simply just drilled and abandoned without proper plugging attempts.

Under the Texas Administrative Code (TAC) §331.42(a)(1) standard, the Area of Review for a Class I injection well corresponds to the area within a fixed 2.5-mile radius of the injection well or based on the calculated "cone of influence" of the injection well, whichever is greater. The "cone of influence" is defined as "...the potentiometric surface area around the injection well within which increased injection zone pressures caused by injection of wastes would be sufficient to drive fluids into a USDW or freshwater aquifer" (TAC §331.2). For the Bluebonnet Sequestration Hub (Bluebonnet), in Chambers County, the radius of the Cone of Influence (COI) in each injection interval for the Orange and Yellow Sands, after a 30-year projected model at maximum requested rates, is wholly contained within the set 2.5-mile radius from the facility injection wells.

A total of 28 artificial penetrations (associated with oil and gas operations) are found within the fixed 2.5-mile radius Area of Review from the proposed Bluebonnet injection wells. These well penetrations are presented in Table VIII-1 and keyed to Figure VIII-1. Each of these wells have been evaluated for non-endangerment. All the wells on the Table (except AP No. 1) penetrate the injection zone and intervals for the Class I UIC project. Of the 28 artificial penetrations in the Area of Review, there are six wells that are contained within a Cone of Influence for either the Yellow Sand or Orange Sand (or both). These wells undergo an evaluation for construction standards and are screened against criteria for properly constructed/properly plugged wells as outlined in this section.

Wells which may require a secondary further pressure evaluation are modeled in this TCEQ Permit Application to determine if they present a potential threat to any USDW due to injection operations. Based on the conservative reservoir modeling presented in Section VII, all wells pass this screening step for the 30-year modeled period. However, Bluebonnet plans for corrective action for select wells within the Cone of Influence out of caution. Corrective action plans for these wells are presented in Section VIII.F.

VIII.A AREA OF REVIEW MAP

The Area of Review is determined by either a radius of 2.5-miles from the injection wells (Bluebonnet DSW M1 and M2), or the area within the COI calculated in Section VII.A.7, whichever is greater. For the Bluebonnet site, the COI has been determined to be less than the standard 2.5-miles radius. Therefore, the established Area of Review of 2.5-miles is set for this Class I UIC Permit Application.

A base map showing the proposed injection wells locations for the Bluebonnet site with the 2.5-mile Area of Review and offset oil and gas wells is provided in Figure VIII-1. The figure shows the location, name, lease and well number, and depth of the artificial penetrations for each of the wells tabulated in Table VIII.1 This map was prepared on a 1-inch equals 2,000 feet scale Tobin basemap (P2 Tobin Data) which was obtained in Fall 2024 and has been cross checked through commercial and public data sources, as well as checked across hardcopies in the Texas Railroad Commission file work for all potential penetrations. This map is scaled such that individual wells are readily defined and labeled with the Area of Review.

A USGS topographic quadrangle base map that shows the location of the facility, the injection wells, and the locations of surface features is included in “Attachment D” of this TCEQ Permit Application. This map shows surface bodies of water, quarries, and other pertinent surface features located in the area. Figure VIII-2 and Table VIII-2 present all the water and monitoring wells within the 2.5-mile Area of Review. It is noted that none of these wells have been drilled deep enough to penetrate the confining zone and therefore are not evaluated as paths for vertical migration.

VIII.B ARTIFICIAL PENETRATIONS IN THE AREA OF REVIEW

A thorough record search was conducted during preparation of this TCEQ Permit Application by Bluebonnet to locate and evaluate all artificial penetrations that lie within the 2.5-mile radius Area of Review and identify which penetrations are contained with the Cone of Influence. This search was performed in October and November 2024 and involved online records searches, as well as a search of hardcopy records through the Central File room in Austin, Texas. A total of 28 artificial penetrations are identified within the 2.5-mile radius of the injection wells. A listing of the artificial penetrations and relevant construction and plugging information is presented on Table VIII-1. The Cone of Influence is contained entirely within the 2.5-mile Area of Review. Locations for all the artificial penetrations are shown on Figure VIII-1 and the supporting well documentation for each location used in the evaluation is contained in Appendix VIII-1. Only six artificial penetrations are contained with the Cone of Influence extent for both Orange and Yellow Injection Interval Sands (Figure VIII-3)

Water and monitoring wells were identified and tabulated initially as part of the Attachment D (Section I.P.5) requirement. The search has extended to encompass the entire 2.5-mile Area of Review and is presented in Table VIII-2 and Figure VIII-2. For this TCEQ Class I Injection Well Permit Application, both the TWDB Groundwater Database (GWDB) Reports and Submitted Drillers Reports (SDR) Database serve as critical data sources for identifying and characterizing water wells. GWDB represents a curated dataset maintained by state agencies, containing detailed information about selected water wells, springs, and converted oil/gas tests. This database provides comprehensive data including water levels, water quality parameters, and aquifer characteristics, making it valuable for understanding regional hydrogeological conditions.

The SDR Database, implemented through the Texas Well Report Submission and Retrieval System (TWRSRS), offers a broader but less verified dataset of water well information submitted by registered well drillers since 2001. While the SDR Database includes more recent well installations and plugging reports, it's important to note that well locations in this database are not verified by State staff and may contain inaccuracies. The database provides essential information about new well construction, modifications, and abandonments across Texas.

For this application, both databases were consulted to ensure comprehensive identification of all water wells within the 2.5-mile Area of Review and 1-mile buffer from facility boundary which is presented in Attachment D. The GWDB provides verified, high-quality data suitable for detailed hydrogeological analysis, while the SDR Database captures more recent well activities that might not appear in the GWDB. Together, these databases provide complementary coverage needed for thorough evaluation of potential impacts on groundwater resources and demonstration of permit application compliance with TCEQ requirements.

Notable details on these databases:

- GWDB focuses on representative aquifer information for water planning
- SDR Database contains reports from February 2001 onwards, with complete coverage starting 2003
- GIS shapefiles for SDR wells are updated nightly
- Well locations in SDR require verification due to potential inaccuracies
- Both databases are essential for complete water well coverage in permit applications

As some wells are listed in both reports, both well identification numbers are provided in Table VIII-2. In this report, these artificial penetrations are referred to as water wells (presented in Table VIII-2 and Figure VIII-2) and are less of a concern as these wells are not deep enough to penetrate the Confining Zone (all shallower than 1,630 ft). A total of 30 water and monitoring wells are present in the Area of Review. Water is withdrawn primarily from the Chicot Aquifer at depths shallower than 310 ft. Only one water well penetration, Pelican/Bluebonnet Sequestration is drilled deeper, and is listed as a monitoring well. This well is also present on Table VIII-1 as Artificial Penetration No. 1.

The following detailed sections outline the specific protocol methodology and searches taken to identify and evaluate the artificial penetrations which are associated with economic production and disposal.

VIII.B.1 Artificial Penetration Protocol

As used in current regulations, the Area of Review pertains to the area within which the owner or operator of Class I Injection wells must identify all artificial penetrations that penetrate the site-specific confining and/or injection zone. These artificial penetrations constitute a possible threat because of their potential for conveying fluid from an injection reservoir to the overlying USDW (non-endangerment standard). The Area of Review for the non-endangerment standard is defined as a fixed 2.5-mile radius around the injection well unless the calculated COI of the injection well warrants a larger Area of Review (TAC §331.42(a)(1)). State regulations require, in the Area of Review phase of the permitting process, identification and evaluation of artificial penetrations followed by appropriate action to mitigate any potentially threatening situation. In this technical report, these wells are referred to as Artificial Penetrations (AP's).

VIII.B.2 Well Identification and Data Sources

A specific and consistent methodology was used to identify all artificial penetrations within the Area of Review surrounding the Bluebonnet site. Several data sources were utilized to locate pertinent information regarding each artificial penetration. An initial base map was secured from P2 Tobin Data in fall 2024 for this Permit Application. The P2-Tobin basemap provides well locations and pertinent information, such as the American Petroleum Institute (API) numbers. These numbers are a unique and permanent number that is assigned to track oil and gas associated wells. It consists of ten digits and is used throughout the US for all wells, regardless of status. These API numbers are used to search across multiple public and commercial databases. This is critical as some databases, such as the Texas Railroad Commission (RRC) show these wells on their public GIS map as "Dry Hole" or "Plugged", with no information (including no API).

State agency files, along with state libraries, were researched by D&B Associates, of Austin, Texas for descriptive well documentation and checked across hardcopy oil and gas maps. This is done to check for additional wells that may have been drilled in a survey located within the Area of Review. The regional libraries of IHS, TGS, and Enverus, commercial log and oil and gas data service companies, were also cross check for additional well locations, and their database researched for well logs and scout tickets applicable to each well identified in the Area of Review.

Searches have been conducted for this initial permit application. Where discrepancies exist among data sources, state form data are considered to be the most accurate. The following discussion is a synopsis of the procedures used to procure these state forms data.

VIII.B.2.1 File Search and Research Procedures for the Texas Railroad Commission

The well record filing system of the Texas Railroad Commission (RRC) is cumbersome due to changes in filing procedures implemented over the years. The enormous amount of information contained within the system has often been reorganized when directors of the RRC have changed. The following discussion on file searches and research procedures for the RRC outlines the necessary steps that must be taken to retrieve oil and gas well records to be used in researching each well within a given area.

VIII.B.2.2 Maps

Before the retrieval process can begin, it is necessary to know the API number, the operator, lease name, county, and survey in which the well is located. The preceding information is normally found on commercially prepared oil and gas base maps. The RRC maintains two types of maps, which are used by the researcher to determine operator, well name, approximate drilling date and field name. The two types of maps on file at the RRC are:

County Maps

These maps are produced by commercial firms, who obtained the data to build the oil and gas bases from scout tickets, completion data obtained from individual oil companies in the early years and then, in later years, from the RRC itself. The RRC purchases these maps and utilizes them as base maps, plotting incoming information filed by oil and gas operators. Changes in the status of existing wells are notated, as well as factual material on new wells.

Field Maps

These maps are prepared by RRC personnel from the commercial base maps. Field Maps are prepared when there is an extremely high well concentration in an area, and it is

necessary to expand the scale of the area so that wells can be properly identified. All data including survey name, fee name, acreage and configuration of tracts of land, operator name and well location data is taken from the county map and transposed onto the field map. Once the field map is prepared, any wells drilled, deepened, plugged back, or plugged in the area encompassed are spotted on this map.

In addition to the hardcopy maps, the RRC also has a Public GIS View Map available online, which allows users to view the wells interactively. This map contains the locations of wells, which are linked to the available online imaged records via the API number or lease number. It is accessible for all public records that have been imaged by the RRC to date. Well searches are performed by either an API number or County/Survey location. However, the data available is limited and lacking details, and in many cases has the wrong information posted (as compared to the well record forms). Per the RRC:

"These data sets are provided as a public service for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. Generally, they do not represent an on-the-ground survey and represent only the approximate relative location of property boundaries. They are not intended to be used as an authoritative public record for any geographic location and have no legal force or effect. Organizations and individual users are responsible for verifying the accuracy, completeness, currency, and/or suitability of these data sets themselves."

Therefore, data and locations are verified against locations found in the Tobin PS Basemap and locations provided via well log header for a QA/QC check. This step assists in locating all wells that are within the Area of Review.

VIII.B.2.3 Microfilm Records

All records filed with the RRC prior to 1973 are found on microfiche and microfilm. Records in some RRC districts are filmed through 1980. These microfiche and microfilm records are organized in several different systems: such as operator and lease name, or district, field, and operator name, or district, field, and lease number. **Note:** that the RRC has been in the process of

imaging all wells for their online portal, and some records are currently available online. However, within the aforementioned filing systems, there are a large number of exceptions to the filing procedures, which create additional filing systems within these categories. The various types of standard film sets are as follows:

Unit Cards

These are microfiche records for wells, which had records, filed with the RRC prior to 1962. These units are filed sequentially by an operator number assigned by the RRC when the operator filed the required organization report with the agency. The operator number can be referenced in either the county book or the county microfiche. A county book is maintained for each county within the state. Within the county book, the information is organized alphabetically by lease name, which cross references to the operator's name and corresponding operator number. The agency took the county books and reorganized the leases into alphabetical order and microfilmed the information. Although the county books are not organized as neatly as the county microfiche, they are the original system and are more accurate due to unintentional omissions made when reorganizing the listings.

Operator numbers can also be obtained from old copies of organization ledgers maintained by the RRC. These ledgers are in five separate sets, which correspond to various time periods from the 1920's to the 1960's. They list only operator names, addresses, and numbers assigned by the agency, and are used as a last resort, since they do not indicate lease names and often list multiple operators with the same name.

Once the operator's name is matched to a lease name and an operator number is given, the unit card, if available, is pulled. The lease names are filed alphabetically within each operator number. Since there are exceptions to the filing system, if the desired information is not available or only partially available on the unit card, then the researcher must proceed to the next set of microfilm.

Well Records-Folders Rolls

Duplicate copies of unit cards, which sometimes contain information that was not included in the initial filming of the unit cards, are referenced on the folder rolls. The folder rolls are organized by operator number and folder number, which appear on the unit card jacket. In addition, some folder rolls do not have a folder number given, but only an operator number. These rolls are called "add-on rolls" and contain records not included in the initial filming of the unit cards.

Well Records-Runs 20 to 30 and A to I

These rolls are organized by operator number and by specific periods of years. They encompass the time-period from 1945 to 1960 and commonly have three to five rolls for a specific year and operator number. When information is not available on the unit cards, these are the next set of film to be researched for records.

Well Records-Major Runs

This is a special set of film that contains only information on records filed by major operators. These rolls are organized by operator and then alphabetically by lease name. It should be noted that there are very few unit cards for major companies and that, if any information was filed on a lease or well, it will be found on this set of film. It should also be noted that major operators, even in the early years of the oil business, were very prudent about filing completions and plugs for wells, which they operated.

Well Records-Old Warehouse Film

This set of film contains some of the earliest information filed with the RRC and includes oil and gas well records filed from 1919 to 1939. There are only five rolls of this film, with three rolls organized numerically by operator number and two rolls organized alphabetically by operator name.

Well Records - K, L, and M Film

In March 1966, the RRC instituted a new filing system. However, before the system could be fully implemented, many well records, which were filed during the period of transition, were placed onto the K, L, and M film. The K Run covers portions of records filed from 1963 to 1964, the L Run covers portions of records filed from 1964 to 1965, and the M Run covers portions of records filed from 1965 to March 1966. The K, L, and M film is organized by operator number, with leases listed alphabetically within operator number.

Potential Film

In March of 1966, the RRC filing system was converted to the potential filing system, which is currently used. This film contains records of all wells that produced oil and/or gas and were placed in a designated oil or gas field. This film is organized by RRC District, field name, and oil lease number or gas well identification number.

Wildcat and Suspense Film

This film contains records of all wells with applications to drill in wildcat fields or new leases in designated fields that were on leases that did not have a lease identification number previously assigned due to any producing wells on the lease in the field. This film is organized by district, county, and/or API number. The API number system has been in effect since April 1966. The numbers have been stored within the RRC computer system as well as being noted on all forms filed for the well. The system allows s retrieved by computer showing drilling status, operator, lease name, oil lease number or gas identification number, and field name. This is a very efficient system and allows quick and accurate retrieval of data filed since 1978.

Well Record Files

These are the hard copy files of data not yet placed on microfilm. These files are organized by district, field name, and oil lease number or gas identification number. These files contain the most recent data processed by the Central Records staff of the RRC. Inside these folders are references to data that have been placed onto potential film.

Suspense Files

These files contain the most recent information to be filed with the Central Records Department. This is the holding area for information to be placed into existing well record files or to have new oil lease or gas identification files prepared. The information is filed by district and API number. To obtain API numbers assigned to these records, it is necessary to search suspense cards that are filed by district, county, and alphabetically by lease name. Records that have not been placed in suspense files are usually found within the Map where they are held until data is placed on to the county oil and gas base maps or on field maps.

These record sets are the primary file systems utilized to access records in the RRC. In retrieving information, the researcher often must examine every file system available in search of a particular piece of information. Note: that the RRC is in the process of making the records available online, however, due to the large volume of data and historical records, only a limited number of historical records are currently available. In some cases, the online files are not the correct associated records. Therefore, an in-person review of records is required to ascertain that all documentation has been acquired correctly.

VIII.B.2.4 Research Procedures for Geophysical Well Logs

Commercial log libraries (IHS, TGS, and Enverus) were also searched for information concerning the wells within the Area of Review. These libraries maintain extensive geophysical well log collections. A Well Log search may also be performed on the RRC GIS database and thorough the Central File room searches. Well Log data provides not only details of the subsurface geology but also provides drilling information such as bit (open hole) size, mud weights of drilling fluids during logging operations and plugging operations of a dry hole, as well as information about casing depth. These data are contained in Appendix VIII-1 (2.5-mile radius Area of Review) and are also used in Table VIII-1. If a log is not available, a “No Log” notification is supplied in the records and table.

VIII.B.3 Artificial Penetration Evaluation

After compiling the information from the various data sources, a critical review of each artificial penetration was undertaken. All available artificial penetration records were examined to identify improperly constructed and/or plugged wells, along with other disposal operations, which may exist in the Area of Review. Once identified, the artificial penetrations were then subdivided into wells that are abandoned and wells that are active. An abandoned well is a well where use has been permanently discontinued or is in disrepair such that it cannot be used for its intended purposes. These types of wells include dry holes, abandoned production (oil and gas) wells and injection wells. An active well is a well that is currently operating or shut-in, including production and injection (saltwater disposal, enhanced recovery or other) wells. Well evaluations considered status, Confining Zone/Injection Zone Penetration, nature of the strata penetrated, and drilling methods. A total of 28 wells were located within the 2.5-mile radius Area of Review. A total of six AP's located within a project Cone of Influence at end of a 30-year modeled period for the Orange and Yellow Sand Injection Intervals (Figure VIII-3).

VIII.B.3.1 Well Status

Each artificial penetration (active/abandoned) within the Cone of Influence was evaluated as to the adequacy of construction and plugging to determine the potential of the penetration to convey fluid from an injection zone into the overlying USDWs (non-endangerment). Wells requiring further evaluation were identified and were subsequently evaluated in detail or modeled (Section VIII.E.2) to determine the need for further action or corrective action. The status of each well is also included on the tabulation on Table VIII-1.

VIII.B.3.2 Confining/Injection Zone Penetration

Wells that penetrate the confining and/or injection zone may have the potential for conveying fluid from the injection zone to an overlying formation or from the injection zone to an overlying USDW. Available geophysical well logs from the artificial penetrations within the Area of Review were evaluated to determine which of the wells penetrate the confining/injection zone. All wells on Table VIII-1 penetrate through the entire Injection Zone and Intervals, except for AP No. 1. Determination of which wells are then contained within the Cone of Influence are noted (see Table

VIII-1) and evaluated for their construction and plugging details. The relative depth locations of the Confining Zone and Injection Zone are noted on the schematics for wells within the Cone of Influence.

VIII.B.3.3 Rock Types

Understanding the rock type is also critical to understanding the wells construction and current conditions. This is due to many dry holes that have only set surface casing, yet then have an open hole to some deeper depth. Open hole sizes for these artificial penetrations are usually provided via the well log headers. An open borehole in the Gulf Coast Plain is subject to rock types and drilling fluids. This is taken into consideration in the well evaluation.

Unconsolidated rock formations such as the geologically young shales in the Gulf Coastal Plain have hydration (expanding clays-smectites) and plastic properties, which result in natural closure of man-made boreholes (Johnston and Greene, 1979; Davis, 1986). Johnston and Knape (1986) reported after interviewing several experienced drilling engineers that the geologically young and unconsolidated sediments of the Gulf Coast tend to slough and swell, and an uncased borehole will commonly squeeze shut within a matter of hours, resulting in natural borehole closure. AIC (1987) examined improperly plugged abandoned wells in over 46,500 Texas oil and gas fields in both unconsolidated and consolidated regions, with documented natural closure as an important mechanism in preventing upward fluid movement in the unconsolidated rock areas (Clark et al., 1987). Borehole closure has also been verified in the day-to-day experience of field engineers or petroleum consultants who encounter difficulty in keeping boreholes open while drilling and running casing and sometimes find boreholes closed when re-entry is attempted for plugging. Experience from re-entering and plugging abandoned wells near DuPont injection facilities confirmed that the boreholes are closed by natural processes in the Texas Gulf Coastal Plain (Meers pers. com., 1986; Klotzman pers. com., 1986).

These observations explain why abandoned well boreholes without production/longstring casing are normally sealed by natural phenomena. Although closure of the borehole by caving sands and swelling shales would provide a significant obstacle to vertical fluid movement in the well, the approach used to model the potential for fluid movement in abandoned boreholes assumes that

borehole closure will not occur. Understanding the rock types (such as ductile shales) are important when evaluating Artificial Penetrations which may have drilled exploratory open holes without casing (typical for many Dry and Abandoned wells). These wells usually have surface casing set. At time of plugging, plugs are typically set at the surface casing shoe and in the surface casing. The drilled open hole is then left with the drilling mud and plugged. For this site, drilling mud (from log headers in Appendix VIII-1) exceeds 10.0 ppg for all Dry and Abandoned Wells. Evaluating the mud left in the open borehole, with the understanding that boreholes may collapse and seal due to the nature of the rock type (ductile shales, friable non compacted materials, formation pressures) and weight of drilling mud, are considered in the evaluation of open holes.

VIII.B.3.4 Drilling Methods and the Mud Column

Based on data from the state forms, the artificial penetrations in the Area of Review were drilled using mud rotary methods and conventional casing programs. Rotary drilling is the preferred method for wells drilled into Tertiary formations in the Gulf Coast region. Drilling fluids serve a variety of functions in the borehole. The more important are to:

1) prevent the inflow of formation fluids into the wellbore;

2) maintain the stability of uncased sections of the borehole;

3) prevent solids from settling during static conditions;

4) form a thin, low permeability filter cake that seals pores and other openings in formations penetrated by the bit;

5) cool and clean the bit; and

6) reduce friction between the drill string and borehole walls.

These functions of the mud result from its physical properties. The physical characteristics that make the mud useful during drilling also make it an effective barrier to vertical fluid movement. The two most important mud properties relevant to vertical fluid migration in improperly constructed or improperly abandoned wells are mud weight and gel strength.

Two of the primary functions of drilling mud are to prevent the inflow of formation fluids and prevent the collapse of formation materials into the wellbore. These are primarily accomplished by altering the mud weight during drilling. Mud weight can be increased by increasing the salinity of the mud or adding insoluble solids, typically barite ($BaSO_4$). In general, mud weight is increased with depth so that the mud column will overbalance the encountered formation pressures. The drilling mud column will commonly overbalance formation pressures by 200 to 400 psi (Pierce, 1989).

For many years, mud plugs have been advocated for properly abandoning well bores because they provide an effective barrier to vertical fluid flow. Mud plugs have been shown to have a very low permeability and great resistance to fluid movement. In addition, mud plugs have been shown to plug an artificial penetration through time and under the various conditions encountered within a wellbore. A mud plug, with its inherent low permeability, in combination with the hydrostatic head of an overbalanced mud column, is sufficient to counterbalance increased formation pressure due to injection effects, thereby creating an effective barrier to fluid flow. These sealing and fluid barrier characteristics of mud plugs, combined with hydrostatic pressures and natural borehole closure processes, minimize the chance of encountering a truly open conduit in an artificial penetration that was drilled in unconsolidated sediments.

Drilling mud is largely composed of clays and water. Commonly, bentonite (sodium montmorillonite) is added to the drilling mud to obtain viscosity in the slurry, in addition to promoting the formation of wall cake (the low-permeability layer of clay lining the borehole). Bentonite is hydrophyllic (it readily absorbs water), and its flat platy shape is the primary reason it is desired for use in drilling fluids. Clay platelets aggregate (flocculate) in three ways: 1) face-to-face, 2) edge-to-edge, or 3) edge-to-face, because the platelets are electrically charged. This thixotropic or gelling property of a bentonite slurry is what gives drilling mud its gel strength, as discussed below. Gel structures build with time as the positive edge of one particle or plate moves toward the negative surface of another; that is, when the platelets are layered (Gray et al., 1980). This orientation reduces the vertical permeability of the mud column significantly because tortuosity is increased.

The gel strength and wall cake of bentonite clay mud systems provide an effective barrier against both vertical fluid migration within the wellbore, and migration of fluids into overlying formations. The following subsections examine various aspects of mud plugs and their ability to effectively prevent migration of fluids.

The permeability of drilling mud in abandoned wells depends on the amount and size of the clay particles and other colloids available in the slurry, as well as the time the mud has been left in the hole. Although the permeability of mud in deep boreholes has not been measured directly, the permeability of other similar clay mixtures, such as those used in slurry wall construction and bentonite grout slurry mixtures used to plug shallow borings, has been measured and quantified. Alther (1982), while investigating the use of bentonite for clay caps and slurry wall containment, found that a mixture of bentonite and high-permeability soils reduced the coefficient of permeability to 10^{-9} cm/sec. In his laboratory testing, Alther (1982) used a falling head permeameter to measure the permeability of a mixture of 8% bentonite and 92% Lake Michigan sand.

Polk and Gray (1984) investigated the adequacy of mud as a sealing agent in abandoned boreholes related to mineral exploration. Their focus was on the ability of a bentonite mud to form a filter cake with a low enough permeability to ensure that there would not be fluid flow between aquifers penetrated during drilling. Polk and Gray (1984) directly measured filter cake permeabilities using the cake formed in a standard American Petroleum Institute (API) filter press filtration test run for 30 minutes at a differential pressure of 100 psi. The cake that formed on the filter paper was then tested with water to determine the cake's permeability. The cake had measured permeabilities ranging from 2×10^{-8} to 8×10^{-9} cm/sec, which are regarded as low enough permeability values to prevent fluid flow from one aquifer to another through an open borehole.

Because the EPA defines "low permeability" for soil as 1×10^{-7} cm/sec, the minimum required permeability of the 3 feet of compacted clay beneath a landfill or surface impoundment, then it is reasonable to believe that the permeability of a column or mud plug (1×10^{-7} cm/sec or less) is more than sufficient to prevent movement of fluids within an "open" unplugged well bore. Many models assume that the top of the mud column is at, or very near, ground level for boreholes in the Gulf Coast area. This assumption is justified by documentation offered from several field examples

are cited in the following paragraphs.

For example: In the Nora Schulte wellbore, reentered by K. E. Davis Associates during 1988, the top of the mud plug was encountered just below the 12 feet of cement at the top of the wellbore. Subsurface, Inc. (1976) reentered and re-plugged the Brewster Bartle Drilling Company (British American Oil Production Company), University of Texas No. 1B (Galveston County, Texas) during 1976, at the request of Amoco and Monsanto. The 11,720-foot dry hole was abandoned with casing left in place to 11,200 ft. Cement plugs were placed from 11,000 to 11,200 ft, and from 130 to 180 ft, and near the surface. Mud-laden fluid filled the remainder, conforming to Texas Railroad Commission plugging and abandonment requirements of 1961. During the reentry operation, drilling mud was found immediately below the surface cement plug with its properties relatively intact. A drill bit was run on tubing to 960 ft, after the upper cement plug was broken through. The well fluid was then circulated out using 12-lb/gal mud. This confirms that mud properties maintain their plugging capabilities and offer major resistance as fluid barriers.

AIC (1988), in a study of well reentries originally plugged 20 to 30 years ago, found that in the Gulf Coast (Texas) and West Texas, most operators reported finding the top of the mud just below the surface plug. In the Gulf Coast, mud was generally hard, whereas in West Texas, the mud was soft. The following comments reflect the condition of the drilling mud and/or borehole fluids encountered in the Gulf Coast:

- mud sets up like cement
- mud sets up firm after about five years
- mud encountered is hard and firm
- the top of the mud is usually just below the top cement plug.

Even if cement plugs are present in the borehole, it is considered a more conservative approach to model a full column of mud because the resistance of the cement plug would be expected to be greater than the pressure exerted by the mud column. In addition, the system is closed because it is not possible to force significant quantities of mud into a permeable formation because of the effect of nearly impermeable residual mud cake that has formed on the formation wall. This mud

cake acts as a skin or barrier to effectively seal off formations and prevent fluid loss from the mud to the formation or loss of fluid from the formation when the well was drilled.

Most drilling fluids are thixotropic, as they nearly always utilize clay as their colloidal base. Thixotropy is the characteristic whereby certain gels evolve to a solid state when allowed to stand undisturbed but liquefy upon shock disturbance. In drilling fluids, thixotropy is caused by using clay minerals in the size range of colloidal particles (<0.00024 mm) as additives. They enhance the formation of the gel phase of the mud. This gel phase is desirable because it assists in suspending cuttings released by the drilling procedure, producing the required viscosity and mud cake properties. The development of gel strength in a mud is due to the tendency of the clay platelets to align in a configuration where positively charged edges are adjacent to negatively charged surfaces. As the mud sits at static conditions, the gel strength will increase with time as additional clay particles come into alignment. The strength of this gel phase is significant because before mud can flow upward in an abandoned artificial penetration, the formation pressure would have to be greater than the pressure of the static mud column and of sufficient pressure to break the strength of the gel structure. Collins and Kortum (1989) found that nonuniformities in hole diameter may increase the pressure necessary to break the strength of the gel in a borehole by a factor of three to five over gel strength alone. This would add a significant margin of safety to abandoned well modeling calculations.

The long-term properties of mud can be determined from a theoretical standpoint. Mud weight should not vary significantly from that at abandonment because virtually all the barite particles will remain in suspension due to mud gel strength. Pierce (1989) found that gravitational settling of barite or other mud additives has been overestimated. Even though settling of the largest cutting particles may occur, overall, this effect does not diminish mud density, or more importantly, affect the plugging and sealing characteristics of a column of mud in an abandoned borehole. The higher the gel strength of a mud column, the larger the particle that can remain in suspension. This essentially can be shown by analogy to a solid mechanics problem where a sphere is suspended in an elastic solid. Only when the maximum shear stress on the surface of the particle exceeds the gel strength of the mud will the particle settle out of the mud column. For barite particles, with a density of 4.2 gm/cm^3, the critical diameter (in centimeters) for settling is approximately equal to

the gel strength of the mud (lb/100 ft^2) divided by 100. For a reasonable worst case gel strength of 20 lb/100 ft^2, all barite particles smaller than 0.2 cm will remain in suspension. In a typical drilling mud, barite particles are generally an order of magnitude less than 0.2 cm in diameter (NL Baroid, 1988).

The relationship between gel strength and time varies with the mud type, depending on such variables as composition, pH, temperature, pressure, solids, and degree of flocculation. There are two types of gel: progressive and fragile. Progressive gels have a relatively low initial gel strength just after circulation is discontinued, but the strength consistently increases with time. This type of gel is present in "native" muds with a high solids content and is typical of wells drilled in the early part of this century. Fragile gels generally have a high initial gel strength that only increases slightly with time. This type of gel is only found in treated muds, i.e., muds with an organic surfactant additive (typically lignites or lignosulfonates), added to peptize or deflocculated the clay particles. This type of inhibited mud is a fairly recent development, with the first thinning agents introduced in the 1930s (Gray et al., 1980).

Gel strength generally increases with time because of the electrical attraction of the clay platelets in the mud. Though it is difficult to quantify the gel strength of old muds, the gel strength is known to significantly increase with time in all cases (Davis, 1986). The time dependence of gel strength has been investigated by several authors. Garrison (1939) found that the gel strength of a montmorillonite-clay water system (California bentonite) could be empirically correlated with time. Although the exact relationship between gel strength and time varies, depending on mud composition, the gel strength always increases with time. Weintritt and Hughes (1965) measured the gel strength of field muds containing calcium sulfate and ferrochrome lignosulfonate for static periods, up to a day. They found that the data generally follow Garrison's empirical model for time periods of up to two hours; however, for longer time periods, Weintritt and Hughes (1965) found that the gel strength continues to increase at a rate more than what Garrison's empirical relationship predicted.

The longevity of mud as a plugging material has been demonstrated during well reentries. The Nora Schulze No. 2, located in Nueces County, Texas, was recently reentered by Envirocorp. The well contained 10.6 to 11.0 lb/gal mud when abandoned in 1959 (Pierce, 1989). Mud samples were

taken upon reentry to approximately 754 ft. The average mud weight of the recovered samples was 11.1 lb/gal, and gel strengths of the samples ranged between 217 lb/100 ft^2 to greater than 320 lb/100 ft^2. These values are over an order of magnitude greater than the conservative 20 lb/100 ft^2 commonly used for modeling purposes (Pierce, 1989). In addition, shear strength of the mud samples ranged from 170 lb/100 ft^2 to 7,000 lb/100 ft^2, increasing with depth (Pierce, 1989).

The artificial penetrations were classified by their drilling methods (rotary vs. cable). Because boreholes tend to close in unconsolidated rock formations such as the geologically young sands and hydrated shales of the Gulf Coastal Plain, rotary drilling has been the most preferred drilling method. Generally, the drilling mud is carefully balanced to keep the caving sands and sloughing shales from entering the borehole. Rotary drilled dry holes (wells without economically recoverable hydrocarbons) without proper plugging records can be assumed to have been left mud-filled as a minimum condition because there is no economic reason to recover the drilling mud prior to abandonment (Johnson and Knape, 1986).

VIII.C TABULATION OF ARTIFICIAL PENETRATIONS

A tabulation of data on all the artificial penetrations within the 2.5-mile radius Area of Review is presented Tables VIII-1 and VIII-2, and it is noted which wells are within the COI. This data includes permit application identification number; operator information; well lease name; status; casing information; and cement plugging depths. Well records, including the well log headers, are contained in Appendix VIII-1 (2.5-mile radius Area of Review). Additional details such as open hole (bit size), verification of casing depths, and mud weights are provided from these headers.

VIII.D WELL SCHEMATICS OF ARTIFICIAL PENETRATIONS IN THE CONE OF INFLUENCE

There are a total of six Artificial Penetrations that fall within the Cone of Influence (all within the 2.5-mile Area of Review) as presented in Figure VIII-3. Artificial Penetrations include:

- AP No. 10: H.E. Williams & Crown Central Pet Co., Trinity Rice Disposal No. 1
- AP No. 11: Goldston Oil Corporation, Doornbos No. 1
- AP No. 12: P.H. Welder, William Doornbos et al No. 1
- AP No. 16: Hunt Energy, Garth No. 1
- AP No. 17: The DOW Chemical Company, William Doornbos No. 1
- AP No. 18: Union Oil Company of California, H.P. Drought No. 1

Schematics for all six artificial penetrations are included in Appendix VIII-2. The information included on the well schematics are permit application identification number; operator information; well lease name; status; casing information; approximate depth of the key regulatory datums in log depth (feet-KB); and cement plugging depths.

AP No. 10: H.E. Williams & Crown Central Pet Co., Trinity Rice Disposal No. 1

The well was drilled in 1941 as a Dry and Abandoned well. Surface casing was set to 1,263 ft, which is not deep enough to isolate the base of the lowermost USDW which is at 1,550 ft. A 9-7/8-inch wellbore was drilled out to 8,019 ft through the proposed Confining and Injection Zones. The wellbore was abounded with 10.0 lb/gal drilling mud in the wellbore with no cement plugs reported. This well has been identified as an improperly constructed well for a secondary pressure evaluation in Section VIII.E.2

AP No. 11: Goldston Oil Corporation, Doornbos No. 1

This well was drilled in 2002 as a Dry and Abandoned well. Surface casing was set below the base of the lowermost USDW at 2,100 ft, just above the top of the proposed confining zone. A 7-5/8-

inch protection casing was set at 9,719 ft and was cemented in place to 3,676 ft using 980 sacks of cement. The well was then drilled to a total depth of 10,800 ft and was then abandoned. Three plugs were set in the well. Once at the across the base of the protection casing string from 9,510 ft to 9,798 ft with 75 sacks. The 7-5/8-inch casing string was cut at 2,190 ft and removed. Two plugs were then over the 2,050 ft to 2,150 ft interval, across the base of the surface casing shoe. Two more shallow plugs were set in the 10-3/4-inch casing. This well meets construction and plugging standards for non-endangerment and does not require a secondary pressure evaluation.

AP No. 12: P.H. Welder, William Doornbos et al No. 1

The well was drilled in 1956 as a Dry and Abandoned well. Surface casing was set to 1,192 ft, which is not deep enough to isolate the base of the lowermost USDW which is at approximately 1,420 ft. An 8-3/4-inch wellbore was drilled down to 9,024 ft through the proposed Confining and Injection Zones. The wellbore was abounded with 10.8 lb/gal drilling mud. Cement plugs were placed at the base of the 10-3/4-inch surface casing shoe at 1,142 ft to 1,242 ft and at surface. Total sacks of cement were not provided. This well has been identified as an improperly constructed well for a secondary pressure evaluation in Section VIII.E.2

AP No. 16: Hunt Energy, Garth No. 1

This well was drilled in 1981 as a Dry and Abandoned Well. Two strings and a liner were set in its construction. The 13-3/8-inch surface casing was set to 2,341 ft, which is deeper than the approximate base of the lowermost USDW at approximately 1,400 ft. The protection casing was set at 9,808 ft with no cement details available. The top of cement cannot be determined, but the drilling mud remining in the annulus is 11.6 lb/gal (see log header). A 7-inch liner was set from 9,562 ft to 13,300 ft and the well total depth is 16,000 ft. A plug was set in the liner from 13,200 to 14,273 ft. The well was plugged with 16.9 lb/gal mud. Two shallow plugs were set in the 9-5/8-inch protection casing from 350 to 450 ft (35 sacks) and from 100 to 200 ft (35 sacks). Although the well is properly constructed, with surface casing deep enough to isolate the USDW, it was also screened against the pressure evaluation to be conservative in the analysis.

AP No. 17: The DOW Chemical Company, William Doornbos No. 1

This well was drilled in 1981 as a Dry and Abandoned Well. The construction was done in four phases. A 17-1/2-inch surface section was drilled to 4,009 ft and cased with 13-3/8-inch, 54.5/61 ppf casing, and cemented to surface. The USDW base depth is approximately 1,550 ft and is isolated from all proposed injection zones. Surface casing extends through the top of the Orange Sand Injection Interval. The 12-1/4-inch hole was drilled, and the 9-5/8-inch protection casing was set at 9,934 ft with no cement details available. An 8-1/2-inch hole for the next section was drilled to 13,000 ft and cased and cemented with a 7-5/8-inch liner from 7,080 to 13,000 ft. The production section, a 6-1/2-inch hole, was drilled to 18,950 ft. A 5-1/2-inch casing was run to 18,950 ft and partially cemented. The top of cement of the 5-1/2-inch casing is also not reported and cement details are not available. This section was perforated and tested, declared dry, and abandoned along with the well. The 5-1/2-inch casing was cut at 11,000 ft and partially recovered during the abandonment. A plug was set in the 5-1/2-inch casing from 17,023 to 17,323 ft with 22 sacks. The well was abandoned with 13.2 lb/gal drilling mud. Cement plugs were then placed at 3,742 to 3,900 ft with 80 sacks across the cut casing of the 9-5/8-inch string. Two shallow plugs were set in the 13-3/8-inch surface casing from 303 to 450 ft (110 sacks) and from surface to 30 ft (20 sacks). This well meets construction and plugging standards for non-endangerment and does not require a secondary pressure evaluation.

AP No. 18: Union Oil Company of California, H.P. Drought No.1

This well was drilled in 1955 as a Dry and Abandoned well. Surface casing was set to 1,641 ft, which is not deep enough to isolate the base of the lowermost USDW which is at ~1,550 ft. A 9-7/8-inch wellbore was drilled down to 9,500 ft through the proposed Confining and Injection Zones. The wellbore was abounded with 12.2 lb/gal drilling mud. A cement plug was placed near the base of the 10-3/4-inch surface casing shoe at 1,570 to 1,670 ft with 50 sacks, which is also across the approximate base of the lowermost USDW. This well meets construction and plugging standards for non-endangerment and does not require a secondary pressure evaluation.

VIII.E IMPROPERLY CONSTRUCTED OR ABANDONED PENETRATIONS

For purposes of evaluating artificial penetrations, conservative construction and/or plugging conditions were used to determine proper plugging requirements for the protocol. The evaluation protocol requires that all formations bearing USDWs, oil, gas or geothermal resources be protected with type-specific cement plugs and mud-laden fluid. As a regulatory requirement, uncemented areas in an abandoned wellbore must be filled with a mud-laden fluid weighing at least 9.5 lb./gal (Railroad Commission of Texas, 1986). Setting depths for cement plugs are dependent upon the construction of the well and the geological environment. Wells abandoned with only surface casing set through all USDWs should be plugged across the base of the lowermost USDW regardless of casing depth. When insufficient surface casing is set to protect all USDWs and such strata are exposed to the open wellbore, a cement plug must be placed across the exposed strata with an additional cement plug set across the surface casing shoe (Railroad Commission of Texas, 1986). When sufficient surface casing has been set to protect all USDWs, a cement plug must be set across the surface casing shoe (Railroad Commission of Texas, 1986).

For wells abandoned with surface casing set through all USDWs and with protection and/or production casing that has been cemented upwards through the lowermost USDW (or to surface), these wells contain a “double seal”, ensuring that USDWs are protected. Wells that contain “short” surface casings that are set above the lowermost USDW and within which the protection and/or production casing that has not been cemented upwards through the lowermost USDW (or to surface) are determined to be improperly plugged by the above criteria. These wells potentially present a conduit outside of the protection and/or production casing into USDWs. These wells are labeled as "potential problem wells" and are further evaluated or modeled for potential upward movement of fluids.

For this evaluation protocol, a properly constructed active well (producing, injecting, shut-in, temporarily abandoned, etc.) is defined as a well in which the surface casing has been set through all USDWs. These wells are constructed to Railroad Commission of Texas (1986) standards for protecting freshwater aquifers. Active wells with “short” surface casing that do not extend below all USDWs potentially present a conduit outside of the protection and/or production casing, or open hole, into USDWs. These wells are labeled as "potential problem wells" and are further

evaluated or modeled for potential upward movement of fluids. Although the drilling fluid in the annulus would provide the same resistance to vertical fluid movement as a mud plug in an open wellbore, active wells that were constructed improperly were also listed as potential problem wells and evaluated or modeled for possible vertical fluid movement.

Cement volume calculations were made on each well that has full protection and/or production casing left intact in the well. Only conservative data values were used in the calculations. Additionally, one inch was added to the borehole diameter and all slurry volumes were calculated using Class H cement with 0 percent gel (1.06 ft^3/sack-slurry volume).

VIII.E.1 Incomplete Records

Most of the data on the artificial penetrations in the Area of Review were obtained from state records kept on file at each specific state agency. When public records were missing or inadequate, private record searches were conducted to locate additional data. Many current operators or well owners have ceased operation or have changed names making it difficult to locate records. Many of these operators did not keep records on older wells that were dry holes, making it increasingly difficult to document the present status of the well. A tabulation of available data is provided in Appendix VIII-1 as a "Table of Contents" identifying the available records for each Artificial Penetration

Only one well was missing records as identified below:

AP No. 15 (Petroleum Development Association, Garth Estate No. 1)

This was a dry well drilled to a depth of 9,240 ft in January 1961. Surface casing was set to 1,330 ft with an 8-3/4-inch open hole to total depth. The operator applied to plug, however, plugging forms were not available. D&B (contractor) did a complete examination of all available record sources un person and found no additional information within the Texas Railroad Commission regarding this operator or lease. The log header identified that this well was drilled with 11.2 ppg mud through the open hole interval. Note: this well lies in the southeastern portion of the Area of Review and is outside the Cone of Influence for the Yellow and Orange Sand Injection Intervals.

No other wells were identified as having been drilled and missing the necessary records to document adequacy of plugging and/or construction.

VIII.E.2 Modeling Improperly Constructed or Plugged Wells

The improperly constructed or plugged wells that are potentially in communication with the Injection Interval (sands of the Miocene Formation) are further screened using a model evaluation. A total of two wells (AP Nos. 10 and 12) located within the Cone of Influence, have been identified as improperly constructed or plugged and will be evaluated against the pressure screening

AP No.11 has surface casing set below the lowermost USDW and has cement plugs at the base of the casing shoe, sealing off the protection casing from allowing vertical migration up the wellbore. Additionally, the 7-7/8-inch protection casing has top of cement above the shallowest injection interval, adding an additional safety factor to movement out of an injection interval.

AP No. 17 has surface casing extending down through the top of the Orange Sand Injection interval to a depth of 4,009 ft. The surface casing is cemented to surface and isolates the injection intervals from the Confining Zone and USDW.

AP Nos. 16 and 18 both have surface casing extending below the base of the lowermost USDW. While AP No. 18 has an additional cement plug between the top of the confining zone and the lowermost USDW. However, AP No 16 does not have the additional isolating plug, but only the extended surface casing. This well is also considered in the pressure screening to be conservative.

The pressure evaluation compares the conservatively predicted pressure increases from the DuPont Multilayer Pressure Model under the maximum injection rate case modeling through year-end 2056, with the conservatively calculated allowable pressure buildup at each potential problem well, using well specific information (mud weight, borehole diameter, sand depth, etc.). The pressure at well is first calculated with a fluid density of 9.0 ppg. Gel strength in the following procedures is only included if the initial calculation of the injection pressure exceeds the hydrostatic pressure. The screening calculation is discussed below.

In cases where information was not available, conservative assumptions are made in the model calculations. These assumptions are summarized below:

a) For purposes of calculating the pressure due to gel, in cases where the borehole diameter (bit size) across the injection interval sands is unknown, the largest bit that would fit down the surface casing is used as the bit size. This is conservative since the actual bit diameter may be substantially less than the inner drift diameter of the surface casing string.

b) For purposes of calculating the pressure due to gel, an additional washout factor of 1-inch is added to the bit size used in the calculation.

c) For purposes of calculating the pressure due to gel, a very conservative ultimate gel strength of 20 lb/100 sq-ft is used. This is conservative as studies conducted in the north Texas Gulf Coastal Region indicate that with time, the ultimate gel strength of mud is more than an order of magnitude higher (Pierce, 1989).

d) For purposes of calculating the static mud column pressure, in cases where the weight of the mud in contact with the injection intervals could not be found, a very conservative drilling mud weight of 9.0 lb/gal was used. The available drilling information from area well logs indicates that the mud weight was always higher than 9.0 lb/gal in the Area of Review and for wells in the surrounding area.

e) In cases where shallower cement plugs are present, the additive support of these plugs over an “equivalent mud column” is discounted. This is conservative since the cement plugs would provide a significant added weight to the calculated “static column” pressure and also provide significant flow restrictions to any potential movement of the mud column.

f) A 50-foot fallback in the mud column height within the well was assumed for both calculating the pressure due to gel strength and the pressure exerted by the static mud column. This assumption is used even in cases where a surface plug was set (cement would need to be supported by the mud column immediately underneath the plug). This is conservative since there may be no or minimal mud fallback, especially in formerly productive wells that were plugged across the completion perforations, at the base of the surface casing and at the top of the surface casing,

which would essentially result in a closed system with no outlet for the mud.

The calculations used in the modeling screening analysis are presented below.

A static fluid column exerts pressure. The pressures acting on the static fluid column (pressure due to injection plus original formation pressure) must be greater than the static fluid column pressure, before fluid movement can initiate. In this case, for upward fluid movement to begin, original formation pressure (P_f) plus the pressure due to injection (P_i) must be greater than the static fluid column pressure:

$$P_f + P_i > P_S$$

where:

P_f = original formation pressure (psig)

P_i = formation pressure increases due to injection (psi)

P_S = static fluid column pressure (psig)

In other words, pressure increase due to injection must be greater than static fluid column pressure minus original formation pressure:

$$P_i > P_S - P_f$$

Static fluid column pressure is calculated using the equation:

$$P_S = 0.052 \times h \times M$$

where:

P_S = pressure of static mud column (psi)

h = depth to the injection reservoir from the 50-foot fallback (feet)

M = fluid weight (lb/gal)

and 0.052 is the conversion factor so that P_S is in psi.

In an artificial penetration filled with a column of drilling mud, the gel strength of the mud must

also be considered. In this case, for upward fluid movement to begin, original formation pressure (P_f) plus the pressure due to injection (P_i) must be greater than the static fluid column pressure plus the gel strength of the mud. This relationship is based on a simple balance of forces (Davis, 1986):

$$P_f + P_i > P_s + P_g$$

where:

P_f = original formation pressure (psig)

P_i = formation pressure increases due to injection (psi)

P_s = static fluid column pressure (psig)

P_g = gel strength pressure (psi)

Therefore, pressure increase due to injection must be greater than static fluid column pressure plus the pressure due to gel strength minus original formation pressure:

$$P_i > P_s + P_g - P_f$$

The pressure due to gel strength (G) in an open borehole can be calculated from the following equation:

$$P_g = \frac{0.00333 \times G \times h}{d}$$

where:

P_g = pressure due to gel strength (psi)

G = gel strength (lb/100 ft^2)

h = depth to the injection reservoir from the 50-foot fallback (feet)

d = borehole diameter (inches)

where 0.00333 is the conversion factor, such that P_g is in psi.

For a hypothetical open borehole, the added resistance due to gel strength for a mud with a very conservative ultimate gel strength of 20 lb/100 ft^2, in a 10-inch borehole, is approximately 6.7 psi for every 1,000 feet of depth.

For a cased hole, pressure due to gel strength (G) can be calculated from:

$$P_g = \frac{0.00333 \times G \times h}{d_b - d_c}$$

where:

P_g = pressure due to gel strength (psi)

G = gel strength (lb/100 sq.-ft.)

h = depth to the injection reservoir from the 50-foot fallback (feet)

d_b = borehole diameter (inches)

d_c = outside casing diameter (inches)

For a hypothetical cased borehole, the added resistance due to gel strength for a mud with a very conservative ultimate gel strength of 20 lb/100 ft^2, in a 10-inch borehole with 7-inch casing is approximately 22.4 psi for every 1,000 feet of depth.

An additional margin of safety is added due to borehole rugosity (washouts), which increases the contribution in the resistance pressure due to gel strength by a factor of three to five (Collins and Kortum, 1989). As a comparative calculation, using the above formulas calculating pressure due to gel, in the two cases of an open borehole and a cased borehole, the average measured ultimate gel strength from the Nora Schulze No. 2 well (267 lb/100 ft^2) (Pierce, 1989), and a factor of three contribution in gel strength due to borehole rugosity, the added resistance due to gel strength alone can reasonably be expected to be 266 psi per 1,000 feet of depth in an open borehole and 889 psi per 1,000 feet of depth in a cased well. These values are significantly higher than those required, based on the conservative predictions of pressure build-up for the Bluebonnet site.

Since the calculated pressure buildup in the Injection Intervals (Miocene Formation Sands) is based on “worst-case” assumptions (maximum injection rates continuously through the end of 2056), actual conditions are expected to fall well within the bounds of the model predictions.

Screening calculation results for each of the wells requiring further evaluation are also shown in Table VIII-3. As discussed in Section VII (Reservoir Mechanics) of this application, the modeled pressure buildup within the Orange and Yellow Sand Injection Intervals and presented in Table VIII-3 are anticipated to be extremes in behavior. Each of the wells requiring further evaluation pass both the maximum rate modeling evaluation case; therefore, no corrective action is required in any of these wells.

VIII.F CORRECTIVE ACTION PLAN

Even though these wells pass the pressure screening evaluation, Bluebonnet Sequestration Hub has elected to perform corrective action on select wells within the Cone of Influence that could still be potential risks. Corrective Action schematics are provided in Appendix VIII-3 and are based upon the discussion, plug details, and procedures listed in this section.

VIII.F.1 AP No. 10: H.E. Williams & Crown Central Pet Co., Trinity Rice Disposal No. 1

The well was drilled in 1941 as a Dry and Abandoned well and has insufficient casing to isolate the USDW and not cement plugs reported. It was filled with a 10.0 lb/gal mud and passed the pressure screening identified above and presented in Table VIII-3. As a preventative measure, Bluebonnet plans to renter this well and place two shallow cement plugs across the USDW and up into the surface casing using the balanced plug method and plug details provided below:

Plug No.	Plug Top (ft)	Plug Bottom (ft)	Cement Type	Density (ppg)	Volume (bls)	Yield (ft^3/sx)	Sacks
1	900	1,800	CO_2 Resistant	14.8-15.5	85	1.06	451
2	0	900	Class G w/additives	15.0-15.5	85	1.01	474

Plugging Procedure:

1. Move in rig onto Trinity Rice 1 site and rig up.
2. Conduct and document safety meeting.
3. Check the shut-in casing pressure.
4. Test the pump and lines to 5,000 psi. Kill the well if necessary.
5. Function test blowout preventers (BOPs) and nipple up.
6. Pick up the work string with a 9-7/8 in. bit and run in the hole, cleaning down to 1,264 ft. Circulate the hole clean and pull out of the hole. Lay down the bit.
7. Set the bridge plug at 1,240 ft. Test plug and casing to 500 psi for 15 minutes.

8. Run cement bond log (CBL) on the 10-3/4 in. casing from 1,240 ft to surface with 500 psi on the casing.

9. If the CBL does not show cement to the surface, then perforate the 10-3/4 in. casing 25 ft above the top of the cement, set a cast iron cement retainer (CICR) 25 ft above the perforations, and squeeze/circulate 14.8-15.5 ppg CO_2-resistant cement slurry up the 10-3/4 in. casing annulus to the surface. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and run CBL to verify the new top of cement.

10. Run in the hole with the bit. Drill out the CICR and cement down to the bridge plug at 1,240 ft. Test the casing to 500 psi for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check the surface lines and connections, and repeat the test. Then release the pressure.

11. Drill out the bridge plug at 1,240 ft and continue running in the hole with the work string, cleaning down 1,800 ft. Circulate the well clean and pull out of the hole. Lay down the bit.

12. Run in the hole with the work string to 1,800 ft. Circulate the well clean.

13. Plug #1: Perf & Squeeze plug 900 – 1,800 ft with 14.8-15.5 ppg CO_2-resistant slurry. Pull out above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull string to the next plug stage.

14. Plug #2: Set a balanced plug 0-900 ft with 15-15.5 ppg Class G cement.

15. Lay down the work string. Rig down all equipment and move out. Cut the casing at 5 ft below the ground. Clean the cellar such that a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary to ensure a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

VIII.F.2 AP No. 12: P.H. Welder, Wiliams Doornbos et al No. 1

The well was drilled and abandoned in 1956. This well has insufficient casing to isolate the USDW and not cement plugs reported. It was filled with a 10.8 lb/gal mud and passed the pressure screening identified above and presented in Table VIII-3. As a preventative measure, Bluebonnet plans to renter this well and place two shallow cement plugs across the USDW and up into the surface casing using the balanced plug method and plug details provided below:

Plug No.	Plug Top (ft)	Plug Bottom (ft)	Cement Type	Density (ppg)	Volume (bls)	Yield (ft^3/sx)	Sacks
1	900	1,800	CO_2 Resistant	14.8-15.5	91	1.06	481
2	0	900	Class G w/additives	15.0-15.5	91	1.01	504

Plugging Procedure:

1. Move in rig onto WM Doornbos Etal 1 site and rig up.
2. Conduct and document safety meeting.
3. Check the shut-in casing pressure.
4. Test the pump and lines to 5,000 psi. Kill the well if necessary.
5. Function test blowout preventers (BOPs) and nipple up.
6. Pick up the work string with a 9-7/8 in. bit and run in hole, cleaning down to 1,200 ft. Circulate the hole clean and pull out of the hole. Lay down the bit.
7. Set the bridge plug at 1,170 ft. Test the plug and casing to 500 psi for 15 minutes.
8. Run cement bond log (CBL) on the 10-3/4 in. casing from 1,170 ft to surface with 500 psi on the casing.
9. If the CBL does not show cement to the surface, then perforate the 10-3/4 in. casing 25 ft above the top of cement, set a cast iron cement retainer (CICR) 25 ft above the perforations, and squeeze/circulate 14.8-15.5 ppg CO_2-resistant cement slurry up the 10-3/4 in. casing

annulus to surface. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and run CBL to verify the new top of the cement.

10. Run in the hole with bit. Drill out the CICR and cement down to the bridge plug at 1,170 ft. Test the casing to 500 psi for 30 minutes. If the pressure decreases more than 10% in 30 minutes, bleed the pressure, check surface lines and connections, and repeat the test. Then release the pressure.

11. Drill out the bridge plug at 1,170 ft and continue running in hole with the work string, cleaning down 1,800 ft. Circulate the well clean and pull out of the hole. Lay down the bit.

12. Run in the hole with the work string to 1,800 ft. Circulate the well clean.

13. Plug #1: perf and squeeze plug 900 – 1,800 ft with 14.8-15.5 ppg CO_2-resistant slurry. Pull out above the plug and circulate. Wait for the cement to develop 500 psi compressive strength according to the laboratory test and tag the top of the plug. Pull the string to the next plug stage.

14. Plug #2: Set a balanced plug 0 – 900 ft with 15-15.5 ppg Class G cement.

15. Lay down the work string. Rig down all equipment and move out. Cut the casing at 5 ft below the ground. Clean the cellar such that a plate can be welded with the required well information.

The procedures described above are subject to modification during execution as necessary to ensure a successful plugging operation. Any significant modifications due to unforeseen circumstances will be described in the plugging report.

VIII.G FLUID MONITORING PLAN

The geology and modeling for the Bluebonnet site indicates that the injected waste will be contained within the permitted injection zone. Additionally, evaluation and the corrective action plan for the artificial penetrations within the Area of Review and Cone of Influence, indicates that these wells will not provide pathways for fluid out of the injection zone.

Initial and annual mechanical integrity of the proposed injection wells (DSW M1 and M2) will be performed and reported to TCEQ to demonstrate these wells are constructed and will be operated safely and that no fluid has migrated out of the injection zone.

Therefore, the Bluebonnet site does not meet the requirement to include an ambient monitoring program regarding the potential for fluid movement from the well per the outlined standards identified in 30 TAC §331.64(f)&(h)(1).

REFERENCES

AIC (Agency Information Consultants), 1987, Survey of proper plugging hearings for fluid migration from unplugged or improperly plugged wells in the Texas Railroad Commission Districts 02, 03, 04, 07B, 07C, and 09: Prepared for DuPont: Austin, Texas.

Agency Information Consultants, Inc., 1988, Mud conditions of re-entered wells: Prepared for E. I. du Pont de Nemours.

Alther, G. R., 1982, The role of bentonite in soil sealing applications: Association of Engineering Geologists Bulletin, v. 19, no. 4, p. 401-409.

Clark, J. E., Howard, M. R., and Sparks, D. K., 1987, Factors that can cause abandoned wells to leak as verified by case histories from Class II injection, Texas Railroad Commission files: International Symposium on Subsurface Injection of Oilfield Brines, Underground Injection Practices Council, New Orleans, LA., p. 166-223.

Collins, R. E. and Kortum, D., 1989, Drilling mud as a hydraulic seal in abandoned wellbores: Underground Injection Practices Council, 1989 Winter Meeting, San Antonio, Texas.

Davis, K. E., 1986, Factors effecting the area of review for hazardous waste disposal wells: Proceedings of the International Symposium on Subsurface Injection of Liquid Wastes, New Orleans, National Water Well Association, Dublin, Ohio, p. 148-194.

Garrison, A. D., 1939, Surface chemistry of shales and clays: Transaction American Institute of Mechanical Engineers, v. 132, pp. 423-436.

Gray, G. D., Darley, H. C., and Rodgers, W. F., 1980, Composition and Properties of Oil Well Drilling Fluids: Gulf Publishing Company, Houston, Texas.

Johnston, O. C., and Greene, C. J., 1979, Investigation of artificial penetrations in the vicinity of subsurface disposal wells: Texas Department of Water Resources.

Johnston, O. C., and Knape, 1986, Pressure effects of the static mud column in abandoned wells: Texas Water Commission LP86-06, 106 p.

Klotzman, M., 1986, Petroleum Consultant; Concerning plugging abandoned wells near Victoria, Tx; personal communication.

Meers, B., 1986, Petroleum Consultant; Concerning plugging abandoned wells on the Gulf Coastal Plain; personal communication.

NL Baroid, 1988, Particle size distribution curve for standard API calibration barite sample: Letter to DuPont.

Pierce, M. S., 1989, Long-term properties of clay, water-based drilling fluids: Proceedings of the International Symposium on Class I & II Injection Well Technology, Dallas, Texas, Underground Injection Practices Council Research Foundation, p. 115-132.

Polk, G. and Gray, G. R., 1984, Plugging mineral exploration holes with a drilling fluid conditioner, *in* Proceedings of the First National Conference on Abandoned Wells: Problems and Solutions, May 20-21, 1984, p. 295-300.

Railroad Commission of Texas, 1986, Statewide rules for oil, gas and geothermal operations: Austin, Texas, p. 172.

Subsurface, Inc., 1976, Plugging and abandonment of British-American, University of Texas B-1, Prepared for Amoco/Monsanto.

Weintritt, D. J., and Hughes, R. G., 1965, Factors involved in high temperature drilling fluids: Journal of Petroleum Technology, Transaction American Institute of Mechanical Engineers, v. 234, pp. 707-716.

TABLES

Geostock Sandia

Table VIII-1
Artificial Penetrations within the 2.5-Mile Area of Review

API (10)	Artificial Penetration Map ID #	Operator	Lease and Well No.	Ground Elevation (feet)	Kelly Bushing Elevation (feet)	Well Depth (feet)	Status	Spud Date	P&A Date	P&A Mud Weight (ppg)	Log Mud Weight (ppg)	Cement Plugs (feet)	Surface Casing Size (inch)	Surface Casing Depth (feet)	Protection Casing Size (inch)	Protection Casing Depth (feet)	Casing Cut (feet)	Liner/Tubing Size (inch)	Liner /Tubing Depth (feet)	Open Hole Size (Inch)	Open Hole Section (feet)	Penetrates the Confining Zone	Penetrates the Injection Zone	Located within COI	Passes Evaluation for Non Endangerment Standards
4207132672	**1**	Oxy Low Carbon Ventures	USDW 01	27	30	1,410 (PBTD) 1,630	Monitor	05/04/2024	--	--	WBM	--	5 1/2	1,434	--	--	--	--	--	--	--	No	No	No	Not Applicable
4207132664	**2**	Oxy Low Carbon Ventures	Encanto No. 1	28	53	8,581	T&A	12/02/2022	--	--	11.0	--	9 5/8	2,992	5 1/2	8,581	--	--	--	--	--	Yes	Yes	No	Not Applicable
4207131394	**3**	Pyramid Exploration	L.C. Devillier No. 1	29	45	9,284	D&A	12/10/1982	12/27/1982	13.1	13.1	4-10 510-710 1,660-1,860	9 5/8	1,783	--	--	--	--	--	8 3/4	1,783-9,284	Yes	Yes	No	Not Applicable
4207101962	**4**	Neville G. Penrose Inc	Mrs. Marie DeBellevue No. 1	27	43	9,347	D&A	08/04/1959	08/23/1959	13.2 *(Drilling Mud)*	13.2	0-10 1,186-1,286 7,459-7,559	9 5/8	1,238	--	--	--	--	--	8 3/4	1,238-9,347	Yes	Yes	No	Not Applicable
4207131389	**5**	Anadarko Production Company	S.C. Simon No. 1	30	44	9,119	D&A	12/30/1982	01/19/1983	9.5	13.7	2,671-2,900 8,942-9,119	9 5/8	2,340	--	--	--	Junk/Drill Pipe	2,901-9,119	8 3/4	2,340-9,119	Yes	Yes	No	Not Applicable
4207101967	**6**	Petroleum Dev. Association	T. Simon No. 1	30 est	46 est	9,155	D&A	02/15/1962	02/28/1962	12.0	12.0	0-20 1,137-1,387	10 3/4	1,324	--	--	--	--	--	9 7/8	1,324-9,155	Yes	Yes	No	Not Applicable
4207101966	**7**	C.I. Decker	Annie H. Johnson No. 1	No Data	No Data	7,654	D&A	12/16/1936	01/08/1937	Poor Quality Data	Poor Quality Data	No Plugs Used (per form)	10 3/4	1,298	--	--	--	--	--	9 7/8 6 5/8	1,298-7,654	Yes	Yes	No	Not Applicable
4207103313	**8**	Kerr-McGee O&G	J.T. Terry No. 1	27	44	9,292	D&A	01/24/1966	02/14/1966	13.0 *(Drilling Mud)*	13.0	1,423-1,523 8,792-9,292	10 3/4	1,493	--	--	--	--	--	9 7/8	1,473-9,291	Yes	Yes	No	Not Applicable
4207101963	**9**	Jack W. Frazier	Devillier and Sterling No. 1	37	51	9,015	D&A	01/05/1948	02/21/1948	10.5	10.1	Surface (5 sx) 911 (10 sx)	9 5/8	911	--	--	--	--	--	8 5/8	911-9,015	Yes	Yes	No	Not Applicable
4207101960	**10**	H.E. Williams & Crown Central Pet Co.	Trinity Rice Disposal No. 1	25 est	No Data	8,019	D&A	06/11/1941	07/04/1941	10.0 *(Drilling Mud)*	10.0	No Plugs Used (per form)	10 3/4	1,264	--	--	--	--	--	9 7/8	1,264-8,019	Yes	Yes	Yes	Passes Pressure Evaluation
4207132233	**11**	Goldston Oil Corporation	Doornbos No. 1	25	56	10,800	D&A	10/11/2002	12/10/2002	9.5 16.6	12.4 10.7	5-55 385-500 2,050-2,100 2,100-2,150 9,510-9,798	10 3/4	2,100	7 5/8	9,719	2,190	--	--	6 1/2	9,719-10,800	Yes	Yes	Yes	Yes
4207101959	**12**	P.H. Welder	Williams Doornbos et al No. 1	30	43	9,024	D&A	03/30/1956	04/24/1956	10.8 *(Drilling Mud)*	10.8	Surface 1,142-1,242	10 3/4	1,192	--	--	--	--	--	8 3/4	1,192-9,024	Yes	Yes	Yes	Passes Pressure Evaluation
4207101954	**13**	Blanke, Frost, and Frazier	J.W. Garth Jr. No. 1	22	31	9,012	D&A	09/11/1947	10/13/1947	10.5	10.0	Surface (5 sacks) 1,000 (20 sacks)	10 3/4	1,000	--	--	--	--	--	9 7/8	1,000-9,012	Yes	Yes	No	Not Applicable
4207103174	**14**	Dan J. Harrison Jr	Thomas T. Garth No. 1	19	34	9,800	D&A	03/18/1965	03/30/1965	12.0 *(Drilling Mud)*	11.2 12.0	0-10 1,320-1,421	10 3/4	1,371	--	--	--	--	--	9 7/8	1,371-9,800	Yes	Yes	No	Not Applicable
4207101953	**15**	Petroleum Dev. Association	Garth Estate No. 1	30	43	9,240	D&A	01/20/1961	No Data	No Data	11.2	No P&A Form	9 5/8	1,330	--	--	--	2-7/8 (tubing)	0-9,240	8 3/4	1,330-9,240	Yes	Yes	No	Not Applicable
4207131164	**16**	Hunt Energy	Garth No. 1	25	51	16,000	D&A	02/26/1981	06/04/1981	16.9	11.6 16.9	100-200 350-450 13,200-14,273	13 3/8	2,341	9 5/8	9,808	--	7 (liner)	9,562-13,300	5 7/8	13,300-16,000	Yes	Yes	Yes	Passes Pressure Evaluation
4207131267	**17**	The Dow Chemical Company	William Doornbos No. 1	26	52	18,950	D&A	10/15/1981	08/05/1982	13.2	13.2 17.8	0-30 303-450 3,742-3,900 17,023-17,323	13 3/8	4,009	9 5/8 5 1/2	9,934 18,950	3,847 11,000	7 5/8 (liner)	9.632-15,552	--	--	Yes	Yes	Yes	Yes
4207101955	**18**	Union Oil Company of California	H.P. Drought No. 1	25	40	9,500	D&A	10/02/1955	10/25/1955	12.2 *(Drilling Mud)*	12.2	1,570-1,670	10 3/4	1,641	--	--	---	--	--	9 7/8	1,641-9,500	Yes	Yes	Yes	Yes
4207131036	**19**	Morris Cannan	Garth No. 1	20	37	11,000	D&A	04/03/1980	05/24/1980	10.0	11 17.1	6-36 1,550-1,650 8,800-8,900	10 3/4	1,497	7	9,510	1,600	--	--	6	9,510-11,000	Yes	Yes	No	Not Applicable
4207101956	**20**	Austral Oil Exploration	Garth Bros No. 1	27	40	9,250	D&A	01/22/1955	02/10/1955	12.1	10.3 12.3	Surface 1,526-1,726	10 3/4	1,626	--	--	--	--	--	9 7/8	1,626-9,250	Yes	Yes	No	Not Applicable
4207130073	**22**	Texas Consolidated	Garth Co No. 3	25	41	9,265	D&A	02/16/1970	02/26/1970	10.5	10.5	0-10 1,074-1,274	10 3/4	1,208	--	--	--	--	--	8 3/4	1,208-9,265	Yes	Yes	No	Not Applicable
4207130032	**23**	Texas Consolidated	Earl Cooper No. 1	25	37	9,472	D&A	09/10/1969	09/28/1969	10.5	10.5	0-20 1,115-1,215	10 3/4	1,167	--		--	--	--	8 3/4	1,167-9,475	Yes	Yes	No	Not Applicable
4207101958	**24**	Neville G. Penrose Inc	Fred R. Sterett Est No. 1	27	42	9,545	D&A	08/09/1959	08/25/1959	13.1 *(Drilling Mud)*	13.1	0-10 1,212-1,312 7,536-7,636	9 5/8	1,261	--	--	--	--	--	8 1/2	1,261-9,545	Yes	Yes	No	Not Applicable
4207130564	**25**	Gulf Oil Corporation	M.E. Hunter No. 1	28	21	12,665	D&A	06/19/1977	07/25/1977	12.8	11.6 16.8	0-30 1,800-2,250 9,616-9,916	10 3/4	2,068	7 5/8	9,816	2,200	--	--	6 3/4	9,816-12,665	Yes	Yes	No	Not Applicable
4207103394	**26**	Southern Natural Gas	O.C. Devillier No. 1	28 est	45	9,317	D&A	04/04/1967	04/16/1967	12.0	12.0	0-60 930-1,130	9 5/8	1,081	--	--	--	--	--	8 1/2	1,081-9,317	Yes	Yes	No	Not Applicable
4207130967	**31**	Gulf Oil Corporation	O.C. Devillier et al No. 7	28 est	53	11,270	D&A	10/12/1979	11/28/1979	16.8	11.8 16.8	0-10 391-500 1,900-2,140 2,350-2,550 9,475-9,798	10 3/4	2,045	7 5/8	9,696	2,493	--	--	6 3/4	9,696-11,270	Yes	Yes	No	Not Applicable
4207101961	**32**	Continental Oil Company	L.G. Ogden et al No. 1	27	42	9,617	D&A	03/23/1958	04/22/1958	13.1 *(Drilling Mud)*	10.6 13.1	17-43 2,222-2,327	9 5/8	2,264	--	--	--	--	--	8 3/4	2,264-9,617	Yes	Yes	No	Not Applicable
4207130451	**33**	Gulf Oil Corporation	O.C. Devillier et al No. 4	28	48	12,215	D&A	05/14/1976	07/20/1976	16.8	11.9 16.8	4-24 1,833-2,133 9,400-9,733	13 3/8	2,026	9 5/8	9,616	2,132	--	--	8 3/4	9,616-12,215	Yes	Yes	No	Not Applicable

TABLE VIII-2
WATER WELLS WITHIN THE 2.5 MILE RADIUS AREA OF REVIEW

Well ID Number	Type	Well Owner	Latitude	Longitude	Depth (ft)	Database Source
6413203	Withdrawal of Water	E.C. Devillier	29.8338890	-94.4200000	12	TWDB Ground Water
6413403	Withdrawal of Water	Garth Bros.	29.7933340	-94.4725000	30	TWDB Ground Water
6413202	Withdrawal of Water	U.S. Dept. of Agriculture	29.8544450	-94.4302780	142	TWDB Ground Water
547012	Domestic	Robert Lee	29.8063890	-94.4416670	146	SDRB Well Locations
480199	Domestic	Chris Samuel	29.7897830	-94.4311500	160	SDRB Well Locations
180716	Domestic	Luttrell	29.7919450	-94.4697220	160	SDRB Well Locations
6413406	Withdrawal of Water	O.C. Devillier	29.8294440	-94.4836110	160	TWDB Ground Water
132996	Stock	Richard Devillier	29.8333340	-94.4166670	160	SDRB Well Locations
326856	Domestic	Steve Devillier	29.8305550	-94.4347220	160	SDRB Well Locations
6413501	Withdrawal of Water	U.S. Dept.of Agriculture	29.8322220	-94.4313890	164	TWDB Ground Water
601978	Domestic	Brady Hood	29.8240120	-94.4111900	168	SDRB Well Locations
214038	Domestic	Cenpeck LLC	29.7911110	-94.4480560	172	SDRB Well Locations
626776	Domestic	Kolton Page	29.8041710	-94.4756390	175	SDRB Well Locations
479003	Domestic	Mike Reed	29.8400670	-94.4810000	176	SDRB Well Locations
218223	Withdrawal of Water	Brady Hood	29.8242370	-94.4114760	180	SDRB_Plugged Well Locations
675775	Domestic	Brain and Brooklin Ellis	29.8015980	-94.4777180	180	SDRB Well Locations
134506	Domestic	John C. Saooie	29.8258330	-94.4747220	180	SDRB Well Locations
124609	Stock	John Savoie	29.8333340	-94.4669440	180	SDRB Well Locations
518702	Domestic	Brent A. Potier	29.8303620	-94.4159850	195	SDRB Well Locations
466417	Domestic	Mike Fesi	29.8278560	-94.4139920	200	SDRB Well Locations
6413708	Withdrawal of Water	H.P. Draught & Co	29.7913890	-94.4602780	230	TWDB Ground Water
6413402	Withdrawal of Water	Starrett	29.8086120	-94.4786110	240	TWDB Ground Water
6413308	Withdrawal of Water	Lower Neches Valley Authority #3 Stovall	29.8341667	-94.4105556	242	TWDB Ground Water
480424	Domestic	Larry Harper	29.8132910	-94.4801170	256	SDRB Well Locations
6413401	Withdrawal of Water	Mary Hunter O.C. Devillier,Jr	29.8111111	-94.4791667	257	TWDB Ground Water
10030	Withdrawal of Water	Goldston Oil Corp.	29.8166670	-94.4747220	275	SDRB_Plugged Well Locations
512524	Stock	Mark Armentor	29.7904670	-94.4388170	280	SDRB Well Locations
443286	Domestic	robert garcia	29.8398500	-94.4228830	310	SDRB Well Locations
6413801	Withdrawal of Water	No Name	29.7908340	-94.4480560	340	TWDB Ground Water
668850	Monitor	Pelican Sequestration/ Blue Bonnet Sequestration	29.8444440	-94.4569440	1630	SDRB Well Locations

Table VIII-3
Calculated Allowable Pressure
Versus Modeled
Pressure Increase for Wells Requiring Further Evaluation

Orange Sand Injection Interval

Artificial Penetration Number	Operator	Lease & Well Number	Calculated Strength due to Gel (psi)	Calculated Static Column (psi)	Allowable Pressure Orange Sand (psi)	Modeled Pressure* Orange Sand (psi)	Safety Margin Orange Sand (psi)
10	Williams & Crown Central Pe	Trinity Rice Disposal No. 1	25	225	250	35	215
12	P.H. Welder	Williams Doornbos et al No. 1	29	391	420	33	387
16	Hunt Energy	Garth No. 1	97	549	646	31	615

* Pressure at year-end 2056

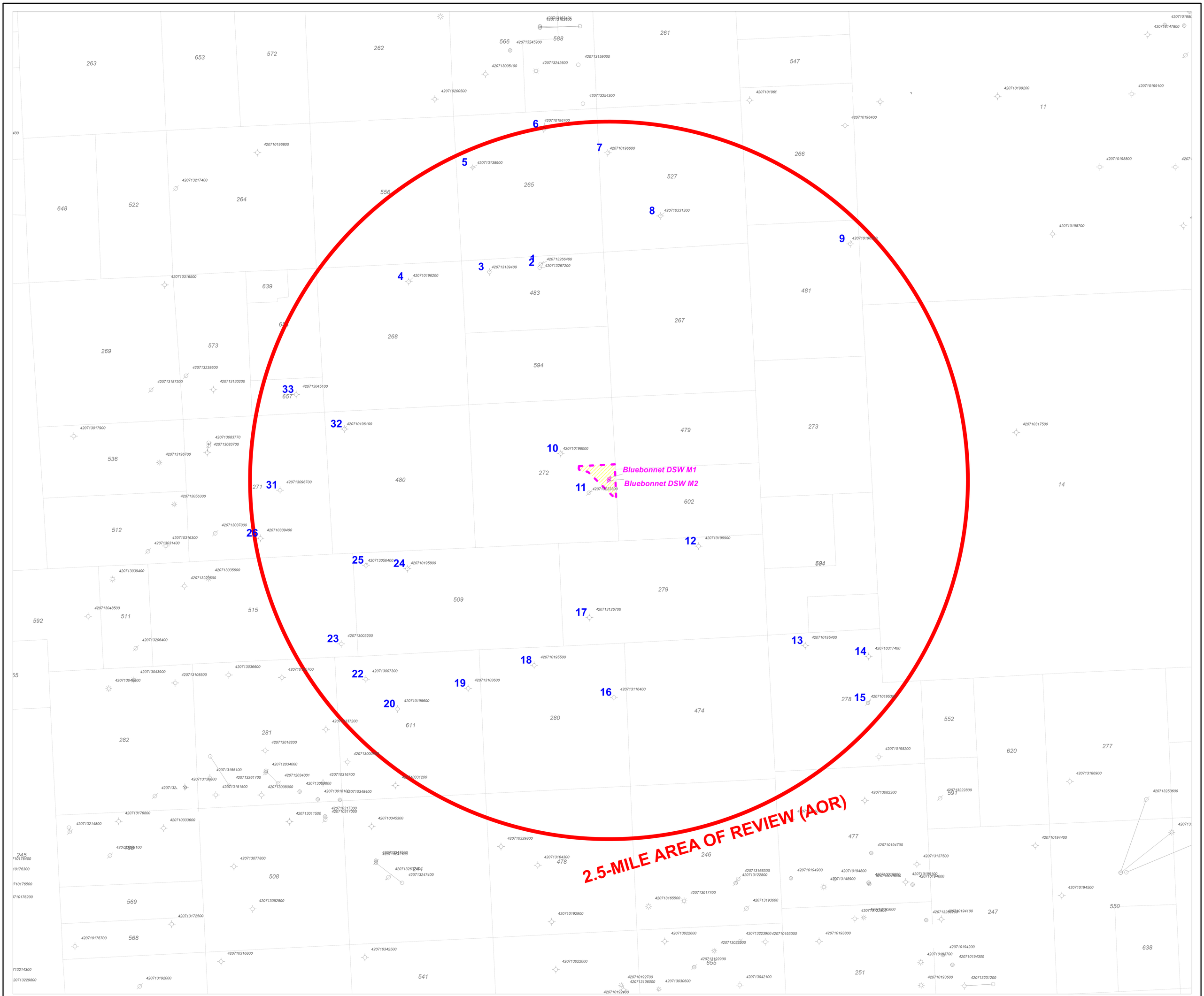
Yellow Sand Injection Interval

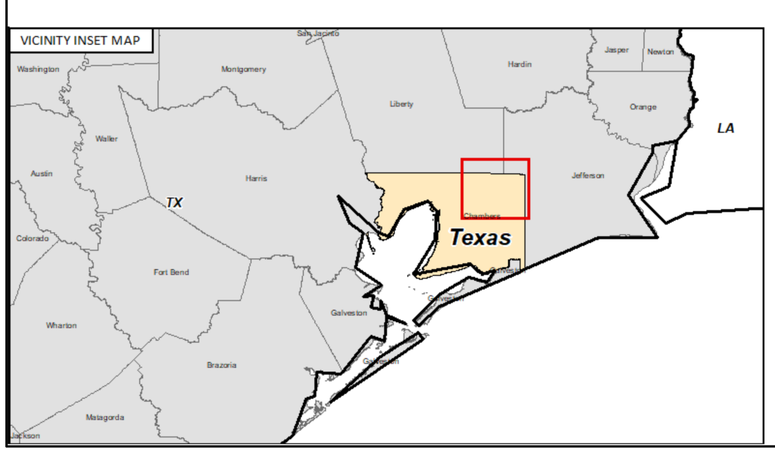
Artificial Penetration Number	Operator	Lease & Well Number	Calculated Strength due to Gel (psi)	Calculated Static Column (psi)	Allowable Pressure Yellow Sand (psi)	Modeled Pressure* Yellow Sand (psi)	Safety Margin Yellow Sand (psi)
10	Williams & Crown Central Pe	Trinity Rice Disposal No. 1	27	219	246	38	208
12	P.H. Welder	Williams Doornbos et al No. 1	31	398	430	36	394
16	Hunt Energy	Garth No. 1	Not in Cone of Influence for Yellow Sand				

* Pressure at year-end 2056

FIGURES

Geostock Sandia







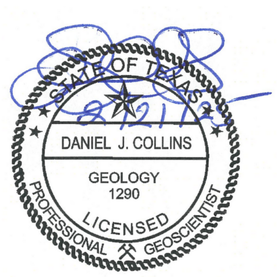
0ft 1000ft 2000ft 3000ft 4000ft 5000ft 6000ft

Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

KEY IDENTIFIERS

AP12 : ARTIFICIAL PENETRATION (AP) WELL IDENTIFIER
-5495 : SUBSURFACE PICK PENETRATION (TVDSS)
350 : SUBSURFACE NET SAND / ISOPACH THICKNESS
F/O: HORIZON FAULTED OUT
NL: NO LOG
NDL: NO DIGITAL LOG
NDE: LOG NOT DEEP ENOUGH
NSE: LOG NOT SHALLOW ENOUGH
PQL: POOR QUALITY LOG
PDP: PROBLEM DATA POINT
NDS: NO DEVIATED SURVEY
NODRL: NOT DRILLED

CI: CONTOUR INTERVAL



NOTE: 1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from IFS Tobin, EnverusDI (EnvDI), TXRRC (08/2024)

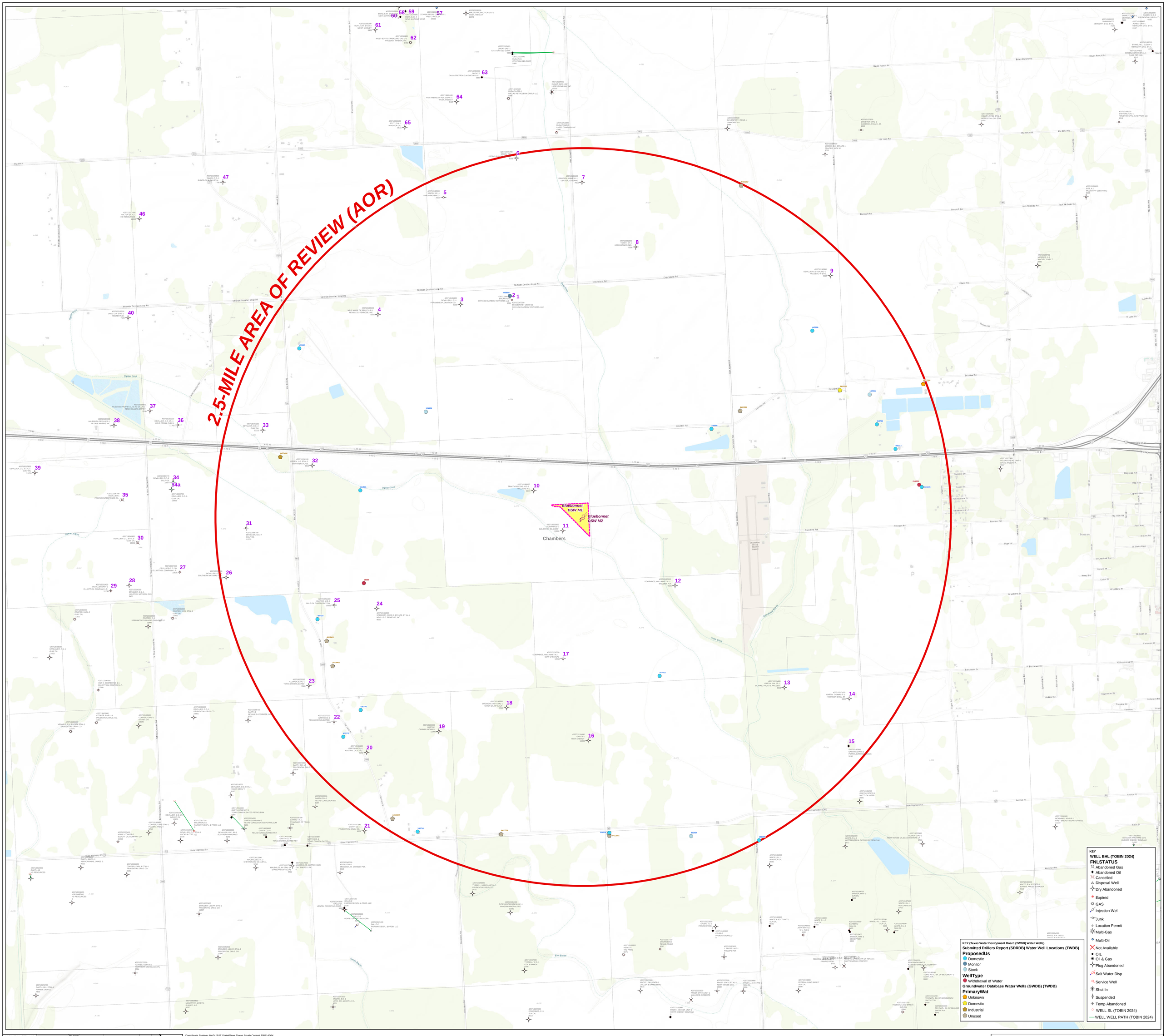
1POINTFIVE

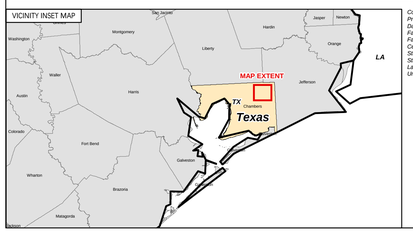
FIGURE VIII-1
ARTIFICIAL PENETRATIONS WITH THE 2.5-MILE AREA OF REVIEW

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET		SCALE: SEE SCALEBAR 1" = 2,000' (1:24K) NOTE PRINT SIZE: 22.25" W x 22.5" L (Oversize)	
DATE: 02/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia





Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

0 1,000 2,000 4,000 6,000 Feet

0 0.125 0.25 0.5 0.75 1 Miles

N

DANIEL J. COLLINS
GEOLOGY
1290
LICENSED
PROFESSIONAL GEOSCIENTIST

KEY ITEMS
PROPOSED UIC CLASS 1 LOCATIONS (M1 & M2)
FACILITY BOUNDARY (CLASS I LAND OWNER)
2.5-MILE AREA OF REVIEW (AOR)

1POINTFIVE

FIGURE VIII-2
WATER WELLS WITHIN THE 2.5-MILE AREA OF REVIEW (AOR)

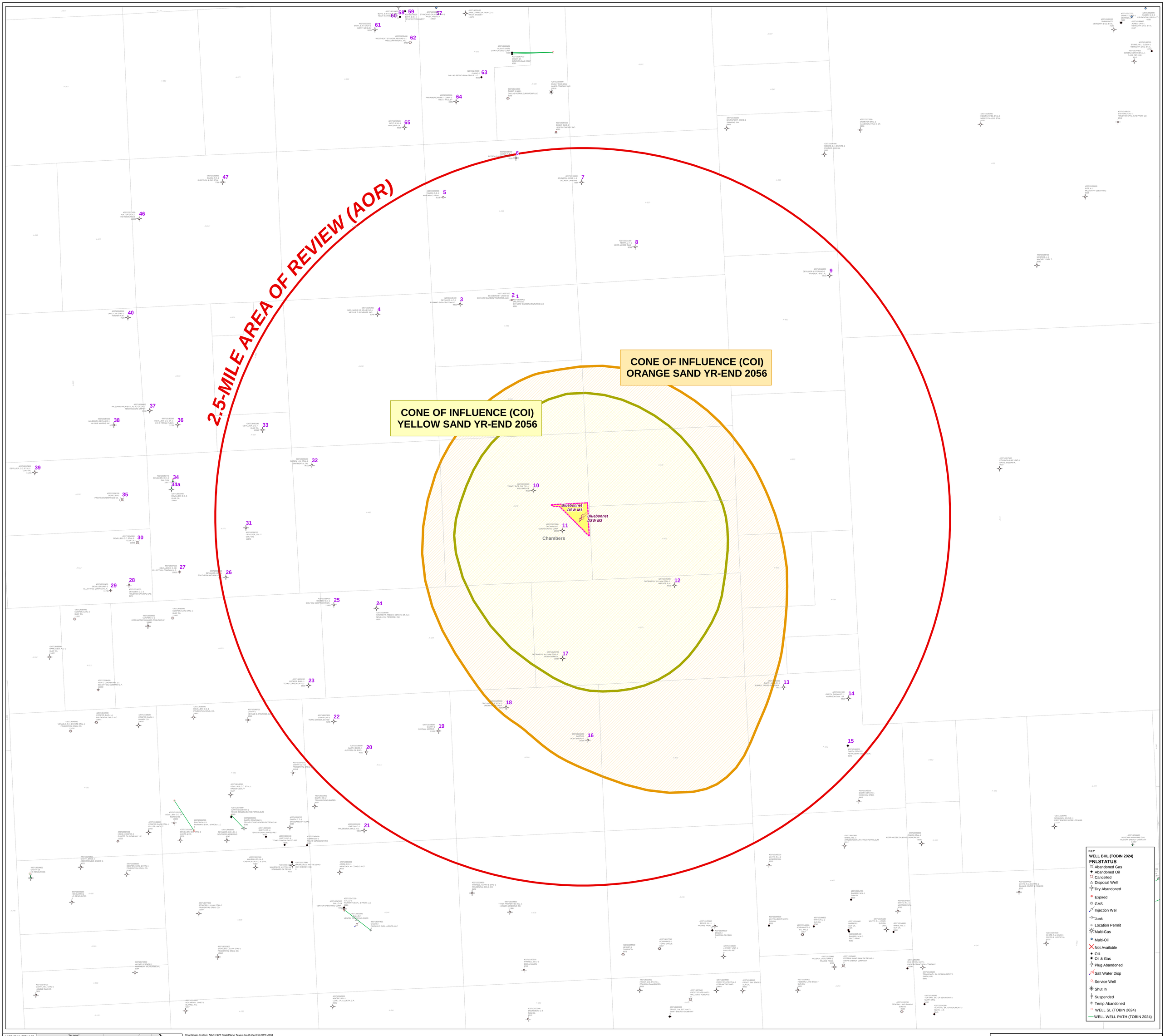
BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

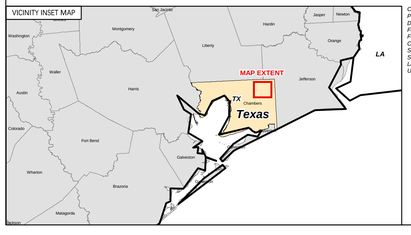
CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 1,000' (1:12K) PRINT SIZE: 42" x 41" (Oversize)

DATE: 12/12/2024	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia

1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from EnverusDr (EnvDr), TXRRC (08/2024)





Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

0 1,000 2,000 4,000 6,000 Feet

0 0.125 0.25 0.5 0.75 1 Miles

N

KEY ITEMS

PROPOSED UIC CLASS 1 LOCATIONS (M1 & M2)

2.5-MILE AREA OF REVIEW (AOR)

FACILITY BOUNDARY (CLASS I LAND OWNER)

CONE OF INFLUENCE (COI) - YELLOW SAND YR-END 2056

CONE OF INFLUENCE (COI) - ORANGE SAND YR-END 2056

STATE OF TEXAS
DANIEL J. COLLINS
GEOLOGY
1290
LICENSED
PROFESSIONAL GEOSCIENTIST

Wellfield Pipeline - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from EnvirosDI (EnvDI), TXRRC (08/2024)

1POINTFIVE

FIGURE VIII-3
EXTENT OF THE CONE OF INFLUENCE (COI) IN THE AREA OF REVIEW (AOR)

BLUEBONNET PROJECT - CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 1,000' (1:12K) PRINT SIZE: 42" x 41" (Oversize)

DATE: Jan 2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: DG (GKS)	SHEET: 1 OF 1

Geostock Sandia

APPENDICES

Geostock Sandia

APPENDIX VIII-1

ARTIFICIAL PENETRATION RECORDS

Geostock Sandia

Artificial Penetration Map ID #	API (10)	Operator	Lease and Well No.	Drilling Records	P&A Forms	Well Logs
1	4207132672	Oxy Low Carbon Ventures	USDW 01	Yes	NA	Yes
2	4207132664	Oxy Low Carbon Ventures	Encanto No. 1	Yes	NA	Yes
3	4207131394	Pyramid Exploration	L.C. Devillier No. 1	Yes	Yes	Yes
4	4207101962	Neville G. Penrose Inc	Mrs. Marie DeBellevue No. 1	Yes	Yes	Yes
5	4207131389	Anadarko Production Company	S.C. Simon No. 1	Yes	Yes	Yes
6	4207101967	Petroleum Dev. Association	T.B. Simon No. 1	Yes	Yes	Yes
7	4207101966	C.I. Decker	Annie H. Johnson No. 1	Yes	Yes	Yes
8	4207103313	Kerr-McGee O&G	J.T. Terry No. 1	Yes	Yes	Yes
9	4207101963	Jack W. Frazier	Devillier and Sterling No. 1	Yes	Yes	Yes
10	4207101960	H.E. Williams & Crown Central Pet Co.	Trinity Rice Disposal No. 1	Yes	Yes	Yes
11	4207132233	Goldstein Oil Corporation	Doornbos No. 1	Yes	Yes	Yes
12	4207101959	P.H. Welder	Williams Doornbos et al No. 1	Yes	Yes	Yes
13	4207101954	Blanke, Frost, and Frazier	J.W. Garth Jr. No. 1	Yes	Yes	Yes
14	4207103174	Dan J. Harrison Jr.	Thomas T. Garth No. 1	Yes	Yes	Yes
15	4207101953	Petroleum Dev. Association	Garth Estate No. 1	Yes	No	Yes
16	4207131164	Hunt Energy	Garth No. 1	Yes	Yes	Yes
17	4207131267	The Dow Chemical Company	William Doornbos No. 1	Yes	Yes	Yes
18	4207101955	Union Oil Company of California	H.P. Drought No. 1	Yes	Yes	Yes
19	4207131036	Morris Cannan	Garth No. 1	Yes	Yes	Yes
20	4207101956	Austral Oil Exploration	Garth Bros No. 1	Yes	Yes	Yes
22	4207130073	Texas Consolidated	Garth Co No. 3	Yes	Yes	Yes
23	4207130032	Texas Consolidated	Earl Cooper No. 1	Yes	Yes	Yes
24	4207101958	Neville G. Penrose Inc	Fred R. Sterett Est No. 1	Yes	Yes	Yes
25	4207130564	Gulf Oil Corporation	M.E. Hunter No. 1	Yes	Yes	Yes
26	4207103394	Southern Natural Gas	O.C. Devillier No. 1	Yes	Yes	Yes
31	4207130967	Gulf Oil Corporation	O.C. Devillier et al No. 7	Yes	Yes	Yes
32	4207101961	Continental Oil Company	L.G. Ogden et al No. 1	Yes	Yes	Yes
33	4207130451	Gulf Oil Corporation	O.C. Devillier et al No. 4	Yes	Yes	Yes

ARTIFICIAL PENETRATION NO. 1

OPERATOR: OXY LOW CARBON VENTURES
WELL NAME: USDW NO. 1

API NO: 42-071-32672

Geostock Sandia

API No. 42-071-32672
Drilling Permit # 898783
SWR Exception

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

This facsimile W-1 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.

FORM W-1 07/2004

Permit Status: Approved

1. RRC Operator No.: 100129

2. Operator's Name (as shown on form P-5, Organization Report): OXY LOW CARBON VENTURES, LLC

3. Operator Address (include street, city, state, zip):
ATTN: REGULATORY DEPARTMENT
PO BOX 4294
HOUSTON, TX 77210-0000

4. Lease Name: BLUEBONNET USDW

5. Well No.: 01

GENERAL INFORMATION

6. Purpose of filing (mark ALL appropriate boxes): [X] New Drill [ ] Recompletion [ ] Reclass [ ] Field Transfer [ ] Re-Enter [X] Amended [ ] Amended as Drilled (BHL) (Also File Form W-1D)

7. Wellbore Profile (mark ALL appropriate boxes): [X] Vertical [ ] Horizontal (Also File Form W-1H) [ ] Directional (Also File Form W-1D) [ ] Sidetrack

8. Total Depth: 1625

9. Do you have the right to develop the minerals under any right-of-way ? [X] Yes [ ] No

10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? [ ] Yes [X] No

SURFACE LOCATION AND ACREAGE INFORMATION

11. RRC District No.: 03

12. County: CHAMBERS

13. Surface Location [X] Land [ ] Bay/Estuary [ ] Inland Waterway [ ] Offshore

14. This well is to be located 4.6 miles in a NW direction from WINNIE which is the nearest town in the county of the well site.

15. Section: 38

16. Block:

17. Survey: T&NO RR CO / STERLING, O B

18. Abstract No.: A-483

19. Distance to nearest lease line: ft.

20. Number of contiguous acres in lease, pooled unit, or unitized tract: 311

21. Lease Perpendiculars: 2894 ft from the WEST line and 436 ft from the NORTH line.

22. Survey Perpendiculars: 2352 ft from the EAST line and 436 ft from the NORTH line.

23. Is this a pooled unit? [ ] Yes [X] No

24. Unitization Docket No:

25. Are you applying for Substandard Acreage Field? [ ] Yes (attach Form W-1A) [X] No

FIELD INFORMATION List all fields of anticipated completion including Wildcat. List one zone per line.

26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)	29. Well Type	30. Completion Depth	31. Distance to Nearest Well in this Reservoir	32. Number of Wells on this lease in this Reservoir
03	00006001	WILDCAT	Exploratory Test Well	1450	0.00	1

BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS

Remarks

[FILER Apr 25, 2024 9:20 AM]: AMMEND W-1 898783 WITH NEW PLAT TO MOVE LOCATION ~150' TO THE WEST.

Certificate:

I certify that information stated in this application is true and complete, to the best of my knowledge.

Mike wardinsky, Regulatory Advisor — Name of filer
Apr 25, 2024 — Date submitted

(720)9293758 — Phone
mike_wardinsky@oxy.com — E-mail Address (OPTIONAL)

RRC Use Only Data Validation Time Stamp: Dec 15, 2024 3:59 PM(Current Version)

Railroad Commission of Texas

PERMIT TO DRILL, RE-COMPLETE, OR RE-ENTER ON REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

CONDITIONS AND INSTRUCTIONS

Permit Invalidation. It is the operator's responsibility to make sure that the permitted location complies with Commission density and spacing rules in effect on the spud date. The permit becomes invalid automatically if, because of a field rule change or the drilling of another well, the stated location is not in compliance with Commission field rules on the spud date. If this occurs, application for an exception to Statewide Rules 37 and 38 must be made and a special permit granted prior to spudding. Failure to do so may result in an allowable not being assigned and/or enforcement procedures being initiated.

Notice Requirements. Per H.B 630, signed May 8, 2007, the operator is required to provide notice to the surface owner no later than the 15th business day after the Commission issues a permit to drill. Please refer to subchapter Q Sec. 91.751-91.755 of the Texas Natural Resources Code for applicability.

Permit expiration. This permit expires two (2) years from the date of issuance shown on the original permit. The permit period will not be extended.

Drilling Permit Number. The drilling permit number shown on the permit MUST be given as a reference with any notification to the district (see below), correspondence, or application concerning this permit.

Rule 37 Exception Permits. This Statewide Rule 37 exception permit is granted under either provision Rule 37 (h)(2)(A) or 37(h)(2)(B). Be advised that a permit granted under Rule 37(h)(2)(A), notice of application, is subject to the General Rules of Practice and Procedures and if a protest is received under Section 1.3, "Filing of Documents," and/or Section 1.4, "Computation of Time," the permit may be deemed invalid.

Before Drilling

Fresh Water Sand Protection. The operator must set and cement sufficient surface casing to protect all usable-quality water, as defined by the Railroad Commission of Texas (RRC) Groundwater Advisory Unit (GWAU). Before drilling a well, the operator must obtain a letter from the Railroad Commission of Texas stating the depth to which water needs protection, Write: Railroad Commission of Texas, Groundwater Advisory Unit (GWAU), P.O. Box 12967, Austin, TX 78711-3087. File a copy of the letter with the appropriate district office.

Accessing the Well Site. If an OPERATOR, well equipment TRANSPORTER or WELL service provider must access the well site from a roadway on the state highway system (Interstate, U.S. Highway, State Highway, Farm-to-Market Road, Ranch-to-Market Road, etc.), an access permit is required from TxDOT. Permit applications are submitted to the respective TxDOT Area Office serving the county where the well is located.

Water Transport to Well Site. If an operator intends to transport water to the well site through a temporary pipeline laid above ground on the state's right-of-way, an additional TxDOT permit is required. Permit applications are submitted to the respective TxDOT Area Office serving the county where the well is located.

*NOTIFICATION

The operator is **REQUIRED** to notify the district office when setting surface casing, intermediate casing, and production casing, or when plugging a dry hole. The district office **MUST** also be notified if the operator intends to re-enter a plugged well or re-complete a well into a different regulatory field. Time requirements are given below. The drilling permit number **MUST** be given with such notifications.

During Drilling

Permit at Drilling Site. A copy of the Form W-1 Drilling Permit Application, the location plat, a copy of Statewide Rule 13 alternate surface casing setting depth approval from the district office, if applicable, and this drilling permit must be kept at the permitted well site throughout drilling operations.

***Notification of Setting Casing.** The operator MUST call in notification to the appropriate district office (phone number shown the on permit) a minimum of eight (8) hours prior to the setting of surface casing, intermediate casing, AND production casing. The individual giving notification MUST be able to advise the district office of the drilling permit number.

***Notification of Re-completion/Re-entry.** The operator MUST call in notification to the appropriate district office (phone number shown on permit) a minimum of eight (8) hours prior to the initiation of drilling or re-completion operations. The individual giving notification MUST be able to advise the district office of the drilling permit number.

Completion and Plugging Reports

Hydraulic Fracture Stimulation using Diesel Fuel: Most operators in Texas do not use diesel fuel in hydraulic fracturing fluids. Section 322 of the Energy Policy Act of 2005 amended the Underground Injection Control (UIC) portion of the federal Safe Drinking Water Act (42 USC 300h(d)) to define "underground Injection" to *EXCLUDE* " ...the underground injection of fluids or propping agents (*other than diesel fuels*) pursuant to hydraulic fracturing operations related to oil, gas, or geothermal production activities." (italic and underlining added.) Therefore, hydraulic fracturing may be subject to regulation under the federal UIC regulations if diesel fuel is injected or used as a propping agent. EPA defined "diesel fuel" using the following five (5) Chemical Abstract Service numbers: 68334-30-5 Primary Name: Fuels, diesel; 68476-34-6 Primary Name: Fuels, diesel, No. 2; 68476-30-2 Primary Name: Fuel oil No. 2; 68476-31-3 Primary Name: Fuel oil, No. 4; and 8008-20-6 Primary Name: Kerosene. As a result, an injection well permit would be required before performing hydraulic fracture stimulation using diesel fuel as defined by EPA on any well in Texas. Hydraulic fracture stimulation using diesel fuel as defined by EPA on a well in Texas without an injection well permit could result in enforcement action.

Producing Well. Statewide Rule 16 states that the operator of a well shall file with the Commission the appropriate completion report within ninety (90) days after completion of the well or within one hundred and fifty (150) days after the date on which the drilling operation is completed, whichever is earlier. Completion of the well in a field authorized by this permit voids the permit for all other fields included in the permit unless the operator indicates on the initial completion report that the well is to be a dual or multiple completion and promptly submits an application for multiple completion. All zones are required to be completed before the expiration date on the existing permit. Statewide Rule 40(d) requires that upon successful completion of a well in the same reservoir as any other well previously assigned the same acreage, proration plats and P-15s or P-16s (if required) or a lease plat and P-16 must be submitted with no double assignment of acreage unless authorized by rule.

Dry or Noncommercial Hole. Statewide Rule 14(b)(2) prohibits suspension of operations on each dry or non-commercial well without plugging unless the hole is cased and the casing is cemented in compliance with Commission rules. If properly cased, Statewide Rule 14(b)(2) requires that plugging operations must begin within a period of one (1) year after drilling or operations have ceased. Plugging operations must proceed with due diligence until completed. An extension to the one-year plugging requirement may be granted under the provisions stated in Statewide Rule 14(b)(2).

Intention to Plug. The operator must file a Form W-3A (Notice of Intention to Plug and Abandon) with the district office at least five (5) days prior to beginning plugging operations. If, however, a drilling rig is already at work on location and ready to begin plugging operations, the district director or the director's delegate may waive this requirement upon request, and verbally approve the proposed plugging procedures.

***Notification of Plugging a Dry Hole.** The operator MUST call in notification to the appropriate district office (phone number shown on permit) a minimum of four (4) hours prior to beginning plugging operations. The individual giving the notification MUST be able to advise the district office of the drilling permit number and all water protection depths for that location as stated in the Groundwater Advisory Unit letter.

DIRECT INQUIRIES TO: DRILLING PERMIT SECTION, OIL AND GAS DIVISION

PHONE
(512) 463-6751

MAIL:
PO Box 12967
Austin, Texas, 78711-2967

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER ON A REGULAR OR ADMINISTRATIVE EXCEPTION LOCATION

PERMIT NUMBER	DATE PERMIT ISSUED OR AMENDED	DISTRICT
898783	(AMENDED) Apr 25, 2024	* 03
API NUMBER	FORM W-1 RECEIVED	COUNTY
42-071-32672	Apr 25, 2024	CHAMBERS
TYPE OF OPERATION	WELLBORE PROFILE(S)	ACRES
NEW DRILL	Vertical	311

OPERATOR 100129

OXY LOW CARBON VENTURES, LLC

ATTN: REGULATORY DEPARTMENT
PO BOX 4294
HOUSTON, TX 77210-0000

NOTICE
This permit and any allowable assigned may be revoked if payment for fee(s) submitted to the Commission is not honored.
District Office Telephone No:
(713) 869-5001

LEASE NAME	WELL NUMBER
BLUEBONNET USDW	01
LOCATION	TOTAL DEPTH
4.6 miles NW direction from WINNIE	1625

Section, Block and/or Survey

SECTION 38 BLOCK ABSTRACT 483

SURVEY T&NO RR CO / STERLING, O B

DISTANCE TO SURVEY LINES	DISTANCE TO NEAREST LEASE LINE
2352 ft. EAST 436 ft. NORTH	ft.
DISTANCE TO LEASE LINES	DISTANCE TO NEAREST WELL ON LEASE
2894 ft. WEST 436 ft. NORTH	See FIELD(s) Below

FIELD(s) and LIMITATIONS:

* SEE FIELD DISTRICT FOR REPORTING PURPOSES *

FIELD NAME / LEASE NAME	ACRES / NEAREST LEASE	DEPTH	WELL # / NEAREST WE	DIST
WILDCAT	311.00	1,450	01	03
BLUEBONNET USDW			0	

RESTRICTIONS: For exploratory test only

THE FOLLOWING RESTRICTIONS APPLY TO ALL FIELDS

This well shall be completed and produced in compliance with applicable special field or statewide spacing and density rules. If this well is to be used for brine mining, underground storage of liquid hydrocarbons in salt formations, or underground storage of gas in salt formations, a permit for that specific purpose must be obtained from Environmental Services prior to construction, including drilling, of the well in accordance with Statewide Rules 81, 95, and 97.

This well must comply to the new SWR 3.13 requirements concerning the isolation of any potential flow zones and zones with corrosive formation fluids. See approved permit for those formations that have been identified for the county in which you are drilling the well in.

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

SWR #13 Formation Data

CHAMBERS (071) County

Formation	Remarks	Geological Order	Effective Date
CAPROCK	disposal	1	12/17/2013
SEABREEZE	disposal	2	12/17/2013
MIOCENE	disposal	3	12/17/2013
PLIOCENE-MIOCENE	disposal	4	12/17/2013
CATAHOULA	disposal	5	12/17/2013
MIOCENE,LOWER-FRIO	disposal	6	12/17/2013
FRIO-DISCORBIS	disposal	7	12/17/2013
WILCOX	disposal	8	12/17/2013

The above list may not be all inclusive, and may also include formations that do not intersect all wellbores. The listing order of the Formation information reflects the general stratigraphic order and relative geologic age. This is a dynamic list subject to updates and revisions. It is the operator's responsibility to make sure that at the time of spudding the well the most current list is being referenced. Refer to the RRC website at the following address for the most recent information.
http://www.rrc.texas.gov/oil-gas/compliance-enforcement/rule-13-geologic-formation-info

STATE OF TEXAS WELL REPORT for Tracking #668850

Owner:	**Pelican Sequestration/ Blue Bonnet Sequestration**	Owner Well #:	**Bluebonnet USWD # 1**
Address:	**# 5 Greenway Plaza Houston, TX 77046**	Grid #:	**64-13-2**
Well Location:	**S of Deviller Loop Rd Winnie, TX**	Latitude:	**29° 50' 40" N**
Well County:	**Chambers**	Longitude:	**094° 27' 25" W**
		Elevation:	**40 ft. above sea level**

Type of Work: **New Well** Proposed Use: **Monitor**

Drilling Start Date: **5/4/2024** Drilling End Date: **6/4/2024**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**12.25**	**0**	**1630**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **GRAVEL PACKED FROM 1420 TO 1350 WITH 8/16**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**21**	**DRY MIX 24 Yards**
0	**1345**	**CLASS C 472 Bags/Sacks**

Seal Method: **Pumped**

Sealed By: **AMERICAN CEMENTERS**

Distance to Property Line (ft.): **OVER 100'**

Distance to Septic Field or other concentrated contamination (ft.): **N/A**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **MEASURED**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Water Quality:

Strata Depth (ft.)	Water Type
1370 - 1420	**GULF COAST AQUIFER**

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **No**

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **West Texas Water Well Service**

3410 Mankins Ave
Odessa, TX 79764

Driller Name: **RORY B ROACH** License Number: **54815**

Apprentice Name: **Daniel Iglesias Colon** Apprentice Number: **61581**

Comments: **Drill Test Hole to 1630 & Log**
Plug back to 1410'- 203sx Class C Cement
Set 21' 20" Conductor & Cement in place 24 Yrds Dry Mix
Drill Out to 1420' -12 1/4 Bit
Run 1434' 5 1/2" Casing 50'-.032 Screen 1420'-1370'
1380'-0' 5 1/2" - 15.50lb
Pump- Gravel 8/16" From 1420'-1350'
Pump Play Sand from 1350'-1345'
Pump Class C Cement from 1345-0 456sks

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	**8**	**TOPSOIL**
8	**26**	**GRAY CLAY**
26	**1551**	**GRAY SANDY CLAY**
1551	**1630**	**MULTICOLORED SAND & GRAVEL**

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
5.5	**Screen**	**New Steel**	**15.5**	**0**	**1370**
20	**Blank**	**New Steel**	**94**	**0**	**21**
5.5	**Blank**	**New Steel**	**0.032**	**1370**	**1420**

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

HALLIBURTON

ARRAY COMPENSATED TRUE RESISTIVITY GAMMA RAY 1 IN = 100 FT

COMPANY OXY LOW CARBON VENTURES, LLC

WELL BLUE BONNET USDW #01

FIELD/BLOCK WILDCAT

COUNTY CHAMBERS STATE TX

API No. 42-071-32672

Location

Sect. 38 Twp. N/A Rge. N/A

Other Services:
ICT
CSNG
IDT
RDT
HRSCT

Permanent Datum	GL	Elev. 27.0 ft	Elev.: K.B.
Log measured from	DF	3.0 ft above perm. Datum	D.F. 3.0 ft
Drilling measured from	DF		G.L. 27.0 ft

Date		22-May-24		
Run No.		R1D1		
Depth - Driller		1630.0 ft		
Depth - Logger		1620.0 ft		
Bottom - Logged Interval		1620.0 ft		
Top - Logged Interval		100.0 ft		
Casing - Driller		@ 65.0 ft	@	@
Casing - Logger				
Bit Size		12.250 in	@	@
Type Fluid in Hole		WBM		
Density	Viscosity	10.30 g/cc		
PH	Fluid Loss			
Source of Sample		MUD TANK		
Rm @ Meas. Temperature		5.16 ohmm @ 74.00 degF	@	@
Rmf @ Meas. Temperature		@	@	@
Rmc @ Meas. Temperature		@	@	@
Source Rmf	Rmc			
Rm @ BHT		@	@	@
Time Since Circulation		04:20 hr		
Time on Bottom		22-May-24 14:36		
Max. Rec. Temperature		@	@	@
Equipment	Location	1279 NEW IBERIA		
Recorded By		K ROEMMICH	J PALACIO	
Witnessed By				

Fold here

Sales Order Number: 909330868 API No.: 42-071-32672 PGM Version: WL INSITE R6.8.20 (Build 3)

CHANGE IN MUD TYPE OR ADDITIONAL SAMPLE

	Sample No.					
Date						
Depth-Driller						
Type Fluid in Hole						
Density	Viscosity					
Ph	Fluid Loss					
Source of Sample						
Rm @ Meas. Temp		@	@	@	@	@
Rmf @ Meas. Temp.		@	@	@	@	@
Rmc @ Meas. Temp.		@	@	@	@	@
Source Rmf	Rmc					
Rm @ BHT		@	@	@	@	@
Rmf @ BHT		@	@	@	@	@
Rmc @ BHT		@	@	@	@	@

RESISTIVITY SCALE CHANGES

	Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

	Run No.	Tool Type & No.	Pad Type	Tool Pos.	Other
Rm @ Meas. Temp	@				
Rmf @ Meas. Temp.	@	R1D1	N/A	CENT	
Rmc @ Meas. Temp.	@	ACRT I: 11259774 S: 10943504			
Source Rmf	Rmc				
Rm @ BHT	@				
Rmf @ BHT	@				
Rmc @ BHT	@				

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	R1D1	Run No.		Run No.		Run No.	
Serial No.	12365376	Serial No.		Serial No.		Serial No.	
Model No.	GTET	Model No.		Model No.		Model No.	
Diameter	3.625	No. of Cent.		Diameter		Diameter	
Detector Model No.	T102-A	Spacing		Log Type		Log Type	
Type	SCINT			Source Type		Source Type	
Length	8 in	LSA [Y/N]		Serial No.		Serial No.	
Distance to Source	N/A	FWDA [Y/N]		Strength		Strength	

LOGGING DATA

GENERAL			GAMMA			ACOUSTIC			DENSITY			NEUTRON		
Run No.	Depth From	Depth To	Speed ft/min	Scale L	Scale R	Scale L	Scale R	Matrix	Scale L	Scale R	Matrix	Scale L	Scale R	Matrix
R1D1	1620	100	REC	0	150									

ARTIFICIAL PENETRATION NO. 2

OPERATOR: OXY LOW CARBON VENTURES
WELL NAME: ENCANTO NO. 1

API NO: 42-071-32664

Geostock Sandia

5:40:03 Tuesday, September 10, 2024

8223547

DISTRICT> 03 OIL PRORATION SCHEDULE SCHEDULE> 09 / 24
FIELD > **WILDCAT** # 00006 001 TYPE FIELD **REGULAR**
OPERATOR> **OXY LOW CARBON VENTURES, LLC** # 100129
LEASE > **ENCANTO** # 28029
MOVABLE BAL>
LSE DLY TOT> O(PRO) O(EX) G(PRO) G(EX)
LSE MO. ALLOW TOTAL> OIL GAS LIMIT PD WELLS/TOTAL ACRES
TOTAL LEASE ACRES>

UNIT/ WELL #	API NUMBER	POTEN- TIAL	GAS/OIL RATIO	ACRES	DAILY ALLOWABLE OIL / GAS	TYPE WELL	LOWEST PERF
01	071 32664				**FORMS LACKING**	**SHUT IN**	

GO TO WELL # < > PF1=HELP PF4=PREV WELLS PF5=NEXT WELLS PF6=FIELD
PF7=LEASE INQUIRY PF8=P-4 PF9=LEDGER PF10=W-10 PF11=WELL REMARKS PF12=W-2
TO SELECT A UNIT OR WELL, PLACE THE CURSOR TO THE LEFT OF THE WELL OR UNIT.

API No. 42-071-32664
Drilling Permit # 883069
SWR Exception

RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION

APPLICATION FOR PERMIT TO DRILL, RECOMPLETE, OR RE-ENTER

This facsimile W-1 was generated electronically from data submitted to the RRC.
A certification of the automated data is available in the RRC's Austin office.

FORM W-1 07/2004

Permit Status: Approved

1. RRC Operator No.: 100129

2. Operator's Name (as shown on form P-5, Organization Report): OXY LOW CARBON VENTURES, LLC

3. Operator Address (include street, city, state, zip): ATTN: REGULATORY DEPARTMENT, PO BOX 4294, HOUSTON, TX 77210

4. Lease Name: ENCANTO

5. Well No.: 01

GENERAL INFORMATION

6. Purpose of filing (mark ALL appropriate boxes): [X] New Drill [ ] Recompletion [ ] Reclass [ ] Field Transfer [ ] Re-Enter [X] Amended [ ] Amended as Drilled (BHL) (Also File Form W-1D)

7. Wellbore Profile (mark ALL appropriate boxes): [X] Vertical [ ] Horizontal (Also File Form W-1H) [ ] Directional (Also File Form W-1D) [ ] Sidetrack

8. Total Depth: 9000

9. Do you have the right to develop the minerals under any right-of-way ? [X] Yes [ ] No

10. Is this well subject to Statewide Rule 36 (hydrogen sulfide area)? [ ] Yes [X] No

SURFACE LOCATION AND ACREAGE INFORMATION

11. RRC District No.: 03

12. County: CHAMBERS

13. Surface Location [X] Land [ ] Bay/Estuary [ ] Inland Waterway [ ] Offshore

14. This well is to be located 4.6 miles in a NW direction from Winnie which is the nearest town in the county of the well site.

15. Section: 38

16. Block:

17. Survey: T&NO RR CO/STERLING, O B

18. Abstract No.: A-483

19. Distance to nearest lease line: ft.

20. Number of contiguous acres in lease, pooled unit, or unitized tract: 311

21. Lease Perpendiculars: 383 ft from the N line and 1803 ft from the E line.

22. Survey Perpendiculars: 383 ft from the N line and 2267 ft from the E line.

23. Is this a pooled unit? [ ] Yes [X] No

24. Unitization Docket No:

25. Are you applying for Substandard Acreage Field? [ ] Yes (attach Form W-1A) [X] No

FIELD INFORMATION — List all fields of anticipated completion including Wildcat. List one zone per line.

26. RRC District No.	27. Field No.	28. Field Name (exactly as shown in RRC records)	29. Well Type	30. Completion Depth	31. Distance to Nearest Well in this Reservoir	32. Number of Wells on this lease in this Reservoir
03	00006001	WILDCAT	Exploratory Test Well	9000	0.00	1

BOTTOMHOLE LOCATION INFORMATION is required for DIRECTIONAL, HORIZONTAL, AND AMENDED AS DRILLED PERMIT APPLICATIONS

Remarks

[FILER Nov 17, 2022 7:55 AM]: Well surface location was moved by ~100 feet to the SE to better accommodate the rig on the pad.

Certificate:

I certify that information stated in this application is true and complete, to the best of my knowledge.

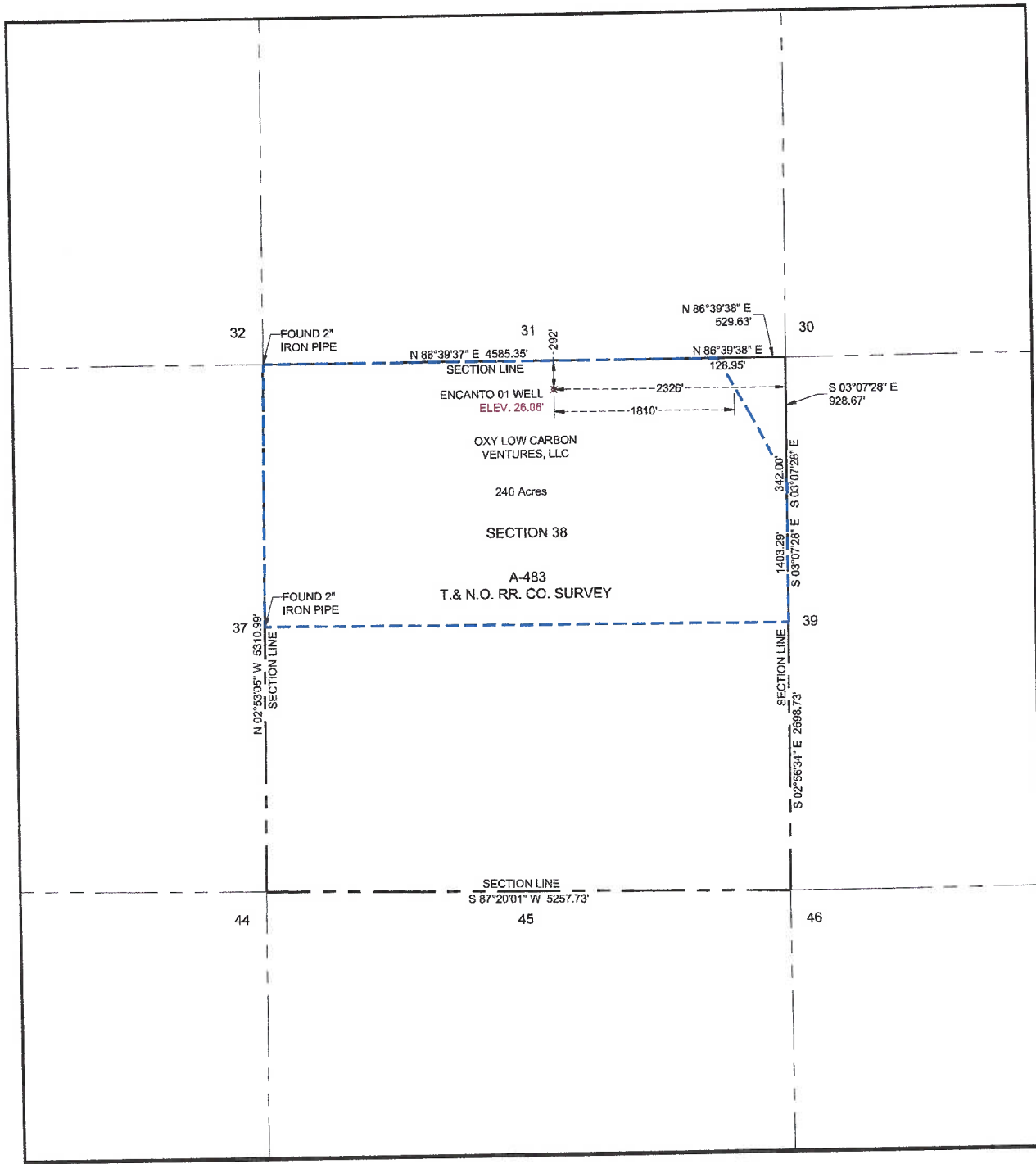
Jose Gago, Eng Regulatory Sr — Name of filer

Nov 17, 2022 — Date submitted

(713)366-5785 — Phone

Jose_Gago@oxy.com — E-mail Address (OPTIONAL)

RRC Use Only Data Validation Time Stamp: Sep 9, 2024 8:25 PM(Current Version)



4.6 miles Northwest of Winnie, TX.

Location Coordinates for Chamber County Encanto 01 Well

NAD 27 X = 3439997.60
NAD 27 Y = 759194.44
NAD 27 LAT. = 29°50'39.93" / 29.844424
NAD 27 LONG. = -94°27'23.81" / -94.456615

STATE OF TEXAS
REGISTERED
JAMES CURTIS YARGER
5854
PROFESSIONAL
LAND SURVEYOR

Driving Directions:
From Winnie, TX (int. of TX-124 N & Gulfway Dr.) to well drive North on TX-124 N / Gulfway Dr. toward Broadway Ave, for 0.5 mi, Continue onto FM 1663/Spur 5, and drive for 2.2 mi. Turn left to onto FM 1663, and drive for 4.2 mi. Turn left onto Deviller Loop Road, and drive for 1.4 mi. The proposed Chambers County Encanto 01 Well location will be on the left-hand side of road 330' South.

NOTES:
1. BEARINGS AND COORDINATES SHOWN HEREON ARE REFERENCED TO THE TEXAS COORDINATE SYSTEM OF 1983 (TEXAS SOUTH CENTRAL ZONE 4204).
2. LATITUDE & LONGITUDE ARE NAD 83 AND NAD 27 GEOGRAPHIC.
3. THIS IS AN EXHIBIT AND DOES NOT REPRESENT A TRUE BOUNDARY SURVEY. THIS SURVEY IS BASED ON OWNERSHIP AND EASEMENT INFORMATION PROVIDED BY OXY LOW CARBON VENTURE, LLC. SURVEYOR DID NOT ABSTRACT SUBJECT TRACT AND THERE MAY BE EASEMENTS OR OTHER ENCUMBRANCES THAT AFFECT THE SUBJECT TRACT THAT ARE NOT SHOWN HEREON.

I HEREBY STATE THAT THIS SURVEY WAS PERFORMED UNDER MY DIRECT SUPERVISION

JAMES CURTIS YARGER
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF TEXAS # 5854

Date Surveyed July 14, 2022

OXY LOW CARBON VENTURES, LLC
ENCANTO 01 WELL
292' FNL & 2326' FEL
Section 38 (A-483)
T. & N.O. RR. CO. Survey
Chambers County, Texas

LEGEND
— — — DENOTES SURVEY BOUNDARY/TRACT LINE
— — — DENOTES LEASE TRACT
DENOTES PROPOSED WELL LOCATION
DENOTES PRODUCING WELL LOCATION
DENOTES PERMITTED WELL LOCATION

TRANSGLOBAL SERVICES LLC
TBPELS FIRM# 10194245
201 West Wall Street, Suite 325
Midland, TX 79701
(817) 529-1180 ~ Fax (817) 529-1181

1000' 0' 1000'
Scale: 1" = 1000'

DRAWN BY: JS	DATE: 08/03/2022
CHECKED BY: JCY	DATE: 08/16/2022
PAGE 1 OF 1	SCALE: 1" = 1000'

DWG. NO. 11081 CHAMBERS COUNTY ENCANTO 01 WELL

REVISION NO. 0

RAILROAD COMMISSION OF TEXAS

1701 N. Congress
P.O. Box 12967
Austin, Texas 78701-2967

Form W-2

Status: Approved
Date: 05/18/2023
Tracking No.: 290747

OIL WELL POTENTIAL TEST, COMPLETION OR RECOMPLETION REPORT,

OPERATOR INFORMATION

Operator OXY LOW CARBON VENTURES, LLC **Operator** 100129
Operator ATTN: REGULATORY DEPARTMENT PO BOX 4294 HOUSTON, TX 77210-

WELL INFORMATION

API 42-071-32664
Well No.: 01
Lease ENCANTO
RRC Lease 28029
Location Section: 38, Block: , Survey: T&NO RR CO/STERLING, O B, Abstract: 483

County: CHAMBERS
RRC District 03
Field WILDCAT
Field No.: 00006001

Latitude
Longitud

This well is 4.6 **miles in a** NW **direction from** WINNIE, **which is the nearest town in the**

FILING INFORMATION

Purpose of Well Record Only
Type of New Well
Well Type: Shut-In Producer

Completion or Recompletion 02/10/2023

Type of Permit	Date	Permit No.
Permit to Drill, Plug Back, or	11/21/2022	883069
Rule 37 Exception		
Fluid Injection		
O&G Waste Disposal		
Other:		

COMPLETION INFORMATION

Spud 12/02/2022
Date plug back, deepening, drilling operation 12/02/2022
Number of producing wells on this lease this field (reservoir) including this 1
Total number of acres in 311.00
Total depth TVD 8581
Plug back depth TVD 5175
Was directional survey made other inclination (Form W- Yes
Recompletion or No
Type(s) of electric or other log(s) Gamma Ray (MWD)
Electric Log Other Description:

Date of first production after rig 02/10/2023
Date plug back, deepening, recompletion, drilling operation 02/10/2023
Distance to nearest well in lease & reservoir 0.0
Elevation 28 GL
Total depth MD
Plug back depth MD
Rotation time within surface casing 24.0
Is Cementing Affidavit (Form W-15) Yes
Multiple No

Location of well, relative to nearest lease of lease on which this well is

383.0 **Feet from the** North **Line and**
1803.0 **Feet from the** East **Line of the**
ENCANTO **Lease.**

Off Lease : No

FORMER FIELD (WITH RESERVOIR) & GAS ID OR OIL LEASE NO.

Field & Reservoir	Gas ID or Oil Lease	Well No.	Prior Service Type

PACKET: N/A

W2: N/A

FOR NEW DRILL OR RE-ENTRY, SURFACE CASING DEPTH DETERMINED BY:

GAU Groundwater Protection Determination	Depth	700.0	Date 08/16/2022
SWR 13 Exception	Depth	3380.0	

INITIAL POTENTIAL TEST DATA FOR NEW COMPLETION OR RECOMPLETION

Date of		Production	
Number of hours	24	Choke	
Was swab used during this	No	Oil produced prior to	

PRODUCTION DURING TEST PERIOD:

Oil		Gas	
Gas - Oil	0	Flowing Tubing	
Water			

CALCULATED 24-HOUR RATE

Oil		Gas	
Oil Gravity - API - 60.:		Casing	
Water			

CASING RECORD

Ro	Type of Casing	Casing Size (in.)	Hole Size	Setting Depth	Multi - Stage Tool	Multi - Stage Shoe	Cement Class	Cement Amoun	Slurry Volume (cu.	Top of Cement (ft.)	TOC Determined By
1	Surface	9 5/8	12 1/4	2992			A	1585	2711.1	0	Circulated to Surface
2	Conventional Production	5 1/2	8 1/2	8581	4121		A	730	1160.7	0	Circulated to Surface
3	Conventional Production	5 1/2	8 1/2	8581			A	1200	1272.0	4121	Calculation

LINER RECORD

Ro	Liner Size	Hole Size	Liner Top	Liner Bottom	Cement Class	Cement Amoun	Slurry Volume (cu.	Top of Cement (ft.)	TOC Determined

N/A

TUBING RECORD

Ro	Size (in.)	Depth Size (ft.)	Packer Depth (ft.)/Type
			/

N/A

PRODUCING/INJECTION/DISPOSAL INTERVAL

Ro	Open hole?	From (ft.)	To (ft.)
		L	

N/A

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC.

Was hydraulic fracturing treatment No

Is well equipped with a downhole sleeve? No

If yes, actuation pressure

Production casing test pressure (PSIG) hydraulic fracturing

Actual maximum pressure (PSIG) during fracturin

Has the hydraulic fracturing fluid disclosure been No

Ro	Type of Operation	Amount and Kind of Material Used	Depth Interval (ft.)

1	Cast Iron Bridge Plug	CIBP + 25 FT OF CEMENT	5175	5200
2	Cast Iron Bridge Plug	CIBP + 25 FT OF CEMENT	8375	8400

FORMATION RECORD

Formations	Encountere	Depth TVD	Depth MD	Is formation	Remarks
CAPROCK - DISPOSAL	No			No	NOT PRESENT IN THIS PART OF THE BASIN
SEABREEZE - DISPOSAL	No			No	NOT PRESENT IN THIS PART OF THE BASIN
MIOCENE - DISPOSAL	Yes	4613.0	4613.0	Yes	
PLIOCENE-MIOCENE - DISPOSAL	No			No	NOT PRESENT IN THIS PART OF THE BASIN
CATAHOULA - DISPOSAL	No			No	NOT PRESENT IN THIS PART OF THE BASIN
MIOCENE,LOWER-FRIO - DISPOSAL	Yes	7659.0	7659.0	Yes	
FRIO-DISCORBIS - DISPOSAL	Yes	8180.0	8180.0	Yes	
WILCOX - DISPOSAL	No			No	NOT PRESENT IN THIS PART OF THE BASIN

Do the producing interval of this well produce H2S with a concentration in excess of 100 ppm No

Is the completion being downhole commingled No

REMARKS

RRC REMARKS

PUBLIC COMMENTS:

[RRC Staff 2023-05-17 10:43:34.846] Unperfed well-record-only packet. Eng. approval not required. EDL=0 feet, max acres=0.

CASING RECORD :

TUBING RECORD:

WELL IS TEMPORARILY ABANDONED

PRODUCING/INJECTION/DISPOSAL INTERVAL :

ACID, FRACTURE, CEMENT SQUEEZE, CAST IRON BRIDGE PLUG, RETAINER, ETC. :

POTENTIAL TEST DATA:

OPERATOR'S CERTIFICATION

Printed Jose Gago **Title:** Eng Regulatory Sr

Telephone (713) 366-5785 **Date** 04/24/2023

Schlumberger

Company: Oxy Low Carbon Ventures, LLC

Well: ENCANTO 01

Field: Wildcat

County: Chambers State: Texas

County: Chambers
Field: Wildcat
Location: 4.6 miles NW direction from WINNIE
Well: ENCANTO 01
Company: Oxy Low Carbon Ventures, LLC

ARRAY INDUCTION / SPECTRAL DENSITY
DUAL SPACED NEUTRON / GAMMA RAY / CALIPER
MEMORY LOG

Location:				
4.6 miles NW direction from WINNIE		Elev.:	K.B.	53.56 ft
Surface location: 292 FNL, 2326 FEL			G.L.	28.06 ft
T&NO RR CO/STERLING. O B			D.F.	
Permanent Datum:	Ground Level	Elev.:	28.06 ft	
Log Measured From:	Kelly Bushing	25.50 ft	above Perm.Datum	
Drilling Measured From:	Kelly Bushing			

API Serial No.	Section:	Block:	Abstract:
42-071-32664-00-00	38		483

Logging Date			04-Jan-2023				
Run Number			R2C				
Depth Driller			8581.00 ft				
Schlumberger Depth			8581.00 ft				
Bottom Log Interval			8442.00 ft				
Top Log Interval			2989.00 ft				
Casing Driller Size @ Depth			9.625 in	@	2992.00 ft		
Casing Schlumberger			2989 ft				
Bit Size			8.5 in				
Type Fluid In Hole			OBM				
MUD	Density	Viscosity	11 lbm/gal		67 s		
	Fluid Loss	PH					
	Source of Sample		N/A				
RM @ Meas Temp			N/A				
RMF @ Meas Temp			N/A				
RMC @ Meas Temp			N/A				
Source RMF		RMC	N/A		N/A		
RM @ BHT		RMF @ BHT	N/A		N/A		
Max Recorded Temperatures			162.57 degF		162.57	162.57	
Circulation Stopped	Time		03-Jan-2023		00:30:00		
Logger on Bottom	Time		04-Jan-2023		12:00:00		
Unit Number	Location:		9108		New Iberia		
Recorded By			K. Venable				
Witnessed By			B. Gomez				

Disclaimer

THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE AND RELIANCE

ARTIFICIAL PENETRATION NO. 3

OPERATOR: PYRAMID EXPLORATION
WELL NAME: L.C. DEVILLIER NO. 1

API NO: 42-071-31394

Geostock Sandia

THIS APPLICATION MUST BE FILED IN DUPLICATE IN THE APPROPRIATE DISTRICT OFFICE.

071-31394

177413

API Well No. 42
Instruction (7a & b) on back side.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

☐ Directional Well ☐ Sidetrack ☐ Amended Permit (Explain in Remarks)

FORM W-1
1/1/81

RRC Permit Number, if previously assigned.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER

Check one: XX DRILL ☐ DEEPEN (Below Casing) ☐ DEEPEN (Within Casing) ☐ PLUG BACK ☐ RE-ENTER

7. RRC District: #3

8. County: Chambers

1. Operator: Pyramid Exploration 684440

2. Address (Including City and Zip Code): 6760 College, Beaumont, Texas 77707 017590

4a. Lease Name (32 Spaces Maximum): L.C. DeVillier

4b. RRC Lease or ID No. (if assigned):

5. Location (Sec., Blk., Survey): O.B. Sterling Survey AB483

6. This well is to be located 3 miles West Direction from Winnie, Texas Nearest Post Office or Town.

9. Well Number: 1

10. Number of Contiguous Acres in Lease or Unitized Tract: 321.58

11. Distance from Proposed Location to Nearest Lease or Unit Line (ft.): 467

12. Total Depth: 9500'

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed? YES [X] NO ☐ (Instruction (2) on back side.)

EACH PROPOSED COMPLETION

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R.R.C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below. One zone per line. List all zones for which a permit is sought.	14. Completion Depth	15. All Prior Rule 37 Exec. Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. (acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same res. on same lease? Yes or No. If yes explain in remarks.	20. Distance and Direction from proposed location to nearest drilling completed or applied for well in same res. on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Exc. Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of completed, permitted or applied for, locations on this lease in same reservoir for which this permit is sought? OIL	GAS
Wildcat	9500'	NONE	467-1200	40	40	NO	NONE	Regular 1 XX Rule 37 2 ☐	Oil/Gas	NONE	NONE
00006 001								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			

Permit granted 11/15/82 Code C

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED:
A. Lease Lines 1000 FWL 467' FNL
B. Survey Lines 1000 FWL 467' FNL

25. (a) Is this wellbore subject to SWR 36? Yes ☐ No XX
(b) If subject to SWR 36, has Form H-9 been filed? If no, attach explanation.) ☐ ☐

26. Do you anticipate future use of this wellbore to complete in any penetrated zone not listed in Column 13, for which a Rule 37 or Rule 38 exception is presently required? If Yes, attach a list of such zones and see Instruction #8. Yes ☐ No XX

27. Is this a pooled unit? YES ☐ (Attach P-12, certified plat, & list of pooled zones) NO XX

28. Substandard Acreage YES ☐ (Attach W-1A) NO XX

RECEIVED R.R.C. OF TEXAS NOV 04 1982 O. C. AUSTIN, TEXAS

NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

REMARKS: Texas Water Board has been contacted

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

X C J Gaffey
Signature

Manager
Title

November 2, 1982
Date

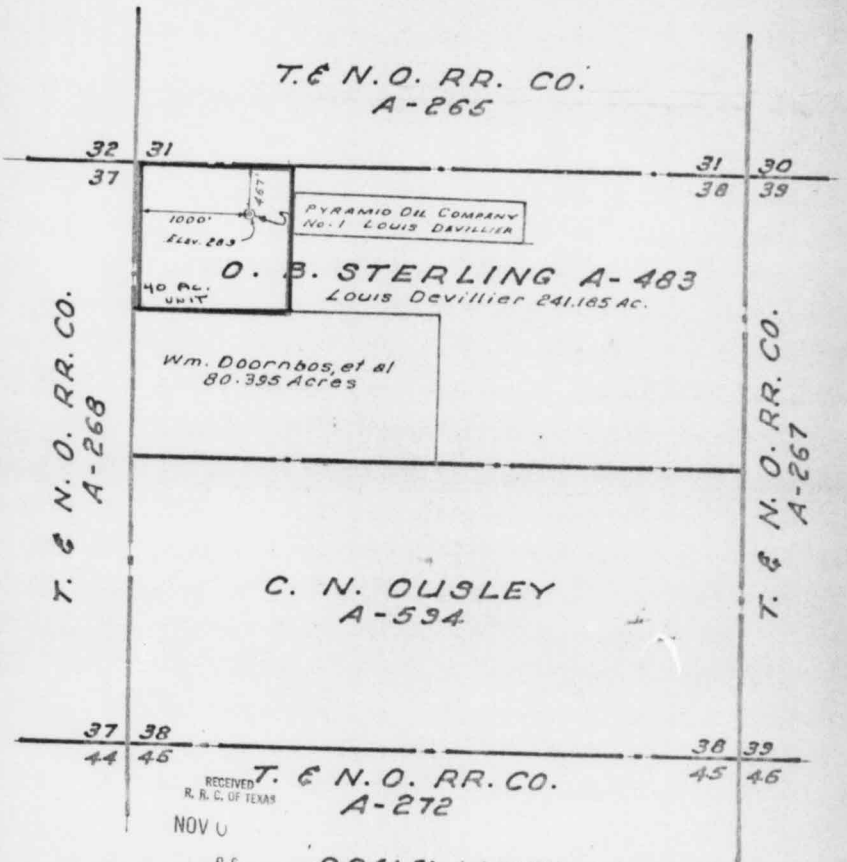
Telephone: Area Code 713 866-3194

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071-31394

10R-80

0 0 0 0 1 0 8 7



RECEIVED
R. R. C. OF TEXAS
NOV 0
O. G.
AUSTIN, TEXAS

SCALE: 1 INCH = 1000 FEET

THE STATE OF TEXAS)
COUNTY OF CHAMBERS)

I, R. C. McCulley, Registered Public Surveyor No. 3404, do hereby certify that this plat truly delineates the results of a survey made by me on the ground on October 28, 1982, for the PYRAMID OIL COMPANY No. 1 LOUIS DEVILLIER well location in the O. B. Sterling Survey, A-483, Chambers County, Texas.

WITNESS my hand and seal, at Anahuac, Texas, this the 29th., day of October, 1982.

STATE OF TEXAS
R. C. McCulley
3404
REGISTERED PUBLIC SURVEYOR

R. C. McCulley
REGISTERED PUBLIC SURVEYOR
No. 3404

Plugging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FORM W-3
Rev. 10/78

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

API NO. (if available)

1. RRC District: #3
2. FIELD NAME (as per RRC Records): WILDCAT
3. Lease Name: L.C. DEVILLIER
4. RRC Lease or Id. Number
5. Well Number: #1
6. OPERATOR: Pyramid Exploration
6a. Original Form W-1 Filed in Name of:
6b. Any Subsequent W-1's Filed in Name of:
7. ADDRESS: 6760 College, Bmt. Tx. 77707
8. Location of Well, Relative to Nearest Lease Boundaries of Lease on which this Well is Located: 1000 Feet From W Line and 467 Feet From N Line of the
9a. SECTION, BLOCK, AND SURVEY: O.B. Sterling Survey AB483
9b. Distance and Direction From Nearest Town in this County: 6 miles W. of Winnie
10. County: Chambers
11. Date Drilling Permit Issued: 11/15/82
12. Permit Number: 177413
13. Date Drilling Commenced: 12/10/82
14. Date Drilling Completed: 12/24/82
15. Date Well Plugged: 12/27/82
16. Type Well (Oil, Gas, Dry): DRY
Total Depth: 9284
17. If Multiple Completion List All Field Names and Oil Lease or Gas ID No.'s: GAS ID or OIL LEASE #; Oil - O Gas - G; WELL #
18. If Gas, Amt. of Cond. on Hand at time of Plugging

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7	PLUG #8
*19. Cementing Date	12/27	12/27	12/27					
20. Size of Hole or Pipe in which Plug Placed (inches)	8 3/4	9 5/8	9 5/8					
21. Depth to Bottom of Tubing or Drill Pipe (ft.)	1860	710	14					
*22. Sacks of Cement Used (each plug)	75	40	10					
*23. Slurry Volume Pumped (cu. ft.)	88.5	47.2						
*24. Calculated Top of Plug (ft.)	1660	610	4					
25. Measured Top of Plug (if tagged) (ft.)			4					
*26. Slurry Wt. # /Gal.	15.6	15.6	15.6					
*27. Type Cement	HNeat	H+2%	HNeat					

28. CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT. #/FT.	PUT IN WELL (ft.)	LEFT IN WELL (ft.)	HOLE SIZE (in.)
9 5/8	36#	1783	1783	12 1/4

29. Was any Non-Drillable Material (Other than Casing) Left in This Well? Yes [ ] No [X]
29a. If answer to above is "Yes" state depth to top of "junk" left in hole and briefly describe non-drillable material. (Use Reverse Side of Form if more space is needed.)

30. LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS

FROM	TO	FROM	TO
FROM	TO	FROM	TO
FROM	TO	FROM	TO
FROM	TO	FROM	TO
FROM	TO	FROM	TO

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.
* Designates items to be completed by Cementing Company. Items not so designated shall be completed by Operator.

Signature of Cementer or Authorized Representative

Name of Cementing Company

CERTIFICATE:
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

X _____ MANAGER 1/17/83 Phone 713 866-3194
REPRESENTATIVE OF COMPANY — TITLE — DATE — A/C NUMBER

SIGNATURE: REPRESENTATIVE OF RAILROAD COMMISSION

071-31394

31. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission? [XX] Yes [ ] No

32. How was Mud Applied? Circulated

33. Mud Weight 13.1 LBS/GAL

34. Total Depth

Depth of Deepest Fresh Water 650

Other Fresh Water Zones by T.D.W.R.

TOP	BOTTOM

35. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? [XX] Yes [ ] No

36. If NO, Explain

37. Name and Address of Cementing or Service company who mixed and pumped cement plugs in this well
The Western Co., P.O. Box 841, Liberty, Texas 77575

Date RRC District Office notified 12/27/82

38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases

39. Was Notice Given Before Plugging to Each of the Above?

FILL IN BELOW FOR DRY HOLES ONLY

40. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

[XX] Log Attached [ ] Log released to _____ Date _____

Type Logs:
[XX] Driller's [ ] Electric [ ] Radioactivity [ ] Acoustical/Sonic

41. Date FORM P-8 (Special Clearance) Filed?

42. Amount of Oil produced prior to Plugging _____ bbls*

* File FORM P-1 (Oil Production Report) for month this oil was produced

RRC USE ONLY

Nearest Field _____

REMARKS _____

MATAGORDA DRILLING COMPANY

DRILLER'S LOG

Operator

Pyramid Exploration Company
6760 College Street
Beaumont, Texas 77707

Well

L.C. Devillier
Well No. 1
Chambers County, Texas

DATE	FOOTAGE		FORMATION
12/11/82	0	1468	Sand and Shale
	1468	1786	Sand and Shale
12/12/82			Set 1786' - 9-5/8" Casing
12/13/82	1786	2493	Sand and Shale
	2493	3145	Sand and Shale
12/14/82	3145	3787	Sand and Shale
	3787	4303	Sand and Shale
12/15/82	4303	4748	Sand and Shale
	4748	4910	Sand and Shale
12/16/82	4910	5679	Sand and Shale
	5679	6254	Sand and Shale
12/17/82	6254	6615	Sand and Shale
	6615	6727	Sand and Shale
12/18/82	6727	7127	Sand and Shale
	7127	7416	Sand and Shale
12/19/82	7416	7900	Sand and Shale
	7900	7951	Sand and Shale
12/20/82	7951	8297	Sand and Shale
	8297	8430	Sand and Shale
12/21/82	8430	8494	Sand and Shale
	8494	8561	Sand and Shale
12/22/82	8561	8740	Sand and Shale
	8740	8869	Shale and Sand
12/23/82	8869	8933	Shale and Sand
	8933	8996	Shale and Sand
12/24/82	8996	9165	Shale and Sand
	9165	9284	Shale and Sand - Total Depth

Before me this day personally appeared the person whose signature appears below stating that the statements set forth above are true and correct to the best of his knowledge.

Subscribed and sworn to before me this 20th day of January 1983.

Lydia Peters
Notary Public
Nueces County, Texas

B.T. Evans
R.T. Evans/President
Matigorda Drilling Company

P.O. Box 10307, Corpus Christi, Texas 78410
512/882-6071

000039 1080

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form No. 052-1070 (W-15)
(Rev. 11-1-69)

CEMENTING REPORT

*1. Field Name (as per RRC Records or Wildcat) WILDCAT	*2. RRC District #3
*3. Operator PYRAMID EXPLORATION	*4. County CHAMBERS
*5. Lease Name(s) and RRC Lease Number(s) or I. D. Number(s) L.C. DEVILLIER	*6. Well Number #1
*7. Location (Section, Block, and Survey) O.B. Sterling Survey A8483	

CASING CEMENTING DATA:	SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
			Single String	Multiple Parallel Strings	Tool	Shoe
8. Cementing Date	12-11-82					
*9. (a) Size of Drill Bit (inches)						
(b) Estimated % Wash or Hole Enlargement Used in Calculations.						
*10. Size of Casing (inches O.D.)						
*11. Top of Liner (if liner used) (ft.)						
*12. Setting Depth of Casing (ft.)						
13. Type API Class Cement & Amount of Additives Used: (a) In First (Lead) or Only Slurry (If additional space is needed, use "REMARKS" on reverse side.)	Pacesetter Lite + 3% Salt					
(b) In Second Slurry	H + 2% $CaCl_2$					
(c) In Third Slurry						
14. Sacks of Cement Used: (a) In First (Lead) or Only Slurry	525					
(b) In Second Slurry	145					
(c) In Third Slurry						
(d) Total Sacks of Cement Used	670					
15. Slurry Volume per Sack of Cement (cu.ft./sack): (a) In First (Lead) or Only Slurry	1.83					
(b) In Second Slurry	1.18					
(c) In Third Slurry						
16. Volume of Slurry Pumped: (cu. ft.) (Item 14 x Item 15) (a) In First (Lead) or Only Slurry	961					
(b) In Second Slurry	171					
(c) In Third Slurry						
(d) Total Slurry Volume Pumped (cu.ft.)	1142					
17. Calculated Annular Height of Cement Slurry behind Pipe (ft.)	3549.6					
18. Was cement circulated to ground surface (or bottom of cellar) outside casing? (Yes or No)	YES					

CEMENTING TO PLUG AND ABANDON DATA:	PLUG NO. 1	PLUG NO. 2	PLUG NO. 3	PLUG NO. 4	PLUG NO. 5	PLUG NO. 6
19. Cementing Date	12/27/82	12/27/82				
*20. Size of Hole or Pipe in which Plug Placed (inches)	8 3/4 - 9 5/8	9 5/8				
*21. Depth to Bottom of Tubing or Drill Pipe (ft.)	1860	710				
22. Sacks of Cement Used (each plug)	75	40				
23. Slurry Volume Pumped (cu. ft.)	88.5	47.2				
24. Calculated Top of Plug (ft.)	1660	610				
*25. Measured Top of Plug (if tagged) (ft.)						

(CEMENTING COMPANY AND OPERATOR MUST COMPLY WITH THE INSTRUCTIONS ON REVERSE SIDE HEREOF.)
– OVER –

* Designates items to be completed by Operator. Items not so designated shall be completed by Cementing Company.

Form W-15

26. Remarks:

*27. Remarks:

CEMENTING COMPANY

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers cementing data only.

William T. Evans
Signature of Cementer or Authorized Representative

William T. Evans , Service Supervisor
Name of Person and Title (type or print)

The Western Company
Cementing Company

P. O. Box 841
Street Address or P.O. Box

Liberty , Texas 77575
City, State Zip Code

Telephone 713 336-7218
Area Code

12-11-82
Date

***OPERATOR**

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all well data and information presented herein.

X C.T. Garth Jr.
*Signature of Operator or Authorized Representative

C.T. GARTH, JR., Manager
*Name of Person and Title (type or print)

Pyramid Exploration
*Operator

6760 College
*Street Address or P.O. Box

Beaumont, Texas 77707
*City, State Zip Code

*Telephone 713 866-3194
Area Code

*Date January 17, 1983

INSTRUCTIONS

1. A. This form shall be filed by the operator in the RRC District Office with:
   (1) Each copy of an initial Form G-1 or W-2 if a cementing report is required by Statewide or Special Rules, or if exception is needed to cementing requirements in Statewide or Special Rules;
   (2) Each copy of Form W-3;
   (3) Each copy of Form W-4 if a multiple parallel casing completion.
   B. At least an original and one copy of this form shall be filed for each cementing company used on a well.
   C. The cementing of different casing strings on a well by one cementing company may be consolidated on one form (to be filed in duplicate).
2. Cementing Company and Operator shall comply with the applicable portions of Statewide Rules 8, 13, and 14. For offshore operations, Cementing Company and Operator shall comply with Statewide Rule 13(E).
3. If setting FULL AMOUNT OF SURFACE CASING:
   A. Depth to protect fresh water determined by:
   (1) Field Rule
   (2) Texas Water Development Board, if no Field Rule
   B. Set surface casing below depth to be protected and cement from casing shoe to ground surface.
4. IF SETTING ANYTHING OTHER THAN THE FULL AMOUNT OF SURFACE CASING, PERMISSION SHALL BE OBTAINED FROM THE RAILROAD COMMISSION.
5. If setting NO SURFACE CASING (See Item 4 above.):
   A. If no multi-stage tool is used, the next deeper casing string shall be cemented from the casing shoe to the surface.
   B. If using the multi-stage tool on the next deeper string, cement from the depth that protects fresh water sands to the surface.
6. If setting SHORT SURFACE CASING (See Item 4 above.):
   A. Cement short surface casing from the shoe to the surface.
   B. Whether the multi-stage tool is or is not used on the next deeper casing string, cement from the depth that protects fresh water sands to:
   (1) the surface, or
   (2) a point midway between shoe of surface string and the surface. Compliance will be considered if a temperature survey shows that the top of the cement is at least one-third of the distance from the shoe of the surface string to the surface.
7. Setting PRODUCTION STRING of Casing: (Statewide Rules; Special Rules may vary.)
   A. Cement to a point at least 600 feet above the casing shoe.
   B. When 3,000 feet or more of pipe is set for the production or protecting string, a minimum of 30 feet of cement shall be left inside the pipe.
8. PLUGGING and ABANDONING:
   A. Cement plugs shall be placed in the well bore as required by Rules and Regulations of the Commission plus any additional plugs as may be specified by the RRC District Director.
   B. The minimum amount of cement normally used in each plug shall be a slurry volume equal to the amount necessary to fill the calculated volume of 100 feet of the hole in which the plug is placed.
   C. A 10 foot cement plug is required to be placed in the top of the well.

DUAL INDUCTION / BHC SONIC

CL: 75546

COMPANY: PYRAMID EXPLORATION

WELL: #1 L.C. DEVILLIER

FIELD: WILDCAT
COUNTY: CHAMBERS
STATE: TEXAS

LOCATION: 1000'FWL & 467'NLOF
O.B. STERLING SUR. 38 A-48
SEC: TWP: RGE:

OTHER SERVICES-
CORES

PERMANENT DATUM: G.L. ELEVATIONS-
ELEV. OF PERM. DATUM: 29.0 ' KB: 45.0 '
LOG MEASURED FROM: RKB DF: 44.0 '
16.0 ' ABOVE PERM. DATUM GL: 29.0 '
DRLG. MEASURED FROM: RKB

PROGRAM
TAPE NO:
22.2A
SERVICE
ORDER NO:
298696

DATE: 26 DEC 82
RUN NO: 1

42-071-31394

DEPTH-DRILLER: 9264.0 '
DEPTH-LOGGER: 9248.0 '
BTM. LOG INTERVAL: 9245.0 '
TOP LOG INTERVAL:

CASING-DRILLER: 1800 '
CASING-LOGGER: 1778 '
CASING:

BIT SIZE: 8.3

SOUTHERN STATES
LOG LIBRARY

TYPE FLUID IN HOLE: CLS
DENSITY: 13.1 LB/G
VISCOSITY: 40.0 S
PH: 10.1
FLUID LOSS: 6.4 C3
SOURCE OF SAMPLE: FLOWLINE
RM: 0.648 OHMM AT 75.0 DEGF
RMF: 0.551 OHMM AT 75.0 DEGF
RMC: 0.970 OHMM AT 75.0 DEGF
SOURCE RMF/RMC: MEAS/CALC
RM AT BHT: 0.307 OHMM AT 166. DEGF
RMF AT BHT: 0.261 OHMM AT 166. DEGF
RMC AT BHT: 0.459 OHMM AT 166. DEGF

TIME CIRC. STOPPED: 0800 26/12
TIME LOGGER ON BTM.: 1330 26/12

MAX. REC. TEMP: 166.0 DEGF

LOGGING UNIT NO: 8250
LOGGING UNIT LOC: DAYTON
RECORDED BY: FELICE
WITNESSED BY: BECKER

ARTIFICIAL PENETRATION NO. 4

OPERATOR: NEVILLE G. PENROSE INC
WELL NAME: MRS. MARIE DEBELLEVUE NO. 1

API NO: 42-071-01962

Geostock Sandia

4318493

28530

Application to Drill, Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form Rev. 4/20/59

STATE WHETHER THIS IS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK Drill

SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED
DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE,
ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION.
(Typewriter or Black Typewriter Ribbon Preferable)

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 660 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease -- feet.

No other wells on lease

Date July 22, 1959

Name of company or operator

Name Neville G. Penrose, Inc.

Address 1813 Fair Bldg.

City Fort Worth 2, Texas

Description of farm or lease:

Name of Lease Mrs. Marie DeRallevue

Number of Acres 640 Well No. 1

Number of wells on lease 0

Elevation (ft. above sea level) Section No. 37 Block No.

Survey T & N O RR Co, Abst, 268

Zone or Reservoir

To be Located in Wildcat Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 1980 WEL, 660 SNL

Chambers County

10 miles Northwest direction from

Winnie nearest post office or town.

Rotary or Cable Tools Rotary

Date work will start drilling July 29, 1959

Depth to which you propose to drill 9500 feet.

Date work will start deepening.

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name No wells

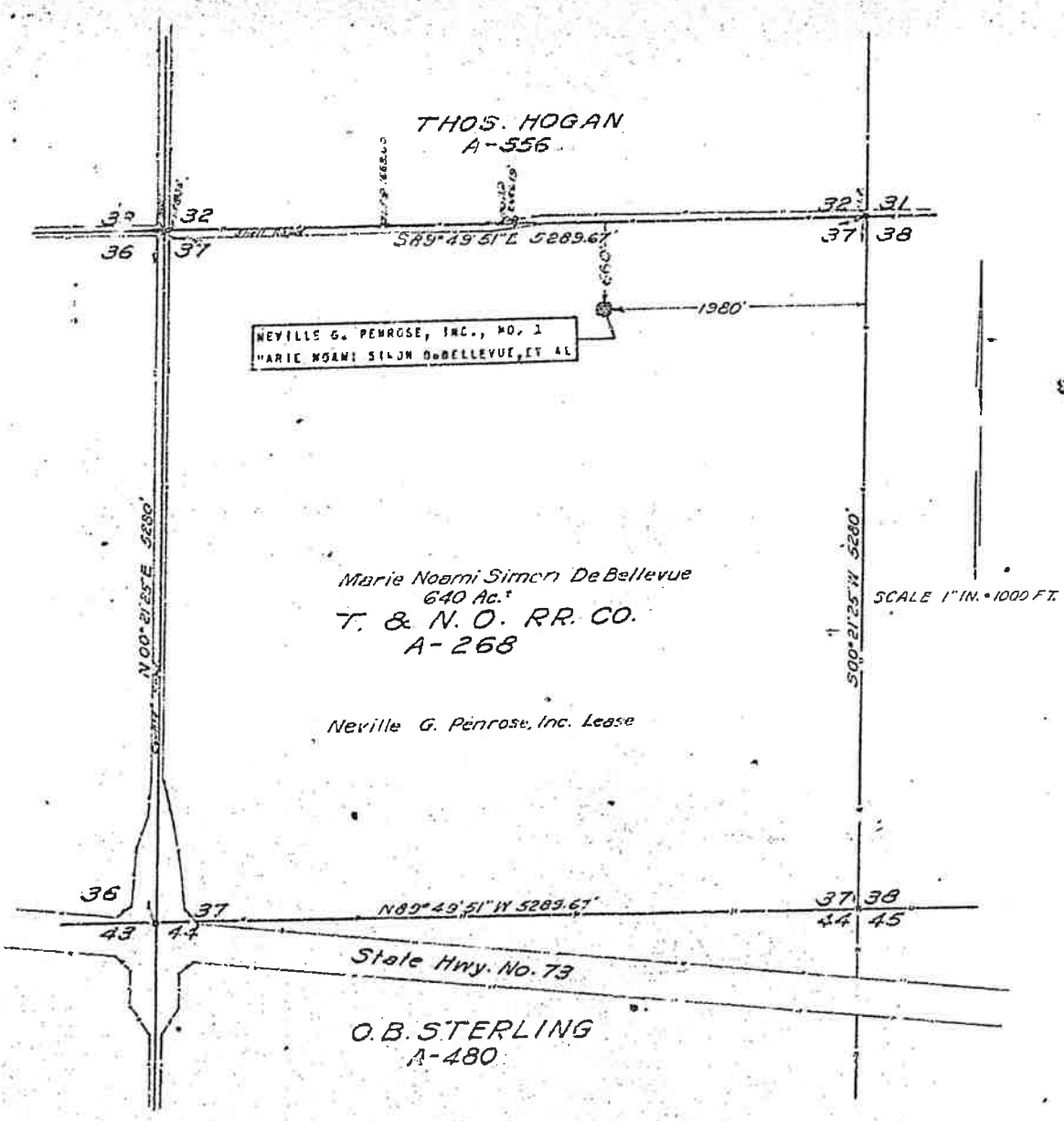
Address

RECEIVED
JUL 27 1959
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

RECEIVED
JUL 23 1959
OIL & GAS DIVISION
TEXAS RAILROAD COMMISSION
HOUSTON, TEXAS

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE



THE STATE OF TEXAS)
COUNTY OF CHAMBERS)

I, O. B. LIMERICK, Registered Public Surveyor, do hereby certify that this Plat truly shows a Well location, made by me on the ground and according to law, on July 21, 1959, for NEVILLE G. PENROSE, INC. NO. 1, MARIE NOAMI SIMON DeBELLEVUE, ET AL., in the TEXAS AND NEW ORLEANS RAILROAD COMPANY SECTION NO. 37, Abstract No. 268, in Chambers County, Texas.

WITNESS my hand and official Seal, at office in Anahuac, Texas, this the [illegible] July, A.D. 1959.

O. B. Limerick
REGISTERED PUBLIC SURVEYOR, NO. 922
ANAHUAC, TEXAS.

RECEIVED
JUL 27 1959
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

RECEIVED
JUL 23 1959
OIL & GAS DIVISION
TEXAS RAILROAD COMMISSION
HOUSTON, TEXAS

HALL, LIMERICK & McCULLEY
LICENSED STATE LAND SURVEYOR
REGISTERED PUBLIC SURVEYORS &
REGISTERED PROFESSIONAL ENGINEER
ANAHUAC, TEXAS

29530.

Please refer to File No.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 2A
Application To Plug and Well Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Company Neville G. Penrose, Inc. Address 1813 Fair Bldg., Fort Worth 2, Tex

Sec. No. 37 ~~Block No.~~ Abst. 268 Survey T & N O R R County Chambers

Well No. 1 Name of Lease Mrs. Marie DeBellevue No. of Acres 640 Elev. 43 D. F.

Name of Field in which well is located Wildcat

Located 10 Miles N. W. Direction from Winnie, Texas (Nearest P. O. or Town)

Form 1, "Notice of Intention to Drill," was filed in name of Neville G. Penrose, Inc.

Drilling Commenced August 4, 1959. Drilling Completed August 23, 1959

Has this well ever produced Oil? No or Gas? No

Character of Well (Oil, Gas or Dry) Dry Total Depth 9347

Date you wish to Plug August 23, 1959.

Name of Party Plugging Well Dowell Inc. Address Beaumont, Texas

Correspondence regarding this well should be sent to: Name John P. McNaughton

Address c/o Neville G. Penrose, Inc., 1813 Fair Bldg., Fort Worth 2, Texas

Initial Production of Gas: Volume (MCF) 0 24 hrs. Pressure 0 lbs. per square inch

Initial Production of Oil: Barrels 0

Give notice before Plugging to all available Lease Owners, as required by Rule (10).

When Plugging complete, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information that can be obtained to as total depth, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks:

RECEIVED
AUG 31 1959
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

(15)

DR

LEASE: De Bellevue
WELL NO.: 1
LOCATION: 1980' from East Lines & 660' from North Lines of Sec. 37, T&NO Survey, Chambers County, Texas
DRILLED FOR: Neville G. Penrose, Inc. Fort Worth, Texas
DRILLED BY: Goldrus Drilling Company, Inc. Houston, Texas

DATE SPUDDED: August 4, 1959
DATE COMPLETED: August 23, 1959
TOTAL DEPTH: 9,347 Feet

CASING RECORD: 1,238' - 9-5/8" Surface - 32.30# H40 Smls - 265 Sax Poamix- 4% gel- 100 Sax Common Cement

PLUGGING RECORD: 50 Sax Cement 7,459' to 7,559'
50 Sax Cement 1,186' to 1,286'
10) Plug in top

DRILLERS' LOG:

0'	to 428'	Sand & Gumbo
428	1,260	Shale and Sand
1,260	1,827	Shale and Sand
1,827	2,670	Shale and Shell
2,670	3,043	Shale and Sand
3,043	3,520	Shale and Gumbo
3,520	4,067	Shale
4,067	4,346	Shale and San
4,346	4,747	Sand
4,747	5,152	Shale
5,152	5,488	Shale and Sand
5,488	5,828	Sand and Shale
5,828	5,972	Shale
5,972	6,447	Shale and Sand
6,447	7,707	Shale
7,707	7,986	Shale and Sand
7,986	8,285	Shale
8,285	8,387	Shale and Sand
8,387	8,694	Shale
8,694	8,752	Shale and Sand
8,752	9,132	Shale
9,132	9,218	Shale and Sand
9,218	9,288	Shale
9,288	9,313	Shale and Sand
9,313	9,320	Cored
9,320	9,335	Shale
9,335	9,340	Cored - Shale
9,340	9,347	Shale

I certify that the preceding is a true and accurate record of the Drillers' Log as shown by drilling reports on the above named well.

GOLDRUS DRILLING COMPANY

BY Geo. D. Platt
Geo. D. Platt
Vice-President

Subscribed and sworn to before me this 25th day of August, 1959.

JEAN KARDEL
Notary Public in and for Harris County Texas
My Commission Expires June 1, 1961

Jean Kardel
Notary Public, Harris County, Texas

RECEIVED
AUG 31 1959
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

25130

Please Refer to
File No. _____

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 4
Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company Neville G. Penrose, Inc. Address 1813 Fair Bldg., Fort Worth 2, Te:
Sec. No. 37 Block Abst. 268 Survey T & N O RR County Chambers
Well No. 1 Name of Lease Mrs. Marie DeBellevue No. of Acres 640
Name of Field in which well is located Wildcat Date well was plugged Aug. 23, 1959
Form 1 (*Notice of Intention to Drill*) Was Filed in Name of Neville G. Penrose, Inc.
Character of Well at the time of completion: Oil 0 (Initial Production) bbls; Gas 0 (Initial Production) Cu. Ft.; Dry Dry
Amount well producing when plugged: Oil 0 bbls; Gas 0 Cu. Ft.; Water 0 bbls.
Has this well ever produced oil or gas? No
Total Depth 9347 feet. Top of each producing sand None feet.
Was the well filled with mud-laden fluid according to regulations of the Railroad Commission? Yes
How was mud applied? Pumped in
Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depth placed. Also amount of cement and rock. Was well shot? No
50 sks cement 7459' to 7552', 50 sks cement 1186' to 1286' in 9-5/8", 10' cement plug in top 9-5/8" csg.

SIZE PIPE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOES
	Ft.	In.	Ft.	In.	Ft.	In.	
9-5/8"	1238	0	0	0	1238	0	set with 365 sks ceme:

Show depth found and thickness of all water, oil and gas formations None
Have all abandoned wells on this lease been plugged according to Commissions rules? No other wells
Manner of confining all oil, gas or water to strata: _____
The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:
Neville G. Penrose, Inc. owns all offset leases.
L. C. Devillier and Walter Simon surface & principal royalty owners of offset leases were notified. Both live on rural route out of Winnie, Texas
Was notice given before plugging to all available adjacent lease owners as required by Rule 10? Yes

I, L. G. Welsh, being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth and that the same are true and correct.

Name L. G. Welsh, Title Geologist

Subscribed and sworn to before me this 27th day of August, 1959

Notary Public Harris County, Texas

RECEIVED
AUG 31 1959

Correspondence regarding this well should be addressed to: _____

SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS

Induction - Electrical Log

COUNTY CHAMBERS
FIELD or LOCATION WILDCAT
WELL MRS. MARIE DE BELLEVUE #1
COMPANY NEVILLE G. PENROSE INCORPORATED

COMPANY NEVILLE G. PENROSE INC.
WELL MRS. MARIE DE BELLEVUE #1
FIELD WILDCAT
LOCATION
COUNTY CHAMBERS
STATE TEXAS

Other Surveys
ST

Location of Well
10 mi NW/Winnie
640-ac lse, T&NO
RR Co Sur #37,
A-268, 1980' FEL
& 660' FNL Sur;

Elevation: D.F.
K.B.
or G.L.

FILING No. SG 71

FOLD HERE

RUN No.	ONE	TWO	THREE	FOUR	FIVE
Date	8-22-59				
First Reading	9343				
Last Reading	1239				
Feet Measured	8104				
Csg. Schlum.	1239				
Csg. Driller	1239				
Depth Reached	9349				
Bottom Driller	9347				
Depth Datum	KB 16.50'	ABV. B.H.			
Mud Nat.	PHOS.				
Dens. Visc.	13.2 54				
Mud Resist.	0.78@102 °F	@ °F	@ °F	@ °F	@ °F
" Res. BHT	0.45@176 °F	@ °F	@ °F	@ °F	@ °F
Rmf	.55@ 82 °F	@ °F	@ °F	@ °F	@ °F
Rmc	.88@ 82 °F	@ °F	@ °F	@ °F	@ °F
" pH	9.0@ °F	@ °F	@ °F	@ °F	@ °F
" Wtr. Loss	7.6 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Bit Size	8 3/4"				
Spcgs—AM	16"	16"	16"	16"	16"
MD.	40"	40"	40"	40"	40"
[illegible]	[illegible]				
[illegible]	[illegible]				
[illegible]	[illegible]				
[illegible]	[illegible]				
[illegible]	[illegible]				
[illegible]	[illegible]	KRAUSE			

ARTIFICIAL PENETRATION NO. 5

OPERATOR: ANADARKO PRODUCTION COMPANY
WELL NAME: S.C. SIMON NO. 1

API NO: 42-071-31389

Geostock Sandia

THIS APPLICATION MUST BE FILED IN DUPLICATE IN THE APPROPRIATE DISTRICT OFFICE.

175949

FORM W-1
1/1/81

API Well No. 42 Instruction (7a & b) on back side. 071-31389

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

☐ Directional Well ☐ Sidetrack ☐ Amended Permit (Explain in Remarks)

RRC Permit Number, if previously assigned.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER

Check one: [X] DRILL ☐ DEEPEN (Below Casing) ☐ DEEPEN (Within Casing) ☐ PLUG BACK ☐ RE-ENTER

7. RRC District: 3

8. County: Chambers

1. Operator: Anadarko Production Company 020582

9. Well Number: 1

2. Address (Including City and Zip Code): 16801 Greenspoint Park Dr. Houston, Texas 77060 997983

4a. Lease Name (32 Spaces Maximum): S. E. Simon

4b. RRC Lease or ID No. (if assigned)

5. Location (Sec., Blk., Survey): T & N.O.R.R. Sur., Sec. 31, A-265

10. Number of Contiguous Acres in Lease or Unitized Tract: 640

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed? YES [X] NO ☐ (Instruction (2) on back side.)

6. This well is to be located 5 miles NW Direction from Winnie, Tx. Nearest Post Office or Town.

11. Distance from Proposed Location to Nearest Lease or Unit Line (ft.): 601'

12. Total Depth: 10,500'

EACH PROPOSED COMPLETION

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R. R. C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below. One zone per line. List all zones for which a permit is sought.	14. Completion Depth	15. All Prior Rule 37 Exc. Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. (acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same res. on same lease? Yes or No. If yes explain in remarks.	20. Distance and Direction from proposed location to nearest drilling completed or applied for well in same res. on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Exc. Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of completed, permitted or applied for, locations on this lease in same reservoir for which this permit is sought? OIL	GAS
Wildcat	10500	None	467-1200	40 AC.	640	No	----	Regular 1 [X] Rule 37 2 ☐	Oil	0	0
00006 001								Regular 1 ☐ Rule 37 2 ☐	Gas		
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED LEASE LINES:
A. Lease Lines: 601 FWL & 1920 FNL 1914.92 FNL
B. Survey Lines: 601 FWL & 1920 FNL 1914.92 FNL

25. (a) Is this wellbore subject to SWR 36? Yes ☐ No [X]
(b) If subject to SWR 36, has Form H-9 been filed? If no, attach explanation.) ☐ ☐

26. Do you anticipate future use of this wellbore to complete in any penetrated zone not listed in Column 13, for which a Rule 37 or Rule 38 exception is presently required? If Yes, attach a list of such zones and see Instruction #8. Yes ☐ No [X]

27. Is this a pooled unit? YES ☐ (Attach P-12, certified plat, & list of pooled zones) NO [X]

28. Subdivided Acreage YES ☐ (Attach W-1A) NO [X]

NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

REMARKS:

RRC DIST. 3
OCT 11 1982
O. G.
HOUSTON, TEXAS

Allen W. Zamorsky -Allen W. Zamorsky
Signature

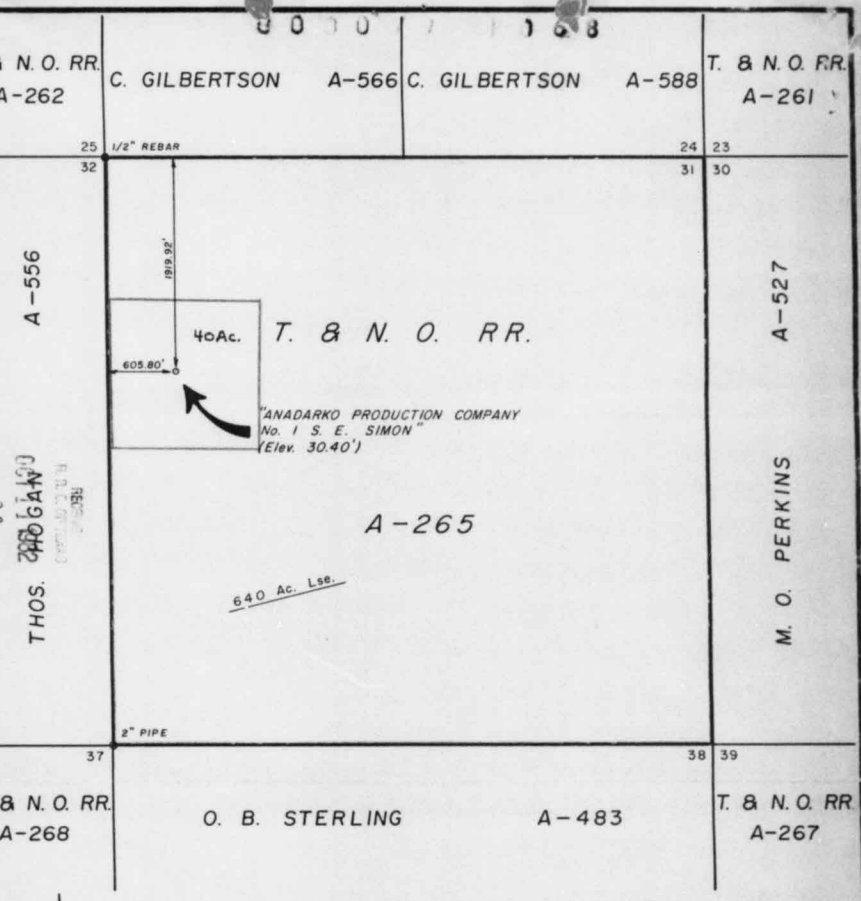
Regulatory Affairs Coordinator
Title

October 8, 1982
Date

Telephone: Area Code 713 999-0858

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071-31389



SCALE 1"=1000'

STATE OF TEXAS X

COUNTY OF CHAMBERS X

I, D. D. SHINE, REGISTERED PUBLIC SURVEYOR No. 502, DO HEREBY CERTIFY THAT THIS PLAT CORRECTLY SHOWS THE LOCATION OF WELL *"ANADARKO PRODUCTION COMPANY No. 1 S. E. SIMON"* ON THE T. & N. O. RR. SURVEY, SECTION 31, ABSTRACT 265, CHAMBERS COUNTY, TEXAS, AS STAKED ON THE GROUND BY ME ON OCTOBER 4, 1982.

STATE OF TEXAS
D. D. SHINE
502
REGISTERED PUBLIC SURVEYOR

D. D. SHINE
REGISTERED PUBLIC SURVEYOR No. 502

Plugging Record

0069 1069

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

052-1306 (W-3)(R.10/78)

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

API NO. (If available) 4207131389

1. RRC District: 3

2. FIELD NAME (as per RRC Records): Wildcat

3. Lease Name: S. C. Simon

4. RRC Lease or Id. Number:

5. Well Number: #1

6. OPERATOR: Anadarko Production Company

6a. Original Form W-1 Filed in Name of: Anadarko Production Co.

6b. Any Subsequent W-1's Filed in Name of:

10. County: Chambers

7. ADDRESS: 16801 Greenspoint Park Dr. Houston, TX 77060

11. Date Drilling Completed: 10-29-82

8. Location of Well, Relative to Nearest Lease Boundaries of Lease on which this Well is Located: 601 Feet From West Line and 1920 Feet From North Line of the S.E. Simon Lease

12. Permit Number: 175949

9a. SECTION, BLOCK, AND SURVEY: T. & N.O.R.R. Survey, Sec. 31, A-265

9b. Distance and Direction From Nearest Town in this County: 5 miles NW from Winnie, Texas

13. Date Drilling Commenced: 12-30-82

14. Type Well (Oil, Gas, Dry): Dry

Total Depth: 9119

17. If Multiple Completion List All Field Names and Oil Lease or Gas ID No.'s: N/A

OIL LEASE # / GAS ID or Oil-O Gas-G / WELL #

14. Date Drilling Completed: 1-18-83

12. If Gas, Amt. of Cond. on Hand at time of Plugging:

15. Date Well Plugged: 1-19-83

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7	PLUG #8
*19. Cementing Date	1-16	1-16	1-16-83	SEE ATTACHED				
20. Size of Hole or Pipe in which Plug Placed (inches)	8-3/4"	8-3/4"		W-15				
21. Depth to Bottom of Tubing or Drill Pipe (ft.)	9119	9119	2900					
*22. Sacks of Cement Used (each plug)	100	100	75					
*23. Slurry Volume Pumped (cu. ft.)	118	118	88.5					
*24. Calculated Top of Plug (ft.)		8942	2671					
25. Measured Top of Plug (if tagged) (ft.)		8942						
*26. Slurry Wt. #/Gal.	15.6	15.6	15.6					
*27. Type Cement	H + .3% WR-15	← Same	H + .25% WR-15					

28. CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT. #/FT.	PUT IN WELL (ft.)	LEFT IN WELL (ft.)	HOLE SIZE (in.)
16-1/2"	Wall	103	93	Driven
9-5/8"	36	2340	2330	12-1/4"

29. Was any Non-Drillable Material (Other than Casing) Left in This Well? [X] Yes [ ] No

29a. If answer to above is "Yes" state depth to top of "junk" left in hole and briefly describe non-drillable material. (Use Reverse Side of Form if more space is needed.)

Stuck drill pipe in hole at 9119. Cemented from 8942-9119 and 2671-2900. Top of junk at 2901.

30. LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS

FROM	TO	FROM	TO
FROM	TO	FROM	TO
FROM	TO	FROM	TO
FROM	TO	FROM	TO
FROM	TO	FROM	TO

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.

* Designates items to be completed by Cementing Company. Items not so designated shall be completed by Operator.

RECEIVED R.R.C. of TEXAS MAR 24 1983

Scott Fatzinger
Signature of Cementer or Authorized Representative

The Western Company HOUSTON, TEXAS
Name of Cementing Company

CERTIFICATE:

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Allen W. Zamorsky
REPRESENTATIVE OF COMPANY
ALLEN W. ZAMORSKY

Reg. Affairs Coord. 3-23-83
TITLE DATE

Phone 713 999-0858
A/C NUMBER

SIGNATURE: REPRESENTATIVE OF RAILROAD COMMISSION

RECEIVED R.R.C. of TEXAS OCT 06 1983 HOUSTON

RECEIVED R.R.C. of TEXAS MAY 06 1983

OK 313809

32. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission? X Yes ☐ No

32. How was Mud Applied? Circulated

33. Mud Weight 9.5 LBS/GAL

34. Total Depth 9119

Depth of Deepest Fresh Water 650

Other Fresh Water Zones by T.D.W.R. TOP / BOTTOM

35. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? X Yes ☐ No

36. If NO, Explain

37. Name and Address of Cementing or Service company who mixed and pumped cement plugs in this well: The Western Company, P. O. Box 841, Liberty, Tx. 77575

Date RRC District Office notified of plugging: 1-17-83

38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases: Richard Devillier Rt. 1 Box 443 Winnie, Texas 77665

39. Was Notice Given Before Plugging to Each of the Above? Yes

FILL IN BELOW FOR DRY HOLES ONLY

40. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

☒ Log Attached ☐ Log released to _____ Date _____

Type Logs: ☐ Driller's ☐ Electric ☐ Radioactivity ☐ Acoustical/Sonic

41. Date FORM P-8 (Special Clearance) Filed? N/A

42. Amount of Oil produced prior to Plugging N/A bbls*

* File FORM P-1 (Oil Production Report) for month this oil was produced

RRC USE ONLY

Nearest Field _____

REMARKS _____

052-4070

0 0 0 0 9 1 0 7 0

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W - 15
(Rev. 5-1-80)

CEMENTING REPORT

*1. Field Name (as per RRC Records or Wildcat) Wildcat

*2. RRC District 3

*3. Operator Anadarko Production Company

*4. County Chambers

*5. Lease Name(s) and RRC Lease Number(s) or I. D. Number(s) S. C. Simon

*6. Well Number #1

*7. Location (Section, Block, and Survey) T. & N.O.R.R. Survey, Section 31, A-265

CASING CEMENTING DATA:	SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING Single String	PRODUCTION CASING Multiple Parallel Strings	MULTI-STAGE CEMENTING PROCESS Tool	MULTI-STAGE CEMENTING PROCESS Shoe
8. Cementing Date						
*9. (a) Size of Drill Bit (inches)						
(b) Estimated % Wash or Hole Enlargement Used in Calculations.						
*10. Size of Casing (inches O.D.)						
*11. Top of Liner (if liner used) (ft.)						
*12. Setting Depth of Casing (ft.)						
13. Type API Class Cement & Amount of Additives Used: (a) In First (Lead) or Only Slurry (If additional space is needed, use "RCH 20 Ks" on reverse side.)						
(b) In Second Slurry						
(c) In Third Slurry						
14. Sacks of Cement Used: (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Sacks of Cement Used						
15. Slurry Volume per Sack of Cement (cu.ft./sack): (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
16. Volume of Slurry Pumped: (cu. ft.) (Item 14 x Item 15) (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Slurry Volume Pumped (cu.ft.)						
17. Calculated Annular Height of Cement Slurry behind Pipe (ft.)						
18. Was cement circulated to ground surface (or bottom of cellar) outside casing? (Yes or No)						

CEMENTING TO PLUG AND ABANDON DATA:	PLUG NO. 1	PLUG NO. 2	PLUG NO. 3	PLUG NO. 4	PLUG NO. 5	PLUG NO. 6
19. Cementing Date	1-19-83	1-19-83	1-19-83			
*20. Size of Hole or Pipe in which Plug Placed (inches)						
*21. Depth to Bottom of Tubing or Drill Pipe (ft.)	2390	719	15			
22. Sacks of Cement Used (each plug)	60	45	20			
23. Slurry Volume Pumped (cu. ft.)	70.8	53.1	23.6			
24. Calculated Top of Plug (ft.)	2227 ~~XXXXX~~ 2084	596	3			
*25. Measured Top of Plug (if tagged) (ft.)						

RECEIVED R R C of TEXAS MAR 24 1983 HOUSTON, TEXAS

RECEIVED R R C of TEXAS MAY 06 1983 HOUSTON, TEXAS

(CEMENTING COMPANY AND OPERATOR MUST COMPLY WITH THE INSTRUCTIONS ON REVERSE SIDE HEREOF.)

— OVER —

* Designates items to be completed by Operator. Items not so designated shall be completed by Cementing Company.

26. Remarks:

*27. Remarks:

CEMENTING COMPANY

I declare under penalties prescribed in Article 6035c, R. C. S., that I am authorized to make this certification, that the cementing of casing and/or the glairing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers cementing data only.

Guy H. Hall
Signature of Cementer or Authorized Representative

Guy H. Hall , Service Supervisor
Name of Person and Title (type or print)

The Western Company
Cementing Company

P. O. Box 841
Street Address or P.O. Box

Liberty , Texas 77575
City, State Zip Code

713 336-7218
Telephone Area Code

1-19-83
Date

*OPERATOR

I declare under penalties prescribed in Article 6035c, R. C. S., that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all well data and information presented herein.

Allen W. Zamorsky
Signature of Operator or Authorized Representative

ALLEN W. ZAMORSKY
Regulatory Affairs Coordinator
*Name of Person and Title (type or print)

Anadarko Production Company
*Operator

16801 Greenspoint Park Dr.
*Street Address or P.O. Box

Houston, Texas 77060
*City, State Zip Code

*Telephone 713 999-0858
Area Code

March 23, 1983
*Date

INSTRUCTIONS

1. A. This form shall be filed by the operator in the RRC District Office with:
   (1) Each copy of an initial Form G-1 or W-2 if a cementing report is required by Statewide or Special Rules, or if exception is needed to cementing requirements in Statewide or Special Rules, unless the Form G-1 or W-2 is signed by the cementing company representative.
   (2) Each copy of Form W-3, unless the Form W-3 is signed by the cementing company representative.
   (3) Each copy of Form W-4 if a multiple parallel casing completion.

   B. At least an original and one copy of this form shall be filed for each cementing company used on a well.

   C. The cementing of different casing strings on a well by one cementing company may be consolidated on one form (to be filed in duplicate).

2. Cementing Company and Operator shall comply with the applicable portions of Statewide Rules 8, 13, and 14. For offshore operations, Cementing Company and Operator shall comply with Statewide Rule 13(E).

3. If setting FULL AMOUNT OF SURFACE CASING:

   A. Depth to protect fresh water by:
      (1) Field Rule
      (2) Texas Water Development Board, if no Field Rule

   B. Set surface casing below depth to be protected and cement from casing shoe to ground surface.

4. IF SETTING ANYTHING OTHER THAN THE FULL AMOUNT OF SURFACE CASING, PERMISSION SHALL BE OBTAINED FROM THE RAILROAD COMMISSION.

5. If setting NO SURFACE CASING. (See Item 4 above):

   A. If no multi-stage tool is used, the next deeper casing string shall be cemented from the casing shoe to the surface.

   B. If using the multi-stage tool on the next deeper string, cement from the depth that protects fresh water sands to the surface.

6. If setting SHORT SURFACE CASING. (See Item 4 above.):

   A. Cement short surface casing from the shoe to the surface.

   B. Whether the multi-stage tool is or is not used on the next deeper casing string, cement from the depth that protects fresh water sands to:
      (1) the surface, or
      (2) a point midway between shoe of surface string and the surface. Compliance will be considered if a temperature survey shows that the top of the cement is at least one-third of the distance from the shoe of the surface string to the surface.

7. Setting PRODUCTION STRING of Casing. (Statewide Rules. Special Rules may vary.):

   A. Cement to a point at least 600 feet above the casing shoe.

   B. When 3,000 feet or more of pipe is set for the production or protecting string, a minimum of 30 feet of cement shall be left inside the pipe.

8. PLUGGING AND ABANDONING:

   A. Cement plugs shall be placed in the well bore as required by Rules and Regulations of the Commission plus any additional plugs as may be specified by the RRC District Director.

   The minimum amount of cement normally used to set a plug shall be a sufficient volume equal to the amount necessary to fill the calculated volume of 100 feet of the hole in which the plug is placed.

   B. A 10-foot cement plug is required to be placed on the top of the well.

117254

Schlumberger

THERMAL NEUTRON DECAY TIME LOG

CSU Fields Copy

MPANY: ANADARKO PRODUCTION COMPANY

LL: S. C. SIMON #1

ELD: WILDCAT
JNTY: CHAMBERS
ATE: TEXAS
TION: USA
CATION:

SEC: TWP: RGE:

RECEIVED
R.R.C. of TEXAS
MAR 24 1983
HOUSTON, TEXAS

OTHER SERVICES-

RMANENT DATUM: GROUND LEVEL ELEVATIONS-
EV. OF PERM. DATUM: 30.4 ' KB: 44.1 '
G MEASURED FROM: KB DF: 43.1 '
13.7 ' ABOVE PERM. DATUM GL: 30.4 '
LG. MEASURED FROM: KB

PROGRAM
TAPE NO:
22.2
SERVICE
ORDER NO:
200465

TE: 13 JAN 83
N NO:

PTH-DRILLER: 9089.0 '
PTH-LOGGER: 9061.0 '
M. LOG INTERVAL: 9054.0 '
P LOG INTERVAL: 2300.0 '

R.R.C.

SING-DRILLER: 2340 ' 9089 '
SING-LOGGER:
SING: 9 5/8 4 1/2
WEIGHT: 36.00 LB/F 16.60 LB/F
T SIZE: 8 3/4

TYPE FLUID IN HOLE: LIGNO-SULFONATE
DENSITY: 13.7 LB/G
VISCOSITY:
PH:
FLUID LOSS:
SOURCE OF SAMPLE:
RM: AT
RMF: AT
RMC: AT
SOURCE RMF/RMC: /
RM AT BHT: AT
RMF AT BHT: AT
RMC AT BHT: AT

TIME CIRC. STOPPED:
TIME LOGGER ON BTM.:

MAX. REC. TEMP:

LOGGING UNIT NO: 5907
LOGGING UNIT LOC: LIBERTY
RECORDED BY: ANDERSON
WITNESSED BY: MR. CHRISTIAN

SOUTHERN STATES
LOG LIBRARY

ARTIFICIAL PENETRATION NO. 6

OPERATOR: PETROLEUM DEVELOPMENT ASSOCIATION
WELL NAME: T. SIMON NO. 1

API NO: 42-071-01967

Geostock Sandia

43185 05

Application to Drill, Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1
Rev. 4/60

STATE WHETHER THIS IS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK DRILL

SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED
DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE,
ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION.
(Black Ink or Black Typewriter Ribbon Preferable)

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet, if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 660 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease --- feet.

IS THE ACREAGE ON WHICH THIS WELL IS TO BE LOCATED, PRESENTLY ASSIGNED TO ANOTHER WELL IN ANY RESERVOIR FOR WHICH THIS PERMIT IS REQUESTED? No.

Date January 23, 19 62

Name of company or operator

Name Van Norman Oil Company

Address 1625 Bank of Southwest Building

City Houston 2, Texas

Description of farm or lease:

Name of Lease T. Simon

Number of Acres 640 Well No. 1

Number of wells on lease None

Elevation --- (Ft. above sea level) Section No. 31 Block No. ---

Survey T. & N. O. Ry. Co.

Zone or Reservoir Basal Frio

To be Located in Wildcat Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 660' fr N/L & 1980' fr E/L lse & survey. Chambers County

5 Miles NW direction from Winnie nearest post office or town.

Rotary or Cable Tools Rotary

Date work will start drilling When permit issued.

Depth to which you propose to drill 9,800 feet.

Date work will start deepening ---

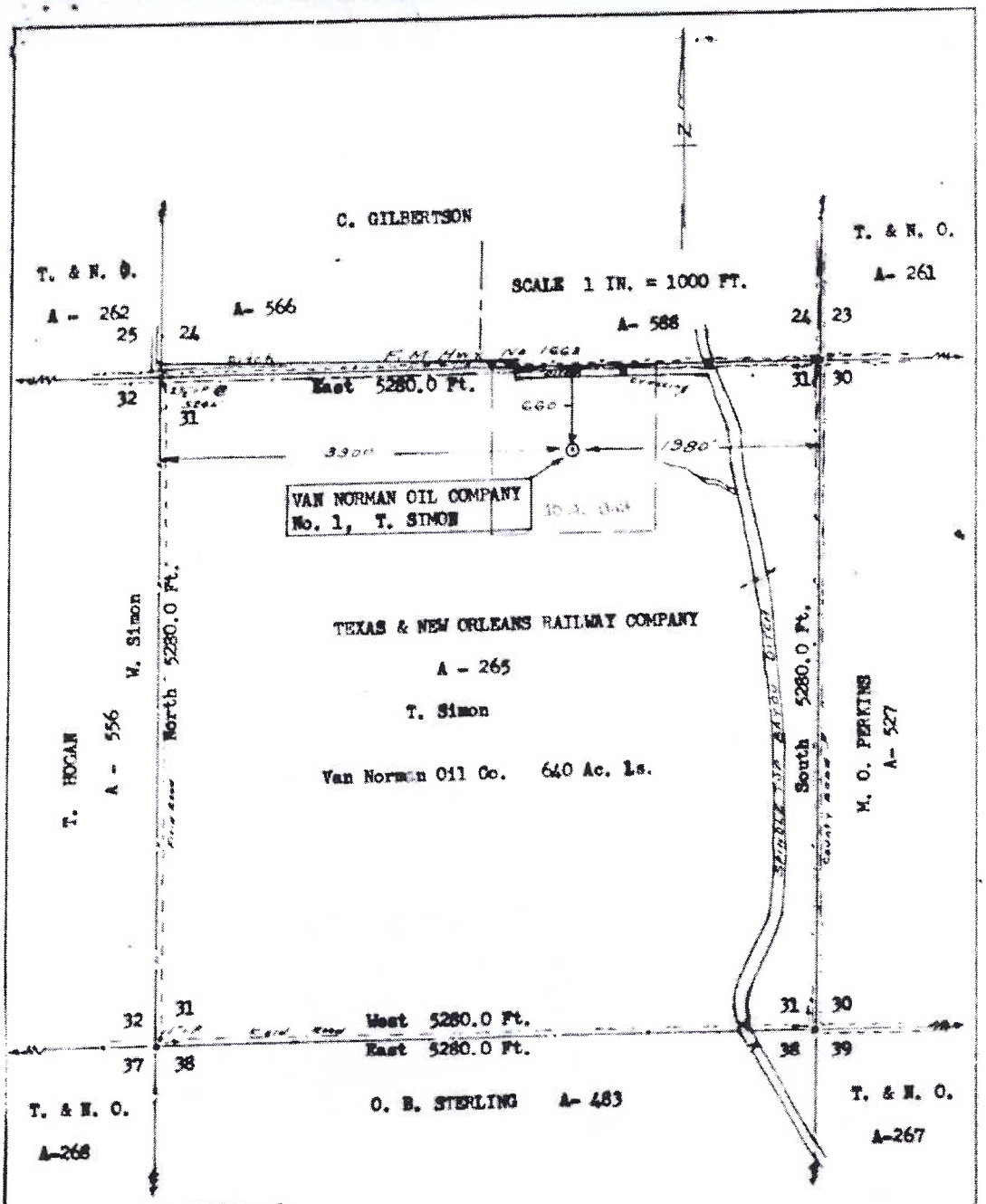
IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name ---

Address ---

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE



THE STATE OF TEXAS)
COUNTY OF CHAMBERS)

I, D. B. LIMERICK, Registered Public Surveyor, do hereby certify that this Plat shows a Well Location made by me on the ground and according to law on January 17th., 1962, for VAN NORMAN OIL COMPANY No. 1, T. SIMON, situated in the TEXAS & NEW ORLEANS RAILWAY COMPANY SURVEY, SECTION NO. 31, Abstract No. 265, Chambers County, Texas.

WITNESS my hand and official Seal, in Anahuac, Texas, this the 19th., day of January, A. D. 1962.

D B Limerick
REGISTERED PUBLIC SURVEYOR, NO. 922
ANAHUAC, TEXAS

RECEIVED
JAN 2 1962

JAN 3 1962
922

21661

Please Refer to File No.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 2A
Application
To Plug and
Well Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Company Van Norman Oil Compar'' Address 1625 Bank of Southwest Building

Sec. No. 31 Block No. A-265 Survey T&NO Ry Co County Chambers

Well No. 1 Name of Lease T. Simon No. of Acres 640 Elev. -

Name of Field in which well is located Wildcat

Located 5 Miles NW Direction from Winnie (Nearest P. O. or Town)

Form 1, "Notice of Intention to Drill," was filed in name of Van Norman Oil Company

Drilling Commenced February 15, 1962. Drilling Completed February 28, 1962

Has this well ever produced Oil? No or Gas? No

Character of Well (Oil, Gas or Dry) Dry Total Depth 9155'

Date you wish to Plug February 28, 1962.

Name of Party Plugging Well HOWCO Address Beaumont, Texas

Correspondence regarding this well should be sent to: Name Van Norman Oil Company

Address 1625 Bank of the Southwest Building, Houston 2, Texas

Initial Production of Gas: Volume (MCF) None 24 hrs. Pressure - lbs. per square inch

Initial Production of Oil: Barrels -

Give notice before Plugging to all available Lease Owners, as required by Rule (10). Yes

When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located. Yes

---

NOTE: If no log available, so state and give all information that can be obtained to as total depth, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks: Sufficient surface casing has been set and cemented to assure the protection of all fresh water sands.

RECEIVED
MAY - 5 1962
OIL & GAS DIVISION
HOUSTON, TEXAS

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

DR

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS
Clay	Zero	438	
Sand & Clay		1148	
Clay		1345	
Shale & Sand		3975	
Sand, Sand & Lime		4300	
Shale		4391	
Sand & Shale		6122	
Shale		7945	
Shale W/ Hd Sand Strks		8155	
Shale & Sand		8670	
Shale		9155	Total Depth

Method of shutting off water Mud, Cmt & Csg Is water completely shut off? Yes

Amount of water with oil - per cent

I, Frank A. Nice, Jr. being first duly sworn on oath state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Engineer
Representative of Company.

Subscribed and sworn to before me this 2nd day of March, 19 62

Blanche Barling
BLANCHE BARLING
Notary Public

Harris County, Texas.

3866

Please Refer to
File No. _____

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 4
Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company Van Norman Oil Company Address 1625 Bank of the Southwest Building

Sec. No. 31 Block No. A-265 Survey T&NO Ry Co County Chambers

Well No. 1 Name of Lease T. Simon No. of Acres 640

Name of Field in which well is located Wildcat Date well was plugged Feb. 28, 19 62

Form 1 (*Notice of Intention to Drill*) Was Filed in Name of Van Norman Oil Company

Character of Well at the time of completion: Oil — (Initial Production) bbls; Gas — (Initial Production) Cu. Ft.; Dry Dry

Amount well producing when plugged: Oil — bbls; Gas — Cu. Ft.; Water — bbls.

Has this well ever produced oil or gas? No

Total Depth 9155 feet. Top of each producing sand None feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission?

How was mud applied? Rig pumps

Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depth placed. Also amount of cement and rock. Was well shot? No

Set 125 sx cmt plug 1137-1387'; Set 10 sx cmt plug 0-20'; Welded steel plate on top 10-3/4' csg.

SIZE PIPE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOES
	Ft.	In.	Ft.	In.	Ft.	In.	
10-3/4"	1324				1324	GS & FC	Cmtd with 706 cu ft
						Poz plus	4% gel & 100 sx Portland
						plus 2%	Ca Cl

Show depth found and thickness of all water, ~~XXXXXXXX~~ formations 8375'-12'; 9115'-13'

Have all abandoned wells on this lease been plugged according to Commissions rules? Yes

Manner of confining all oil, gas or water to strata: Mud, Cement and casing

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:

Pan American Petroleum Corp	Bank of Commerce Bldg.	Houston 2, Texas
Wesley West	1926 West Gray	Houston 27, Texas
T. Simon		Winnie, Texas
C. Gilbertson		Winnie, Texas

Was notice given before plugging to all available adjacent lease owners as required by Rule 10? Yes

I, Frank A. Nice, Jr., being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth and that the same are true and correct.

Name Frank A. Nice, Jr. Title Engineer

Subscribed and sworn to before me this 2nd day of March, 19 62

Blanche Barling BLANCHE BARLING

Notary Public Harris County, Texas

RECEIVED
MAR - 5 1962

Correspondence regarding this well should be addressed to:

Name Van Norman Oil Company Address 1625 Bank of Southwest Building
Houston 2, Texas

4318505

45864

m

Application to Drill, Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1
Rev. 4/60

STATE WHETHER THIS IS AN APPLICATION TO ~~DRILL, DEEPEN OR PLUG BACK~~ Re-enter
SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED
DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE,
ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION.
(Black Ink or Black Typewriter Ribbon Preferable)

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, fo this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. . Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 660 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease - feet.

IS THE ACREAGE ON WHICH THIS WELL IS TO BE LOCATED, PRESENTLY ASSIGNED TO ANOTHER WELL IN ANY RESERVOIR FOR WHICH THIS PERMIT IS REQUESTED? No

Date March 16, 19 62

Name of company or operator

Name Petroleum Development Associates

Address 2121 Lexington

City Houston 27, Texas

Description of farm or lease:

Name of Lease T. Simon

Number of Acres 640 Well No. 1

Number of wells on lease None

Elevation - (Ft. above sea level) Section No. 31 Block No. -

Survey T & NO Ry Co A-265

Zone or Reservoir Basal Frio

To be Located in Wildcat Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 660' from N/L & 1980' fr E/L lse & Survey Chambers County

5 Miles NW direction from Winnie nearest post office or town.

Rotary or Cable Tools Rotary

Date work will start drilling -

Depth to which you propose to drill 9,500' feet.

Date work will start re-enter immediately

IF LEASE obtained WITH ONE OR MORE WELLS DRILLED, FROM WHOM obtained?

Name Van Norman Oil Co.

Address 1625 Bank of Southwest Bldg.
Houston 2, Texas

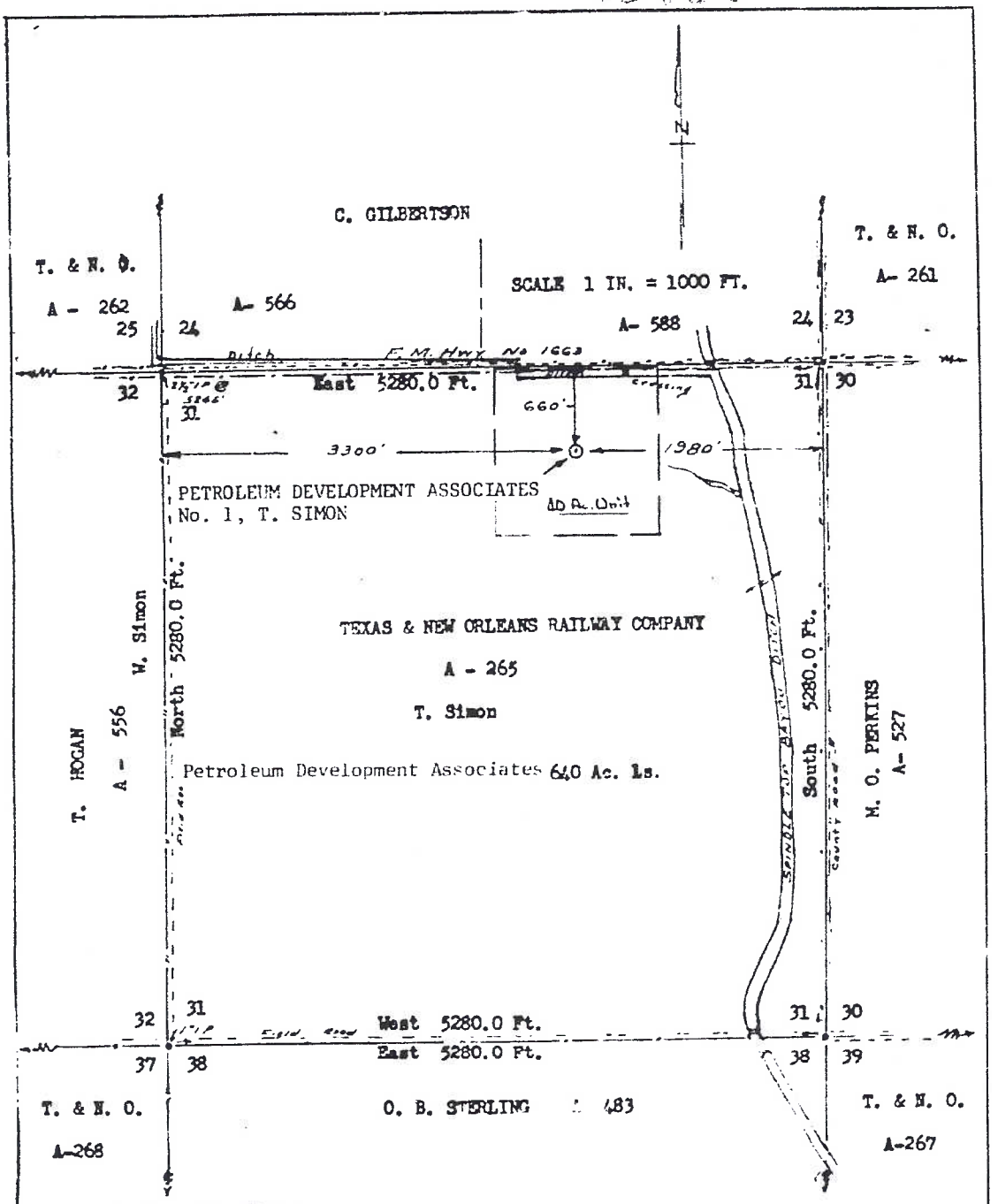
OK

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

in Double Gu Fld area

RECEIVED
MAR 20 1962
Railroad Commission of Texas
OIL



THE STATE OF TEXAS)
COUNTY OF CHAMBERS)

I, D. B. LIMERICK, Registered Public Surveyor, do hereby certify that this Plat shows a Well Location made by me on the ground and according to law on January 17th., 1962, for PETROLEUM DEVELOPMENT ASSOCIATES #1 T. SIMON, situated in the TEXAS & NEW ORLEANS RAILWAY COMPANY SURVEY, SECTION NO. 31, Abstract No. 265, Chambers County, Texas.

WITNESS my hand and official Seal, in Anahuac, Texas, this the 19th., day of January, A. D. 1962.

D B Limerick
REGISTERED PUBLIC SURVEYOR, NO. 922
ANAHUAC, TEXAS

NEIL FILE DOCUMENT
N00159254

SCHLUMBERGER

SONIC LOG

SCHLUMBERGER WELL SURVEYING CORPORATION
Houston, Texas

27100.1 50-60-20715 TB 5055

COUNTY CHAMBERS
FIELD or LOCATION WILDCAT
WELL T. SIMON #1
COMPANY VAN NORMAN OIL CO.

COMPANY VAN NORMAN OIL COMPANY
WELL T. SIMON #1
42-071-01967
FIELD WILDCAT
LOCATION well file
COUNTY CHAMBERS
STATE TEXAS

Other Surveys
IES

Location of Well
5 MI NW WINNIE, 640-AC LSE, T&NO RR SUR #6, A-265; 1980' FEL & 660' FNL LSE & SUR; 1 MI SE DOUBLE GUM FIELD

Elevation: K.B.:
* D.F.:
or G.L.:

Log Depths Measured From KB 16 Ft. above GROUND LEVEL.

RUN No.	ONE		
Date	2-28-62		
First Reading	9148 6800		
Last Reading	8000 6500		
Feet Measured	1148 300		
Csg. Schlum.	1323		
Csg. Driller	1324		
Depth Reached	9156		
Bottom Driller	9155		
Mud Nat.	10% OIL EMULSION		
Dens. | Visc.	12.0 | 80	|	|
Mud Resist.	1.22 @ 64 °F	@ °F	@ °F
" Res. BHT	.49 @ 166 °F	@ °F	@ °F
" pH	9.0 @ °F	@ °F	@ °F
" Wtr. Loss	3.5 CC 30 min	CC 30 min	CC 30 min
" Rmf	.64 @ 75 °F	@ °F	@ °F
Bit Size	9-7/8"		
Spacing:	3'		
T 3 R1 3 R2	FR To LR	To	To
T R1 R2	To	To	To
Opr. Rig Time	1½ HOURS		
Truck No.	2589 BMT.		
Recorded By	SNODGRASS		
Witness	MR. VAN NORMAN &	MR. NICE	

FOLD HERE

REMARKS VLC No.: VLS No.: 152

ARTIFICIAL PENETRATION NO. 7

OPERATOR: C.I. DECKER
WELL NAME: ANNIE H. JOHNSON NO. 1

API NO: 42-071-01966

Geostock Sandia

4318502

New Bo Sec 1648

FORM 1
RAILROAD COMMISSION OF TEXAS—OIL AND GAS DIVISION
Austin, Texas

IMPORTANT NOTICE: This is the first record the RAILROAD COMMISSION has of any well. It is made the basis of all subsequent correspondence. Hence it Must be correct.

NOTICE OF INTENTION TO DRILL OR DEEPEN
(USE FORM 2-A FOR NOTICE OF INTENTION TO PLUG)

(To comply with Rules of the Railroad Commission of Texas governing Oil and Gas Conservation in Texas.)

Read Carefully and Comply Fully

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown: that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin operation on any location before filing Form 1, and do not begin operations on any location not conforming to the spacing rules for such location until you receive written order from the Commission granting permission.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distances from the proposed location to those wells. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equalling 400 feet; if less than 2 acres use scale of one inch equalling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

* * * * *

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 330 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease _____ feet.

* * * * *

DRAW SKETCH ABOVE REFERRED TO ON REVERSE SIDE HEREOF OR ATTACH TO THIS NOTICE A BLUE PRINT SHOWING THIS INFORMATION.

This notice must be delivered to Deputy Supervisor of your district before drilling, or deepening. He will forward to the Railroad Commission, Austin, Texas.

Date Oct. 11, 1936

Name of company or operator

Name C. L. Decker C. L. Decker

Address Houston, Texas

Name of farm or lease:

Name Annie H. Johnson

Number of Acres 590 Well No. 1

Located in T&N RR Sec. #30 Field

Chambers County

18 Miles NE direction from

Anahuac nearest postoffice or town.

Section No. _____ Block No. _____

Survey _____

Rotary or Cable Tools Rotary

Date work will start drilling immediately

Depth to which you propose to drill 7500 feet.

Date work will start deepening _____

If Lease Purchased with one or more wells drilled From Whom Purchased?

Name _____

Address _____

RECEIVED OCT 13 OIL & GAS DIVISION HOUSTON

Deliver to Deputy Supervisor in charge of district in which well is located.

"Rule 37. Spacing Rule—(Applies to all fields in the State except where special field rules govern)—No well for oil or gas shall hereafter be drilled nearer than 300 feet to any other completed or drilling well on the same or adjoining tract or farm; and no well shall be drilled nearer than 150 feet to any property line, lease line, or sub-division line; provided that the Commission in order to prevent waste or to prevent the confiscation of property will grant exceptions to permit drilling within shorter distance than above prescribed whenever the Commission shall determine that such exceptions are necessary either to prevent waste or to prevent the confiscation of property. When an exception to such rule is desired, application therefor shall be filed with the Commission fully stating the facts, which application shall be accompanied by a plat drawn to the scale of one inch equalling 400 feet, accurately showing to scale the property on which permit is sought, to drill a well under an exception to this rule, and accurately showing to scale all other completed, drilling and permitted wells on said property; and accurately showing to scale all adjacent surrounding properties and wells. Such application shall be verified by some person acquainted with the facts, stating that all facts therein stated are within the knowledge of the affiant true, and that the accompanying plat is accurately drawn to scale and correctly reflects all pertinent and required data. Such exception shall be granted only after at least ten days notice to all adjacent losses affected thereby, and after public hearing at which the interested parties may appear and be heard, and after the Commission has determined that an exception to such rule is necessary either to prevent waste or to protect the property belonging to applicant from confiscation. All pending applications shall be amended to conform to this rule before being acted upon. Upon similar application and showing the Commission may grant exceptions to the application of this rule in fields where the production is obtained from a formation which is known to be segmented by piercement of intrusive salt plugs.

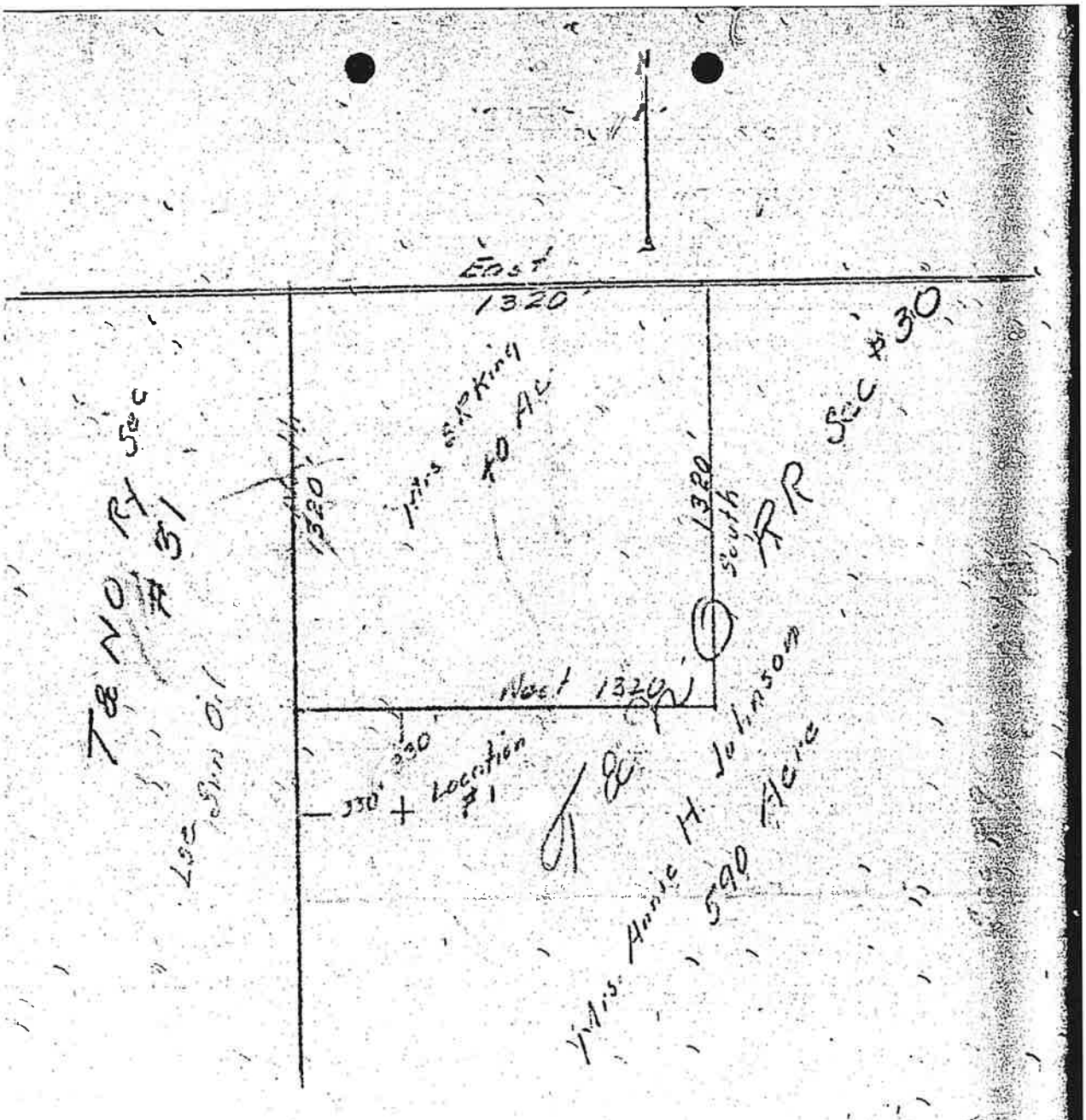
"In the interest of protecting life and property and for other just and reasonable causes the Commission reserves the right in particular fields to enter special orders increasing the minimum distances provided by this rule.

"No well drilled in violation of this rule without special permit obtained in the manner prescribed in said rule and no well drilled under such a special permit, which does not conform to the terms of such special permit, shall be allowed to produce either oil or gas and any such well so drilled in violation of said rule or in violation of a permit granted under an exception to such rule shall be plugged."

OCT 13 1936 OIL & GAS DIVISION

Form 1—O-962-1134-10m.

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.



STATE OF TEXAS
COUNTY OF CHAMBERS

I certify that the above dimensions are true and correct.

Licensed Land Surveyor

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION
APPLICATION TO PLUG
and
WELL RECORD

23-99

RECEIVED
AUSTIN
JAN - 6 1937
OIL & GAS DIVISION

FILE WITH DEPUTY OF DISTRICT IN WHICH WELL IS LOCATED, THREE FULL DAYS PRIOR TO PLUGGING
(IF FILED WITH COMMISSION FIVE FULL DAYS)

Name of Company or Operator G. L. DECKER ET AL Address San Jacinto National Bank Bldg

County CHAMBERS Survey T & N O Blk. Sec. 30

Name of Farm or Lease Annie H. Johnson No. of Acres 40 Well No. 1

Located 3 Miles NW Direction from Winnie (Nearest P. O. or Town)

Drilling Commenced December 16, 1936, 19__, Drilling Completed January 4, 1937, 19__

Character of Well (Oil, Gas or Dry) Dry Total Depth 7664 feet

Date you wish to Plug January 6, 1937, 19__.

Name of Party Plugging Well Jack W. Frazier Address 1518 Esperson Building

Correspondence regarding this well should be sent to: Name Jack W. Frazier, Drilling Contractor

Address 1518 Esperson Building, Houston, Texas

CASING RECORD

Put in Well		Pulled Out		Left in Well			Packer or Shoe
	Ft.	In.	Ft.	In.	Ft.	In.	
Size 1296 feet of	10 3/4"						

IF CASING WAS CEMENTED GIVE NUMBER OF SACKS USED ON DIFFERENT STRINGS

Initial Production of Gas: Volume _____ Pressure _____

Initial Production of Oil: Barrels _____

Give notice before Plugging to all available Lease Owners, as required by Subdivision (C) Rule (10). When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by Commission or Deputy Supervisors.

NOTE: If no log available, so state and give all information that can be obtained as to total depth, casing record, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks: _____

RECEIVED
AUSTIN
JAN - 11 1937
OIL & GAS DIVISION

FILL OUT FORMATION RECORD AND AFFIDAVIT ON REVERSE SIDE

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS
0-310 surface sand and clay			6510 tough limey shale
475 sandy shale and gravel			6616 hard shale & lime shells
540 gravel and bldrs.			6618 shale
707 shale and stky shale			6625 hard lime
780 stky shale			6646 shale
1176 shale & strks sand			6663 hard lime and shale
1296 sand and shale			6655 shale
1392 shale & sand			6795 hard shale & shells
1750 sand and shale			6815 lime and hard shale
1811 shale & shell			6915 shale
1860 stky shale & shell			7025 shale
1900 sdy shale & sand			7066 hard limey shale
2169 shale & shells			7082 cored-shale 100%
2200 shale & shells			7097 cored-shale-100%
2275 shale & sand			7113 cored-shale-100%
2410 stky shale			7125 cored-shale-100%
2470 stky shale & sehlls			7145 cored-shale-100%
2505 sand			7160 cored-shale-100%
2540 hard sdy shale & shells			7175 cored-shale & strks sdy shale
2640 shale & shells, hard sdy strks			7190 cored 7175-7180 shale
2680 gummy shale			7180-7182 firm green sand (7182)
2745 shale			7182-7188 shale & sand strks
2970 shale & sehlls			7188-7190 soft greenish grey sand
3000 shale & broken lime			gas odor-salty taste
3060 shale & hard lime strks			7201 sand w/strks shale-salty taste
3100 sdy shale			7203 shale
3204 shale, shells & hard strks			7205 sand, gas odor, salty taste
3367 stky shale & shells			7206 shale
3405 shale, lime & shells			7227 shale
3524 broken lime and shale			7245 strks sand and shale
3550 shale & shells			7289 shale w/sd strks
3575 sand			7375 shale
3660 shale & lime shells			7406 cored-shale
3700 shale			7420 cored-hard sand and sdy shale
3750 shale, stky & sdy strks			7435 cored-saltwater sand course green
4000 shale & shells			7450 cored-saltwater sand thin strks shale
4075 shale & shells			7460 sand w/strks of shale
4125 sand			7500 sdy shale
4288 shale & lime shells			7525 sand w/shale strks
4410 stky shale, tough limey strks			7550 sand & shale
4470 stky shale, tough limey strks			7664 broken shale & strks sand
4560 hard shale, hard lime strks			TOTAL DEPTH 7664' by driller's log
4745 shale & shells			Ran Schlumberger 1/4/37
4775 shale & shells			TD 7647 by Schlumberger
5233 shale & shells			
5341 shale & lime			
5475 shale & lime			
[illegible] hard shale & shells			
[illegible] shale			
[illegible] shale & shells			
[illegible] sand & shells			
[illegible] hard sdy shale & hard lime strks			
[illegible] strks [illegible] shale w/lime shells			
[illegible] shale			
[illegible] sand shale & sand			
[illegible] hard shale			
[illegible] shale & shells			
[illegible] hard limey strks			
[illegible] lime, strks [illegible]			

Method of shutting off water _____ is water completely shut off? _____

Amount of water with oil _____ per cent _____

I, C. F. Decker

being first duly sworn on oath state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Decker

Representative of Company.

Subscribed and sworn to before me this 5th day of January, 1937

Bernice Dawe

Notary Public.

[illegible] County

Please Refer to File No. 23299 FORM 4

RAILROAD COMMISSION OF TEXAS

RULE 10. Plugging Dry and Abandoned Wells.—(a) All abandoned or dry wells shall immediately be plugged according to the following rules:

(b) **Manner of Plugging.**—All dry or abandoned wells must be plugged by confining all oil, gas or water to the strata in which they occur by the use of mud-laden fluid filling well to top as directed by the Commission or by some other method approved by the Commission. In case of cable drilling, in addition to mud-laden fluid, cement and plugs may be used when so directed.

(c) **Notice of Intention to Plug.**—Before plugging dry and abandoned wells, notice shall be given to the Railroad Commission of Texas or its conservation agent in the field, and to all available adjoining lease and property owners, and representatives of such lease and property owners may, in addition to the oil and gas conservation agent of the Commission, be present to witness the plugging of these wells if they so desire, but plugging shall not be delayed because of inability to deliver notices to adjoining lease or property owners. (Rule 10 amended November 12, 1921.)

Rule 11. Log and Plugging Record to be Filed with Commission.—The owner or operator shall, upon the completion of any well, file with the Railroad Commission of Texas a complete record or log of the same, duly signed and sworn to, upon blanks to be furnished by the Commission upon application; and upon plugging any well for any cause whatsoever, a complete record of the plugging thereof shall be made out and duly verified on blanks to be furnished by the Commission.

PLUGGING RECORD

Company C. Ll Decker et al Address San Jacinto Nat'l Bank Bldg., Houston, Texas

Sec. No. 30 Blk. No. Survey T & N O County Chambers

Well No. 1 Name of Lease Annie H. Johnston No. of Acres 40

Date well was plugged January 5, 1937

Character of Well (Whether it was Oil or Gas or Dry) Dry

Total depth 7664 feet. Top of each producing sand none feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? Yes

How was mud applied? Pumped

Were plugs used? no If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock.

Was well shot? No

RECEIVED
HOUSTON
JAN - 9 1937
OIL & GAS DIVISION

Show depth found and thickness of all water, oil and gas formations 7185-7190 and 7190-7201 and 7203-7205 showed sand with gas odor but salty taste

The names of adjacent lease, Royalty and landowners with their addresses in each instance as follows:

RECEIVED
AUSTIN
JAN 11 1937
OIL & GAS DIVISION

[illegible] before plugging [illegible] all available adjacent lease owners as required by subdivision [illegible] of Rule 10

[illegible] being [illegible] sworn on oath [illegible] knowledge of the [illegible] and that the same are true and correct

Name Jack H. Frazier Title [illegible] Contractor
Representative of Company

Subscribed and sworn to before me this [illegible] day of January 1937

Bernice Dave

Correspondence regarding this well should be addressed to: Notary Public Harris County, Texas

Name Jack H. Frazier, 1818 Esperson Bldg., Houston, Texas Address

Form 117B—S3433-934-5m

SCHLUMBERGER ELECTRICAL LOGS

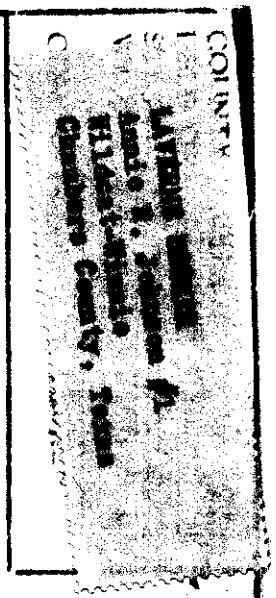
COMPANY : [illegible] WELL: ANNIE H. JOHNSON # 1

FIELD : [illegible] ANNIE SURVEY: T.& N.O. Sec 30

COUNTY : [illegible] FILING No.: 406

PROBLEM : [illegible] FORMATIONS AND CORRELATIONS

RESULTS : [illegible]



First Reading		: 7644	ft.	Started run	: 5.30	p.m.
Last Reading		: 1292	ft.	Finished run	: 5.30	a.m.
Footage Measured		: 6452	ft.	Time well occupied by outfit	: 5.30	hr
Casing Shoe Depth	DRILLER	: 1295	ft.	Time waiting at well	: 1.00	hrs
	SCHLUMBERGER	: 1292	ft.	Total time incurred by run	: 12.00	hrs
Bottom Depth	DRILLER	: 7663	ft.	Mileage incurred by run	: 35	Mi.

MUD CHARACTERISTICS

Nature: Natural Viscosity: [illegible] Schl.1 Diameters of hole from casing to 7375 : 9" 7/8
Density: [illegible] Resistivity: 5.70 from 7375 to bottom: 6 5/8

REMARKS

Maximum Temperature : 166 degrees.

ARTIFICIAL PENETRATION NO. 8

OPERATOR: KERR-MCGEE OIL & GAS
WELL NAME: J.T. TERRY NO. 1

API NO: 42-071-03313

Geostock Sandia

Wire Permit
29933

Application to Drill, Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1
Rev. 4/66

STATE WHETHER THIS IS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK Drill
SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED
DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE,
ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION.
(Block Ink or Block Typewriter Ribbon Preferable)

SPS

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations not down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, fo this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distance from the proposed location to these wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 1200' feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease None feet.

IS THE ACREAGE ON WHICH THIS WELL IS TO BE LOCATED PRESENTLY ASSIGNED TO ANOTHER WELL IN ANY RESERVOIR FOR WHICH THIS PERMIT IS REQUESTED? No

Date January 10, 19 66

Name of company or operator

Name Kerr-McGee Corporation

Address Kerr-McGee Building, Room 235

City Oklahoma City, Oklahoma 73102

Description of farm or lease:

Name of Lease J. T. Terry, et al

Number of Acres 600 Well No. 1

Number of wells on lease 0

Elevation 225 (Ft. above sea level) Section No. ____ Block No. 30

Survey M. O. Perkins, A-527

Zone or Reservoir Frio

To be Located in Wildcat Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 2150' FWL and 1200' FSL

Chambers County

4 Miles NW direction from

Winnie nearest post office or town

Rotary or Cable Tools Rotary

Date work will start drilling Upon approval

Depth to which you propose to drill 9,250 feet.

Date work will start deepening NA

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name NA

Address

JAN 1 1966

O. G.
AUSTIN, TEXAS

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

JAN 12 1966

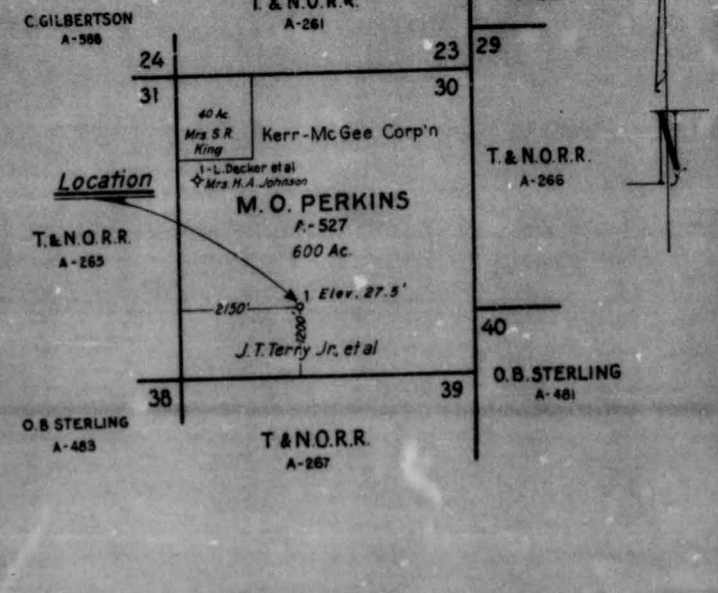
O.G.
AUSTIN, TEXAS

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

B

OIL

29933



LOCATION PLAT

KERR-McGEE CORP.
NO. 1 J.T. TERRY, JR., ET AL

M.O. Perkins Sur. Chambers Co. Texas
Scale: 1" = 2000' Jan. 10, 1965

RECEIVED R.R.C. OF TEXAS
JAN 12 1966
O.G.

R.R.C. OF TEXAS
JAN 1[illegible] 1966
O.G.
AUSTIN, TEXAS

I, Charles M. Ames Jr., a Registered Public Surveyor, do hereby certify that the Well Location as shown hereon is true and correct.

Charles M. Ames

REGISTERED PUBLIC SURVEYOR No. 590

Gaylord Stickle Co.
503 First City National Bank Bldg.
Houston, Texas
FA-3-8121

Please Refer to File No. 29933

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Company Kerr-McGee Corporation Address Kerr-McGee Building, Room 235 Oklahoma City, Oklahoma 73102

Sec. No. ____ Block No. 30 Survey M.O.Perkins A-527 County Chambers

Well No. 1 Name of Lease J. T. Terry, et al No. of Acres 600 Elev. 27.5

Name of Field in which well is located Wildcat (Frio)

Located 4 Miles NW Direction from Winnie (Nearest P. O. or Town)

Form 1. "Notice of Intention to Drill," was filed in name of Kerr-McGee Corporation

Drilling Commenced January 24, 1966. Drilling Completed February 12, 1966

Has this well ever produced Oil? No or Gas? No

Character of Well (Oil, Gas or Dry) Dry Total Depth 9292'

Date you wish to Plug February 14, 1966.

Name of Party Plugging Well Halliburton Address Beaumont

Correspondence regarding this well should be sent to: Name Kerr-McGee Corporation

Address Kerr-McGee Building, Oklahoma City, Oklahoma, Attention Production Department

Initial Production of Gas: Volume (MCF) 0 24 hrs. Pressure ____ lbs. per square inch

Initial Production of Oil: Barrels 0

Give notice before Plugging to all available Lease Owners, as required by Rule (10).

When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information [illegible] total depth, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

RECEIVED
FEB 11 1966
Railroad Commission of Texas
OIL & GAS DIVISION
AUSTIN, TEXAS

General Remarks: Confirming verbal request from our Mr. Maxwell to your Mr. Tyler about 11:45 A. M. February 14, 1966.

FILE GAS [illegible] AND AFFIDAVIT ON REVERSE SIDE

FEB 17 1966

[illegible]
HOUSTON, TEXAS

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS
Frio	7350		
Nottsaria	8462		
Hackberry	9056		

Method of shutting off water Casing and cement Is water completely shut off? Yes

Amount of water with oil _____ per cent

I, B. G. Taylor being first duly sworn on oath state that I have knowledge of the facts and matters herein set forth and that the same are true and correct.

B. G. Taylor
Representative of Company.

Subscribed and sworn to before me this 16th day of February, 19 66

Notary Public
County, Texas.

29933

29933

CERTIFIED DRILLER'S LOG

Kerr-McGee Oil Industries, Inc.
J. T. Terry Well No. 1
Chambers County, Texas

Drilling Commenced: 1-24-66
Drilling Completed: 2-14-66

Set cement plug, 250 sx @ 8792-9292', 100 sx 1423-1523'.

Set 48 Jts. 40.50 10-3/4" 1492' @ 1473. Cement 840 sx of common w/4% gel ¼# per sx flo-seal, 75 sx common w/2% ca cl.

DEPTH		FORMATION
0'	250'	Surface Clay & Sand
250	1325	Sand & Shale
1325	1515	Surface Sand & Shale
1515	4381	Shale & Sand
4381	4454	Shale
4454	5509	Shale & Sand
5509	7571	Shale
7571	7892	Shale & Sand
7892	9265	Shale
9265		TOTAL DEPTH

STATE OF TEXAS ()

COUNTY OF HARRIS ()

This is to certify that the foregoing Driller's Log is a true and correct record of the formations encountered on the Kerr-McGee Oil Industries, Inc., J. T. Terry Well No. 1, Chambers County, Texas.

Ben H. Schnapp
BEN H. SCHNAPP

SWORN TO AND SUBSCRIBED BEFORE ME, the undersigned authority, on this the 22nd day of February, 1966.

Mary Jo Bridgewater
Notary Public in and for Harris County, Texas

MARY JO BRIDGEWATER
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1967

RECEIVED
R.R.C. OF TEXAS
MAR 10 1966
HOUSTON, TEXAS
RECEIVED

Please Refer to File No.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

29933

Form 4
Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company Kerr-McGee Corporation Address Kerr-McGee Bldg., Room 235, Okla. City, Okla. 73102

Sec. No. ____ Block No. 30 Survey M.O.Perkins A-527 County Chambers

Well No. 1 Name of Lease J. T. Terry, et al No. of Acres 600

Name of Field in which well is located Wildcat (Frio) Date well was plugged February 14, 1966

Form 1 (*Notice of Intention to Drill*) was Filed in Name of Kerr-McGee Corporation

Character of Well at the time of completion: Oil NA (Initial Production) bbls; Gas NA (Initial Production) Cu. Ft.; Dry X

Amount well producing when plugged: Oil 0 bbls; Gas 0 Cu. Ft.; Water 0 bbls.

Has this well ever produced oil or gas? No

Total Depth 9292' feet. Top of each producing sand None feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? Yes

How was mud applied? Pump (Rotary Drilling Mud)

Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depth placed. Also amount of cement and rock. Was well shot? No

SIZE PIPE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOES
	Ft.	In.	Ft.	In.	Ft.	In.	
10-3/4"OD	1473'		3'		1470'		Cemented

Show depth found and thickness of all water, oil and gas formations

Have all abandoned wells on this lease been plugged according to Commissions rules? Yes

Manner of confining all oil, gas or water to strata: 250 sxs cement 9292'-8800', 100 sxs cment 1590-1390', 10 sxs surface. Hole filled with drilling mud cap on top.

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:

Mr. J. T. Terry Winnie, Texas
Mr. E. C. Devillier Winnie, Texas

Was notice given before plugging to all available adjacent lease owners as required by Rule 10? Yes

I, C. D. Williams, being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth [illegible] correct.

RECEIVED
Railroad Commission of Texas
OIL & GAS DIVISION
MAR 10 1966

Name C. D. Williams Title Chief Production Engineer

Subscribed and sworn to before me this 8th day of March, 1966

My Commission expires [illegible] 70 19[illegible] Beverly Holland Notary Public Oklahoma County, [illegible]

Correspondence regarding this well should be addressed to:

Name Kerr-McGee Corporation Address Kerr-McGee Bldg., Okla. City, Okla.
Production Department

SCHLUMBERGER INDUCTION ELECTRICAL LOG

SCHLUMBERGER WELL SURVEYING CORPORATION

Houston, Texas

COUNTY CHAMBERS
FIELD or LOCATION WILDCAT
WELL #1 J. T. TERRY, ET AL
COMPANY KERR-MC GEE

COMPANY KERR-MC GEE CORPORATION

WELL #1 J. T. TERRY, ET AL

FIELD WILDCAT

COUNTY CHAMBERS STATE TEXAS

LOCATION 4 MI NW WINNIE, 600-AC LSE
SEC 30, M.O. PERKINS SUR, A-527.

Sec ____ Twp. ____ Rge. ____

Other Services:
FT-SL/C-CST

Permanent Datum BHF Elev. ____
Log Measured From KB 17.0 Ft. Above Perm. Datum
Drilling Measured From KB-17.0'/BHF

Elev.: K.B. ____
D.F. ____
G.L. ____

Date	2-12-66			
Run No.	ONE			
Depth—Driller	9281			
Depth—Logger	9292			
Btm. Log Interval	9291			
Top Log Interval	1493			
Casing—Driller	10-3/4 @ 1473	@	@	@
Casing—Logger	1493			
Bit Size	9-7/8"			
Type Fluid in Hole	SPERSENE XP-20			
Dens. | Visc.	13.0 | 55			
pH | Fluid Loss	9.5 | 2 ml	ml	ml	ml
Source of Sample	MUD PIT			
R_m @ Meas. Temp.	1.06 @ 77 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.786 @ 69 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	1.4 @ 69 °F	@ °F	@ °F	@ °F
Source: R_{mf} | R_{mc}	FP | FP			
R_m @ BHT	.51 @ 173 °F	@ °F	@ °F	@ °F
Time Since Circ.	4 HOURS			
Max. Rec. Temp.	173 °F	°F	°F	°F
Equip. | Location	4564 | BMT.			
Recorded By	ENGLISH			
Witnessed By	MR. WALTERS			

AFFIDAVIT ON PLUG TO ABANDON WELL

29933

STATE OF TEXAS)
) SS
COUNTY OF JEFFERSON)

I, Ray T. Clayton, being of lawful age and having full knowledge of the facts hereinbelow set out, do state:

That I am an employee of Halliburton Company, of Duncan, Oklahoma, employed as a Dist. Supt., and as such employee am engaged in the operation of the Halliburton Company's equipment employed in the cementing of wells being drilled for oil and/or gas;

That on the 14th day of February, 1966, we operated the aforesaid cementing equipment under the direction, supervision and control of Kerr-McGee Oil Industries Inc. (customer) in the pumping of cement into said Well Number 1 situated on the J. T. Terry Lease in Chambers County, Texas, which, according to the customer was for the purpose of plugging and abandoning said well;

That according to the information furnished me by the customer, his agent or representative, a cement plug was placed in said well from

9200 9252 depth to the 8800 depth

1590 depth to the 1390 depth

_____ depth to the _____ depth

AFFIANT: Halliburton Company employee

STATE OF TEXAS)
) SS
COUNTY OF JEFFERSON)

BEFORE ME, the undersigned authority, on this day personally appeared Ray T. Clayton, known to me to be the person whose name is subscribed to this statement, who, after being duly sworn, on oath states: That to the best of his knowledge and belief the facts set out above are true and correct.

Given under my hand and seal this 3rd day of March, 1966.

(Notary Seal)

Notary Public, in and for JEFFERSON County, Texas

James L. Gaffney

RECEIVED
MAR 10 1966
O.C.
HOUSTON, TEXAS

ARTIFICIAL PENETRATION NO. 9

OPERATOR: JACK W. FRAZIER
WELL NAME: DEVILLIER AND STERLING NO. 1

API NO: 42-071-01963

Geostock Sandia

4318495

Please Refer to File No. 18822

Form 1

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

NOTICE OF INTENTION TO DRILL OR DEEPEN

IS THIS AN APPLICATION TO DRILL OR DEEPEN to drill ?

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin operation on any location before filing Form 1, and do not begin operations on any location not conforming to the spacing rules for such location until you receive written order from the Commission granting permission.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 400 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 330 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease no well feet.

This notice must be delivered to Deputy Supervisor of your district before drilling, or deepening, five full days prior to spudding in.

Date Dec. 29, 1947, 19

Name of company or operator

Name Jack W. Frazier and Peeler Bros.

Address 1311 Esperson Bldg.

City Houston, Texas

Description of farm or lease:

Name (Fee owner) DeVellier and Sterling

Number of Acres 477.1 Well No. 1

Number of wells on lease none

Survey T & N O RR Co. Survey, Ca[illegible] #416, Abst #481

Elevation Feet (Above Sea Level)

Section No. 40 Block No.

Located in wildcat Field (If Wildcat state above)

Chambers County

3 Miles NW direction from

Winnie, Texas nearest postoffice or town.

Rotary or Cable Tools rotary

Date work will start drilling immediately

Depth to which you propose to drill 9000 feet.

Date work will start deepening

If Lease Purchased with one or more wells drilled From Whom Purchased?

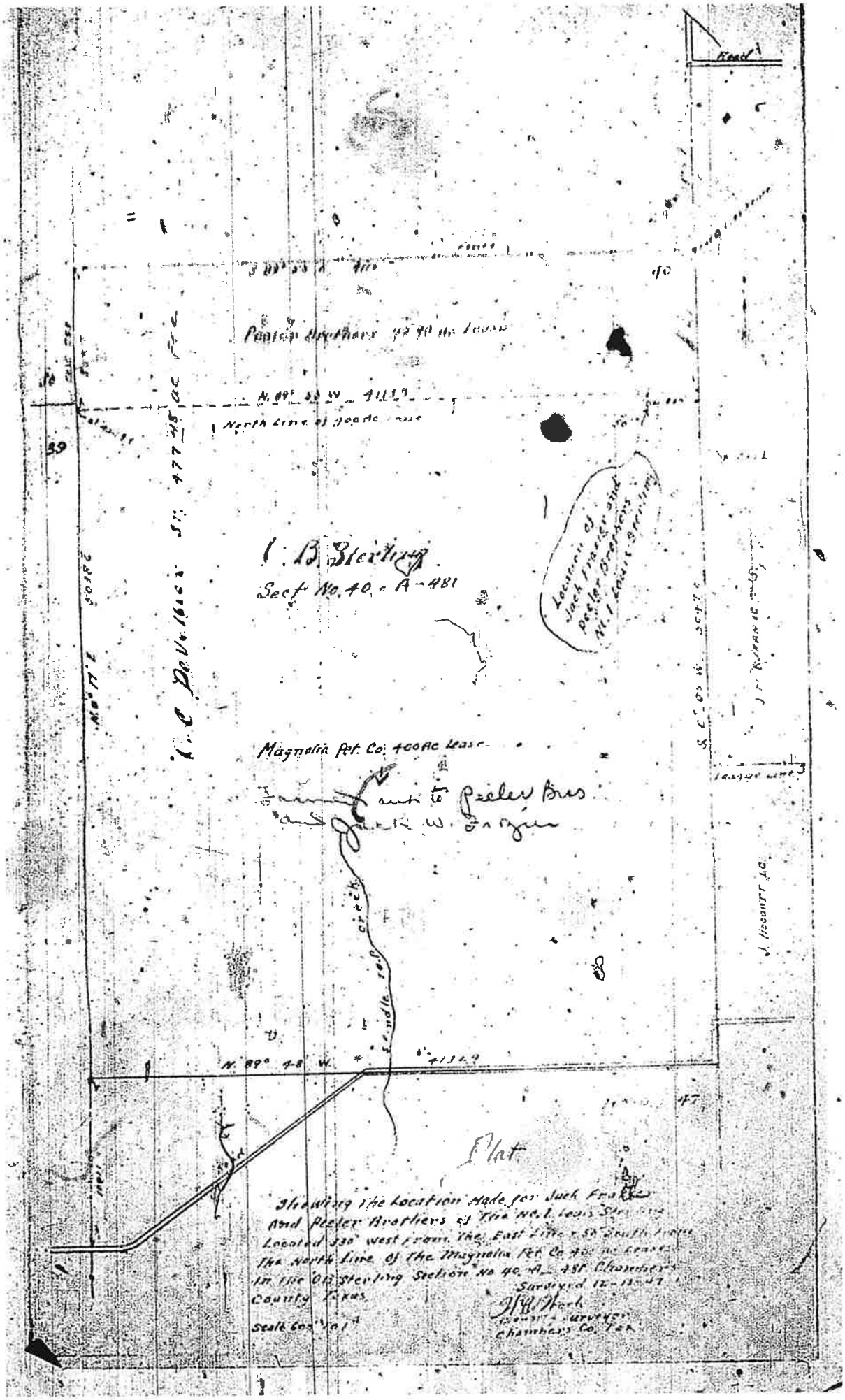
Name

Address

Note: The Magnolia Petroleum Co. 400 acre lease shown on plat has been farmed out to Peeler Bros. and Jack W. Frazier by Magnolia Petroleum Co.

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE


Road
Peeler Brothers 47.90 Ac Lease
N. 89° 53 W. 41119
North Line of 400 Ac Lease
39
C. B. Sterling
Sect No. 40 - A-481
Location of Jack Frazier and Peeler Brothers No. 1 Louis Sterling
Magnolia Pet. Co. 400 Ac Lease
Frame out to Peeler Bros and Jack W. Frazier
Sandle rep. creek
N. 89° 48' W. 41329
Plat
Showing the Location Made for Jack Frazier And Peeler Brothers of The No. 1 Louis Sterling Located 330' west from the East Line & 50' South from The North Line of The Magnolia Pet. Co. 400 Ac Lease In The C.B. Sterling Section No 40 A-481 Chambers County Texas
Surveyed 12-13-47
Scale 600' to 1"
Chambers Co. Tex.

Form 2A

Please Refer to File No. 18822

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

APPLICATION TO PLUG AND WELL RECORD

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Name of Company or Operator JACK W. FRAZIER Address 1311 Esperson Bldg. Houston 2, Texas

County Chambers Survey T&NO RR CO.Cert./ #415, Abst #481 Blk. Sec. 40

Name of Farm or Lease DeVellier & Sterling No. of Acres 477.48 Well No. 1

Located 3 Miles NW Direction from Winnie, Texas (Nearest P. O. or Town)

Name of Field in which well is located W.C.

Drilling Commenced 1/6/48, 19, Drilling Completed 2/18/48, 19,

Has this well ever produced oil? no or Gas? no

Character of Well (Oil, Gas or Dry) Dry Total Depth 9015

Date you wish to Plug February 21, 1948

Name of Party Plugging Well Jack W. Frazier Address 1311 Esperson - Houston 2, Tex.

Correspondence regarding this well should be sent to: Name Same

Address

CASING RECORD

Put in Well		Pulled Out		Left in Well			Packer or Shoe
Size	Ft.	In.	Ft.	In.	Ft.	In.	
9-5/8"	911 W/350	sacks	cement		911		

IF CASING WAS CEMENTED GIVE NUMBER OF SACKS USED ON DIFFERENT STRINGS

Initial Production of Gas: Volume MCF 24 hrs. Pressure lbs. per square inch

Initial Production of Oil: Barrels

Give notice before Plugging to all available Lease Owners, as required by Rule (10).
When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information that can be obtained as to total depth, casing record, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks: [illegible] Stathed by Telephone

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

Best Copy

...ACT B... & ... 8.
...ELL NO. 1
...COUNTY, TEXAS

OPERATIONS COMMENCED: 12/30/47
DRILLING COMMENCED: 1/6/48
DRILLING COMPLETED: 2/18/48

SET & CEMENTED 911 FT. 9-6/8" SURFACE CASING W/350 SACKS CEMENT

0-100	... & clay
933	... & gravel & shell
1834	... & shells
2170	... & sdy sh & sticky strks
2560	... sticky sh
2700	... strks
3010	... sh
3300	...
3357	... sh
3583	... strks lime
3623	... sh
3663	... sh
3736	... lime & sd
3900	... sh
4040	...
4133	...
4151	...
4236	... sh
4240	...
4378	... sh
4450	... sh
4600	... shells, strks lime
4840	... sh & lime strks
4911	... sh strks lime
4925	... sh
4940	... sh
5000	... sh
5250	... sh
5330	... sh
5382	... sh strks lime
5474	... sh
5500	... sh
5643	... lime
5650	... sh
5701	... sh, sd strks
5778	... sh
5850	... sh
5963	... sh
5974	... sh
5983	... sh
5993	... sh
5997	... sh
6015	... lime
6041	... sh, strks sd
6141	... sh
6225	... sd
6275	... sd
6299	... sd
6345	... sd & ...
6375	... sh ...
6451	... sd
6491	...
6521	...
6551	... sh
6581	... sd
6615	...
6641	...
6671	...
6701	...
6731	...
6741	...
6771	... sh
6791	... sh strks
6845	...
6863	... sh & sd
6890	... sh ... strks
6971	... sh

6990	shale
7045	stoky sh
7065	stoky sh
7187	sdy sh strks hd sh
7190	hd sh
7252	sdy sh sd stks
7362	CORED
7362-67	Corrected measurement
7257-7357	Reamed hd sh
7357-7362	sand
	Corrected & 7362-7367 5'
7367-77	hd sh
7387	sd & sdy sh
7397	sdy sh
7410	stoky sh
7415	sand
7417	hd sh
7445	hd sh
7450	stoky sh
7466	shale
7472	hd sh
7490	stoky sh, strks hd sd
7521	sdy sh
7560	sh sd strks
7564	hd sh
7577	shale
7582	sand
7687	shale
7568	hd sh
7605	CORED
7713	sdy sh
7760	hd sh strks stoky sh
7764	sdy sh
7873	sdy sh & sd stks
7880	hd sd
7920	hd sdy sh hd sd stks
7960	sdy sh
7969	hd sdy sh
7990	hd sdy sh
8025	sdy sh
8055	stoky sh
8080	hd sh, strk sd
8155	hd sh, sd & lime stks
8130	hd sh sd strks
8145	hd sh
8150	hd sh, hd sdy lime strks
8155	hd sh
8161-	hd sd
8173	stoky sh
8196	hd sh
8211	hd sdy sh
8218	stoky sh
8270	sdy sh
8230	sh
8233	sand
8236	hd sh
8240	sand
8 46	stoky sh
8271	sh & strks lime
8280	shale
8284	sand
8304	sh, strks
8309	hd & sd
8314	hd sh
8236	hd sh
8340	sdy sh
8352	hd sh
8362	sh thin sd stks
8366	sand
8377	hd sdy sh & sd
8387	hd sh
8427	sand
8431	hd sh

RECEIVED
OIL & GAS DIVISION

8431-8434: hard shale
8469: sand, sandy shale
8471: stky shale - run Schlumberger at 8471'
8519: sdy shale with shells, hard shale and sand
8540: sandy shale
8546: stky shale
8570: sdy shale, strks sand
8575: hard shale
8586: hard shale
8605: sdy shale
8611: sand
8651: shale, strks sand
8705: hard stky shale with sand, sdy shale
8717: hard shale
8738: hard sdy shale, strks shell & lime
8802: hard shale with sdy lime
8849: shale, strks sand
8872: hard shale, thin strks sand
8896: hard shale
8920: shale, sand strks
8980: shale, thin strks sand & lime
9015: Total Depth - hard shale with sand, hard

RAN SCHLUMBERGER
TOOK SIDE WALL CORES:

CONVENTIONAL CORE RECORD:

#1: 7252-57 - rec. 15' hard blue shale no show
#2: 7267-82 - rec. 15' hard shale, hard shaley sand and hard shale
#3: 7282-7297: rec. 15' hard shale
#4: 7297-7312: rec. 15' hard shale
#5: 7312-7327: rec. 15' hard shale
#6: 7327-7342: rec. 15' hard shale
#7: 7342-7357: rec. 7', hard shale shaley sand - no show and tight grey sand with no odor or show
#8: 7357-62: rec. 5' soft porous medium grain sand, slight gas odor in top, slightly brackish in btm, and hard shale and hard limey sand, no show

Measured in hole and corrected measurement - at 7362 - 7367 - 5' difference.

Core #9: 7588-7603 - rec. 15' 1½' hd light sd, salty, 1½' soft sdy shale, no show 10' hard sdy shale
#10: 7603-7618: 2' hard tight water sand, 4' hard shale and sand strks, 7' soft porous grey sand, slightly salty, 2' limey sand
#11: 7618-7633: 14' medium to fine grain grey sand with 1' hard shale.

I, JACK W. FRAZIER, being first duly sworn on oath, state I have knowledge of the facts and matter herein set forth and that same are true and correct.

Jack W. Frazier

SUBSCRIBED AND SWORN TO BEFORE ME this 21st day of February, A. D., 1948.

Bernice Eddley
Bernice Eddley, Notary Public in and for Harris County, Tex

OIL & GAS DIVISION

GAS DIVISION

Please Refer to File No. 19422

Form 4

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

PLUGGING RECORD

2-18-48

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Operator JACE W. FRAZIER Address 1311 Esperson Bldg Houston 2, Texas

Sec. No. 40 Blk No. Survey T&NO RR CO County Chambers

Well No. 1 Name of Lease DeVillier & Sterling No. of Acres 477.48

Name of Field in which well is located W C Date well was plugged Feb. 21 19 48

Form 1, "Notice of Intention to Drill," was filed in name of Jack W. Frazier & Peeler Bros.

Character of Well at the time of completion: Oil none bbls.; Gas none Cu. ft.; Dry dry hole
(Initial Production) (Initial Production)

Amount well producing when plugged: Oil none bbls.; Gas none Cu. ft.; Water none bbls.

Has this well ever produced oil or gas? no

Total Depth 9015 feet. Top of each producing sand none feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? yes

How was mud applied? Forced into formation under pressure

Were plugs used, yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock.

Was well shot? no

10 sack cement plug placed at bottom of surface pipe, 924'. and two 5 sack cement plug placed at topof 9-5/8" casing

Show depth found and thickness of all water, oil and gas formations 6080-6280; 7340-7395; 7605-7700; 7750-8048; 8353-8410; all sand contained water, no oil, no gas.

Have all abandoned wells on this lease been plugged according to Commission rules? yes

Manner of confining all oil, gas and water to strata: 10.5 lb mud pumed into formation under pressure and cement plugs were placed at top and bottom of 9-5/8" surface pipe

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:

Was notice given before ... available adjacent lease owners as required by Rule 10? yes

I, R. F. NEWMAN, being first duly sworn on oath, state that I have knowledge of the fa... and the matter herein set forth and that the same are true and correct.

Name ... Title Agt

Subscribed and sworn to before me this 25th day of February, 19 48

Geraldine Baldwin
Notary Public Harris County, Texas

Correspondence regarding this well should be addressed to

Name ... Address ...

SCHLUMBERGER

Location of Well
990' from N line
& 330' from E
line of O. B.
Sterling Surv.

ELEV 37'
Elevation: D.F. .....
K.B. .....
or G.L. .....

8871
COMPANY: J. W. FRAZIER
42-071-01961
WELL: DEVILLIER & STERLING #1
RUN NO.: ONE + THREE COMPOSITE
FIELD: NORTH WEST WINNIE
LOCATION: Wildcat
COUNTY: CHAMBERS
STATE: TEXAS
FILING No. 39-72

COMPANY: J. W. FRAZIER
WELL: DEVILLIER & STERLING #1
LOCATION: NORTH WEST WINNIE
COUNTY: CHAMBERS

RUN	ONE	TWO	THREE		
Date	1/21/47	2-14-48	2-19-48		
First Reading	7367	8466	9013		
Last Reading	925	7367	8466		
Footage Measured	6442	1099	547		
Csg Shoe Schlum.	925	-	-		
Csg Shoe Driller	924	-	-		
Max. Depth Reached	7367	8466	9013		
Bottom Driller	7362	8471	9015	FOLDER	AD
Depth Datum	1' ABOVE	ROTARY; 13.0' ABOVE			
Mud Nature	BAROID	BAROID	BAROID		
" Density	10.1#	10.1#	10.1#		
" Viscosity	40"	43"	46"		
" Resistivity	3.9@.63°F	2.2@.50.°F	2.2@.65°F	@ °F	@ °F
Maximum Temp. °F.	153	142	179		
Bit Size	8 5/8"	8 5/8"	8 5/8"		
Spacings					
AM	16"	16"	16"		
AM'	64"	63"	63"		
OA	18 2/3'	24'	24'		
ES. Rig Time	2 1/2 Hrs.	3 Hrs.	3½ Hrs.		
Observers	HART	OLSON	MILLIS		

914

ARTIFICIAL PENETRATION NO. 10

OPERATOR: H.E. WILLIAMS & CROWN CENTRAL PETROLEUM
WELL NAME: TRINITY RICE DISPOSAL NO. 1

API NO: 42-071-0160

Geostock Sandia

4318489

Please Refer to File No. _____

Form 1

15437

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

NOTICE OF INTENTION TO DRILL OR DEEPEN

RECEIVED

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

☞ READ CAREFULLY AND COMPLY FULLY

MAY 2[illegible] 1941

OIL & GAS DIVISION
TEXAS RAILROAD COMMISSION
TEXAS

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin operation on any location before filing Form 1, and do not begin operations on any location not conforming to the spacing rules for such location until you receive written order from the Commission granting permission.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distances from the proposed location to those wells. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 400 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

* * * * *

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 635 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease _____ feet.

No wells on lease

This notice must be delivered to Deputy Supervisor of your District before drilling, or deepening, five full days prior to spudding in.

Date May 2[illegible], 1941

Name of company or operator

Name H. F. Williams & Crown Central Pet. Co.

Address [illegible] Oil and Gas Bldg.

City Houston, Texas

Description of farm or lease:

Name (Fee owner) Trinity Rice Disposal Co.

Number of Acres 40 Well No. 1

Number of wells on lease —

Survey T. & N. R. R.

Elevation 55 Feet
(Above Sea Level)

Section No. 65 Block No. _____

Located in Wildcat Field
(If Wildcat state above)

Chambers County

_____ miles _____ direction from

_____ nearest postoffice or town.

Rotary or Cable Tools Rotary

Date work will start drilling June 1, 1941

Depth to which you propose to drill 8,000 feet.

Date work will start deepening _____

If Lease Purchased with one or more wells drilled From Whom Purchased?

Name _____

Address _____

Rule 37. Spacing Rule—(Applies to all fields in the State except where special field rules govern)—No well for oil or gas shall hereafter be drilled nearer than 300 feet to any other completed or drilling well on the same or adjoining tract or farm; and no well shall be drilled nearer than 150 feet to any property line, lease line, or subdivision line; provided that the Commission in order to prevent waste or to prevent the confiscation of property will grant exceptions to permit drilling within shorter distance than above prescribed whenever the Commission shall determine that such exceptions are necessary either to prevent waste or to prevent the confiscation of property. When an exception to such rule is desired, application therefor shall be filed with the Commission fully stating the facts, which application shall be accompanied by a plat drawn to the scale of one inch equaling 400 feet, accurately showing to scale the property on which permit is sought, to drill a well under an exception to this rule, and accurately showing to scale all other completed, drilling and permitted wells on said property; and accurately showing to scale all adjacent surrounding properties and wells. Such application shall be verified by some person acquainted with the facts stating that all facts therein stated are within the knowledge of the affiant true, and that the accompanying plat is accurately drawn [illegible] and correctly reflects all pertinent and required data. Such exception shall be granted only after at least ten days notice to [illegible] lessees affected thereby has been given, and after public hearing at which all interested parties may appear and be heard, and after the Commission has determined that an exception to such rule is necessary either to prevent waste or to protect property belonging to applicant from confiscation. All pending applications shall be amended to conform to this rule before being acted upon. Upon similar application and showing the Commission may grant exceptions to the application of this rule in fields where the production is obtained from a formation which is known to be segmented by piercement of intrusive salt plugs.

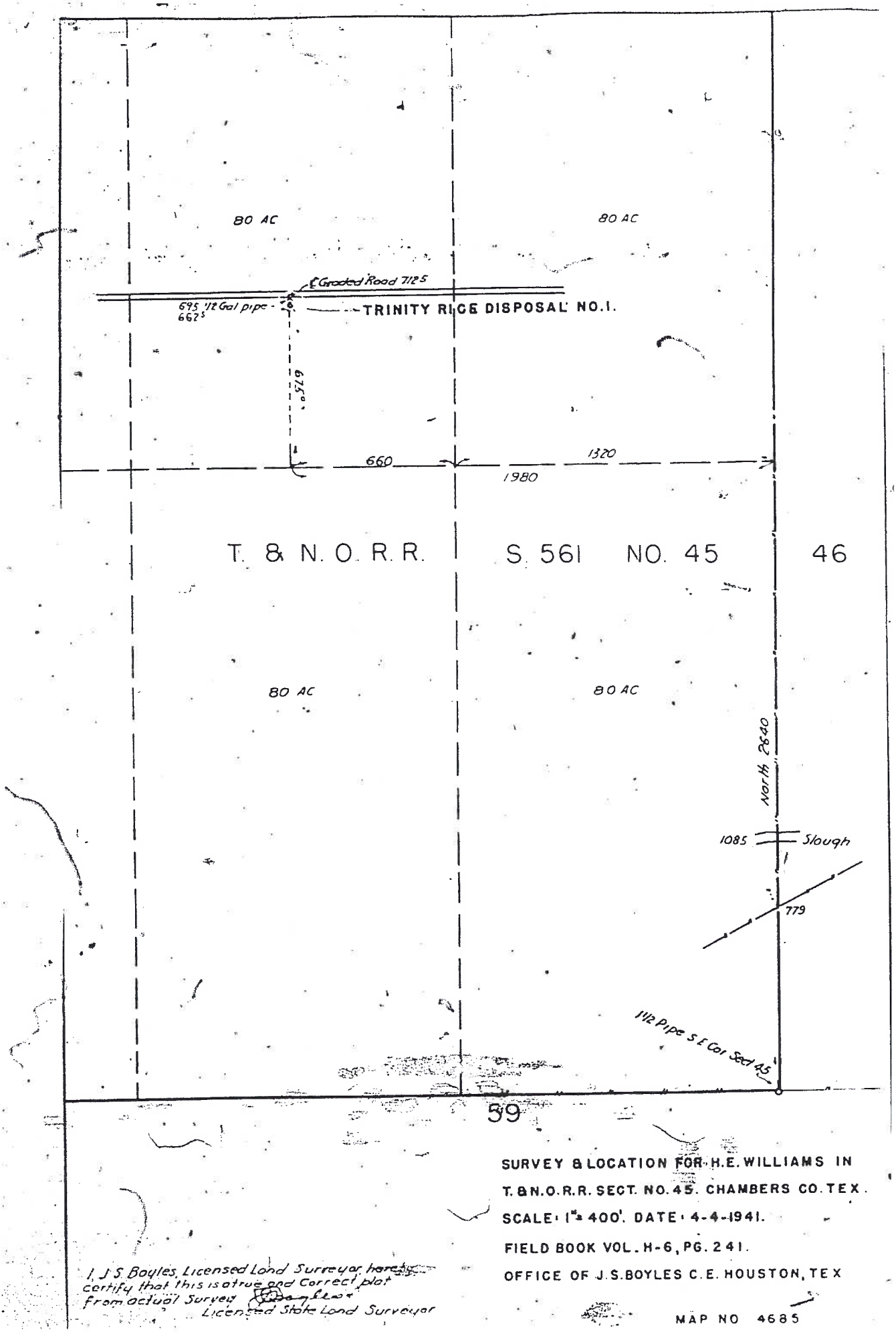
"In the interest of protecting life and property and for other and just reasonable causes the Commission reserves the right in particular fields to enter special orders increasing the minimum distances provided by this rule.

"No well drilled in violation of this rule without special permit obtained [illegible] in said rule and no well drilled under such a special permit, which does not conform to the terms of such special permit in all respects shall be permitted to produce either oil or gas and any such well so drilled in violation of said rule or in violation of a permit granted under an exception to such rule shall be plugged."

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

MAY 2[illegible] 1941
OIL & GAS DIVISION
TEXAS RAILROAD COMMISSION
TEXAS

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE



SURVEY & LOCATION FOR H.E. WILLIAMS IN
T. & N. O. R. R. SECT. NO. 45. CHAMBERS CO. TEX.
SCALE: 1" = 400'. DATE: 4-4-1941.
FIELD BOOK VOL. H-6, PG. 241.
OFFICE OF J. S. BOYLES C.E. HOUSTON, TEX

I, J. S. Boyles, Licensed Land Surveyor hereby certify that this is a true and correct plot from actual Survey
Licensed State Land Surveyor

MAP NO 4685

File No. 15439

Form 2

RECEIVED AUSTIN JUL 9 19[illegible] OIL & GAS DIVISION

RECEIVED JUL 8 1941 OIL & GAS DIVISION TEXAS RAILROAD COMMISSION HOUSTON, TEXAS

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION
WELL RECORD

Operator E. E. Williams & Owen Central Pet. Co. Address 555 Oil and Gas Bldg., Houston, Texas

County Chambers Survey T. & N.O. RR. Co. Block No. Sec. No. 45

Lease Texas Pipe Disposal Company Well No. 1 Elevation (Above Sea Level)

Name of Field in which well is located Wildcat

Drilling Commenced 6/11/41 19 Drilling Completed 7/2/41 19

Correspondence regarding this well should be sent to: Name E. E. Williams Address Same as above

SIZE	PUT IN WELL Ft.	PUT IN WELL In.	PULLED OUT Ft.	PULLED OUT In.	LEFT IN WELL Ft.	LEFT IN WELL In.	PACKERS AND SHOES
10¾	1264'				1264'		

Initial Production of Gas—Volume [illegible] MCF Pressure [illegible] lbs. per square inch

Initial Production of Oil Barrels Dry hole

Remarks:

DESCRIPTION OF PROPERTY: NOTE

GENERAL REMARKS

WEST

EAST

SOUTH

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

DRILLER'S LOG

H. E. Williams & Crown Central Pet. Co.
Trinity Rice Disposal No. 1
Winnie Area
Chambers County, Texas

Spudded : 6/11/41
Completed: 7/2/41
Elev. :
T. D. : 8019'

0	24	Surface clay
24	41	Sd.
41	224	Clay
224	515	Sd., hard strks.
515	625	Clay
625	894	Sd., hard strks.
894	927	Sh.
927	1043	Sd.
1043	1140	Sh., sd. strks.
1140	1405	Sh. & shells
1405	1550	Sh., sd. strks.
1550	1845	Sh.
1845	1860	S
1860	1890	Sd.
1890	2086	Sh. w/sd & shell strks.
2086	2189	Sd.
2189	2284	Sh. - shell strks.
2284	2526	Sd.
2326	2505	Sh.
2505	2568	Sdy. sh.
2568	2767	Sh. & shells
2767	2815	Sd. w/hd. strks.
2815	3510	Sh., w/hd. strks.
3510	3520	Sd. soft
3520	3530	Sd. hard
3550	3697	Sh. (hard strks.)
3697	4139	Sh. & shell
4139	4186	Hard sdy. sh.
4186	4835	Sh. & hard lime
4835	4997	Hard lime & sd.
4997	5049	Sdy. sh.
5049	5109	Sh., stky. strks.
5109	5146	Sh.
5146	5337	Sh. & shells
5357	5377	Sh. & sdy. sh.
5377	5565	Sh. & sd.
5565	5729	Hard sh.
5729	5879	Sd. strks. of sh.
5879	5966	Sh. hard
5966	6134	Sh. & sd.
6134	6204	Sh. & lime - stkyl strks.
6204	6284	Hd. sh. & lime strks.
6284	6385	Hard sh.
6385	6614	Sh. & shell
6614	6664	Sdy. sh.
6664	6785	Hard sh.
6785	6934	Hard sh. & lime
6934	6954	Sdy. sh.
6954	7070	Sh. w/strks. of sdy. sh.
7070	7345	Hd. sh. & lime
7345	7355	Sh. brittle (core
7355	7365	" " (core
7365	7369	" (core
7369	7418	Sh.
7418	7421	Lime
7421	7455	Sd.
7455	7569	Sh. w/hd strks.
7569	7669	Sh.
7669	7674	Sd.
7674	7679	Sh.
7679	7691	Sh., sd. strks.
7691	7727	Sh. & lime
7727	7756	Sdy. sh.
7756	7778	Stky. sh.
7778	7815	Sdy. sh.
7815	8019	Hard sh.
8019		T. D.

THE STATE OF TEXAS :
:
COUNTY OF HARRIS :

Before me, a Notary Public in and for said County and State, on this day personally appeared Wm. S. Thomson known to me to be the Drilling Contractor for the above well and swore that the above is a true and correct Driller's Log of the Trinity Rice Disposal No. 1 well as drilled by him in Chambers County, Texas.

Wm. S. Thomson

Sworn to before me this 7th day of July, A. D. 1941.

Notary Public in and for Harris County, Texas.

Please Refer to File No. 15439

Form 2-A

RECEIVED
JUL 11 1941
OIL AND GAS DIVISION
TEXAS RAILROAD COMMISSION
HOUSTON, TEXAS

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

APPLICATION TO PLUG AND WELL RECORD

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Name of Company or Operator H. E. Williams Address 535 Oil and Gas Bldg., Houston, Texas

County Brazoria Survey T. & N.O. RR Co. Blk. Sec. 45

Name of Farm or Lease Trinity Pipe Disposal Co. No. of Acres 40 Well No. 1

Located Miles Direction from (Nearest P. O. or Town)

Name of Field in which well is located Wildcat

Drilling Commenced 6/11, 19 41 Drilling Completed 7/2, 19 41

Character of Well (Oil, Gas or Dry) Dry Total Depth 8019

Date you wish to Plug 7/4, 1941

Name of Party Plugging Well Prospect Drilling Company Address 535 Oil and Gas Bldg., Houston Texas

Correspondence regarding this well should be sent to: Name H. E. Williams

Address 535 Oil and Gas Bldg., Houston, Texas

CASING RECORD

Put in Well		Pulled Out		Left in Well			Packer or Shoe
Size	Ft.	In.	Ft.	In.	Ft.	In.	
10¾	1264				1264		

IF CASING WAS CEMENTED GIVE NUMBER OF SACKS USED ON DIFFERENT STRINGS

Initial Production of Gas Volume MCF 24 hrs. Pressure lbs. per square inch

Initial Production of Oil: Barrels

Give notice before Plugging to all available Lease Owners, as required by Rule (10).
When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE. If no log available, so state and give all information that can be obtained as to total depth, casing record, whether or not cemented, producing formation, water sands and as near as possible date well was drilled.

General Remarks:

FILL OUT FORMATION RECORD AND AFFIDAVIT ON REVERSE SIDE

Please Refer to File No. 15439

Form 4

RECEIVED
JUL 11 1941
OIL & GAS DIVISION
TEXAS RAILROAD COMMISSION
HOUSTON, TEXAS

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

PLUGGING RECORD

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company H. E. Williams Address 535 Oil and Gas Bldg, Houston, Texas

Sec. No. 1 Blk. No. 45 Survey T & NO RR County Chambers

Well No. 1 Name of Lease Trinity River Disposal Company No. of Acres 40

Name of Field in which well is located Wildcat Date well was plugged 7/4, 1941

Character of Well at the time of completion: Oil ____ bbls; Gas ____ Cu. ft.; Dry Dry
(Initial Production) (Initial Production)

Amount well producing when plugged: Oil ____ bbls; Gas ____ Cu. ft.; Water ____ bbls.

Total Depth 8019 feet. Top of each producing sand none feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? yes

How was mud applied? At bottom of hole thru drill pipe

Were plugs used? - If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock.

Was well shot? no

Show depth found and thickness of all water, oil and gas formations intermittent water sands to total depth

Manner of confining all oil, gas and water to strata: filled with heavy mud

RECEIVED
AUSTIN
JUL 12 1941
OIL & GAS DIVISION

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:

Crown Central Petroleum Company - Houston, Texas
Sinclair-Prairie Oil Company "
Standard of Texas "
General Crude "

Was notice given before plugging to all available adjacent lease owners as required by Rule 10? yes

I, H. E. Williams, being first duly sworn on oath, state that I have knowledge of the facts and matter herein set forth and that the same are true and correct,

Name H. E. Williams, Title Operator

Subscribed and sworn to before me this 12 day of July, 1941

Frances Brant

Harris

Notary Public ____ County, Texas.

Correspondence regarding this well should be addressed to:
H. E. Williams
Name

535 Oil and Gas Bldg., Houston, Texas
Address

ET338-740—40M

SCHLUMBERGER

Elevation of Well

37'DF
27'Gr.
(LS)

Elevation:

COMPANY: R. E. WILLIAMS

WELL: [illegible] RISK DISPOSAL
[illegible]

RUN NO. [illegible]

FIELD: WINNIE AREA - Wildcat

SURVEY

COUNTY: CHAMBERS

STATE: TEXAS

FILING No. SG 71

D OR WINNIE AREA
SURVEY
WELL TRINITY RISK DISPOSAL
CO. #1
COMPANY R. E. WILLIAMS

First Reading		8021 ft.
Last Reading		1272 ft.
Footage Measured		6749 ft.
Casing Shoe Depth:	DRILLER	1279 ft.
	SCHLUMBERGER	1278 ft.
Bottom Depth	DRILLER	8019 ft.
Max. depth reached		8021 ft.

DIAMETER OF HOLE

from CSG. to BOTT. : 9 7/8"
from to
from to
Bottom Temperature: °F

MUD CHARACTERISTICS

Nature: NAT./BAROID
Weight: 10#
Viscosity: 41"
Resistivity: 1.8 @ °F

REMARKS

MEASUREMENTS FROM ONE FOOT ABOVE ROTARY TABLE.

Location: 675'NSL, 660'WEL of W/2 of NE/4 of Sec.45, in T.& N.O.Sur. Sec. 45; A-272, E/2 Co. map. (LS: 5-26-41: 675'FS & 660'FE of W/2 of NE/4 of Sec.45 Approx. 1700'FN & 1900'FE of Sec. 4½ mi. *

DATE JULY 2, 1941 OBSERVERS J.P. DE SALE

ARTIFICIAL PENETRATION NO. 11

OPERATOR: GOLDSTON OIL CORPORATION
WELL NAME: DOORNBOS NO. 1

API NO: 42-071-32233

Geostock Sandia

Return each W-1 with plat and applicable fee. Make a check or money order payable to the Railroad Commission of Texas

Address to:
Railroad Commission of Texas
Oil and Gas Division, Drilling Permits
P. O. Box 12967
Austin, Texas 78711-2967

RAILROAD COMMISSION OF TEXAS
Oil and Gas Division

Application for Permit to Drill, Deepen, Plug Back, or Re-Enter

▶ File a copy of W-1 and plat in RRC. District Office ▶ Read Instructions on Back

Form W-1
Rev. 9/01
DBC1001 www

EFFECTIVE SEPT. 1, 2001, PERMIT APPLICATION FEE WILL VARY ACCORDING TO THE TOTAL DEPTH SHOWN IN ITEM NO. 9 BELOW
0 - 2000' - $200 2001' - 4000' - $225
4001' - 9000' - $250 9001' or deeper - $300

Purpose of filing (mark appropriate boxes):
[X] Drill [ ] Deepen (below casing) [ ] Deepen (within casing) [ ] Plug Back [ ] Re-Enter
[ ] Horizontal [ ] Directional Well [ ] Sidetrack [ ] Amended Permit (enter permit no. at right & explain fully in Remarks)

Enter here if assigned: API No. 42- 071-32233
Permit No. 523631
Rule 37 Case No.

1. Operator's Name (exactly as shown on Form P-5, Organization Report): **Goldston Oil Corporation**
3. RRC Operator No.: **313990**
4. RRC District No.: **03**
5. County of Well Site: **Chambers**

2. Address (including city and zip code): **P.O. Box 570365 Houston, TX 77257-0365**
6. Lease Name (32 spaces maximum): **Doornbos**
7. RRC Lease/ID No.: **N/A**
8. Well No.: **1**
9. Total Depth: **10,800'**

10. Location
• Section 45 Block _____ Survey T. & N. O. R. R. Co. Abstract No. A-272
• This well is to be located ± 3.5 miles in a West direction from Winnie which is the nearest town in the county of the well site.

11. Distance from proposed location to nearest lease or unit line: 835.7 ft.
12. Number of contiguous acres in lease, pooled unit, or unitized tract: 1,120 (OUTLINE ON PLAT.)

13. FIELD NAME (Exactly as shown on RRC proration schedule). List all established and wildcat zones of anticipated completion. Attach additional Form W-1's as needed to list these zones. One zone per line.	14. Completion depth	15. Spacing pattern (ft.)	16. Density pattern (acres)	17. Number of acres in drilling unit for this well. OUTLINE ON PLAT.	18. Is this acreage assigned to another well on this lease & in this reservoir? If so, explain in Remarks.	19. Distance from proposed location to nearest applied for, permitted, or completed well, this lease & reservoir. (ft.)	20. Oil, gas, or other type well (Specify)	21. No. of applied for, permitted, or completed locations (including this one) on lease in this reservoir. OIL	GAS
Wildcat 6001	Above 10,800'	467/1,200	40	40	N	---	Oil/Gas	1	1

Permit Granted 9-12-02

Perpendicular surface location from two nearest designated lines:
• Lease/Unit 1,000.61' FEL & 835.7' FNL
• Survey/Section 1,000.61' FEL & 1,817.61' FSL

If a directional well, show also projected bottom-hole location:
• Lease/Unit _____
• Survey/Section _____

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SEP 12 2002
OIL & GAS DIVISION
AUSTIN, TEXAS

23. Is this a pooled unit?
Yes [ ] ▶ (Attach Form P-12 and certified plat.) No [X]

24. Is Item 17 less than Item 16 (substandard acreage for any field applied for)?
Yes [ ] ▶ (Attach Form W-1A) No [X]

25. Is this wellbore subject to Statewide Rule 36 (hydrogen sulfide area)? Yes [ ] No [X]
If subject to Rule 36, is Form H-9 filed? Yes [ ] No [ ] ▶ If not filed, explain in Remarks.

26. Do you have the right to develop the minerals under any right-of-way that crosses, or is contiguous to, this tract? If not, and if the well requires a Rule 37 or 38 exception, see Instructions for Rule 37. Yes [X] No [ ]

Remarks
Second plat attached (1" = 2,000') showing entire 1,120 acre lease.

I certify that information stated in this application is true and complete, to the best of my knowledge.

Signature

Greg Colburn Production Manager
Name and title of operator's representative

9/04/2002
Date: mo. day yr.

(713)355-3408
Tel.: Area Code Number

• RRC Use Only •
#74504
200941
523631

071-32233
MAPPING 175

File name: 020608.DWG-SCS
Plot date: 07/03/02 at 09:59

T. & N. O. R. R. - 37
A - 268
(S. 557)

C. N. Ousley - 38
A - 594
(F. 63808)

T. & N. O. R. R.
Sect. - 39
A - 267
(S. 558)

F. P. Sterling - 46
(F. 35447)
A - 479

O. B. Sterling - 44
A - 480
(F. 35570)

Survey And Lease Line

Called 29.151 Acres (Tract 1)
From John O. Devillier, et al
To Adam H. Devillier
(Vol. 519, Page 1, D.R.C.C.T.)

IH - 10
(290' R-O-W)

3/4" I.P. Found
In The South
R-O-W Line Of
Interstate Highway 10

Called 42.463 Acres (Tract 2)
From John O. Devillier, et al
To Adam H. Devillier
(Vol. 519, Page 1, D.R.C.C.T.)

T. & N. O. R. R. - 45
A - 272
(S. 561)

Called 560 Acres Being All Of Section 45
Save And Except 80 Acres Being The
East One-Half of the Northeast One-Quarter

S 87°15'45" W
Lease Line

S 02°44'15" E

835.70'

1000.61'

1817.61'

S 87°21'42" W

Survey And Lease Line

Proposed Well Location
"Goldston Oil Corporation
Doornbos No. 1"
Y = 750,767.236
X = 3,441,792.884
Lat = 29° 49' 15.86971" N
Long = 94° 27' 07.16312" W
Elev = 24.8'

40 acre
drilling
unit

Called 1,120.0 Acre
Oil & Gas Lease
To Goldston Oil Corporation, Lessee
C.F. No. 01 522 637
July 15, 2001

Cora E. Behrands Survey
A - 602
(F. 75153)

1 1/2" I.P. Found
Y= 748,997.752
X= 3,442,879.242

Survey And Lease Line

2" I.P. Found

M. C. Flickenger - 60
A - 509
(F. 36179)

T. & N. O. R. R. - 59
A - 279
(S. 568)

Called 560 Acres Being All Of Section 59
Save And Except 80 Acres Being The
East One-Half of the Northeast One-Quarter

Survey And Lease Line

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AUSTIN, TEXAS

NOTE:
ALL THE HORIZONTAL CONTROL IS REFERRED TO THE TEXAS STATE PLANE COORDINATE SYSTEM, LAMBERT PROJECTION, SOUTH CENTRAL ZONE, NAD 27 DATUM. ALL BEARINGS, DISTANCES AND ACREAGES ARE GRID. THE THETA CORRECTION AT A 1 1/2" IRON PIPE FOUND AT THE SOUTHEAST CORNER OF T. & N. O. R. R., SECTION 45, ABSTRACT 272 IS +02°13'47 AND THE SCALE FACTOR IS 0.999898399.
LEASE AND TRACT INFORMATION SHOWN HEREON IS DONE SO BY DEED RECORD INFORMATION ONLY AND DOES NOT REFLECT AN ACTUAL SURVEY.
THIS PLAT IS VALID ONLY WITH ORIGINAL SIGNATURE AND SEAL.
THIS IS COPYRIGHTED MATERIAL AND THE PROPERTY OF SHINE & JOHNSTON, INC. ALL RIGHTS RESERVED. (C) 2002.

GRID NORTH
TRUE NORTH
ϕ=+02°13'47"
(NOT TO SCALE)
S&J

SCALE: 1" = 1000'

STATE OF TEXAS X

COUNTY OF CHAMBERS X

I, Steven Butz, Registered Professional Land Surveyor No. 4319, in the State of Texas, do hereby certify that this plat correctly shows the proposed well location, "Goldston Oil Corporation, Doornbos No. 1" on the T. & N. O. R. R., Section 45, Abstract 272, Chambers County, Texas as staked on the ground by me, or under my supervision, on June 21, 2002.

STATE OF TEXAS
REGISTERED
STEVEN DALE BUTZ
4319
PROFESSIONAL
LAND SURVEYOR

Steven Butz
Registered Professional Land Surveyor No. 4319

SHINE AND JOHNSTON, INC.
P. O. Box 391
Silsbee, Texas 77656
(409) 385-5266
FAX (409) 385-0936

Plugging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FORM W-3
Rev. 12/92 (99)

API No. (if available)	1. RRC District
42-071-32233	03

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

4. RRC Lease or ID Number

2. FIELD NAME (as per RRC records)	3. Lease Name	5. Well Number
Wildcat	Doornbos	1

6. OPERATOR	6a. Original Form W-1 filed in name of:	10. County
Goldston Oil Corporation	Goldston Oil Corporation	Chambers

7. ADDRESS	6b. Any subsequent W-1's filed in name of:	11. Date Drilling Permit Issued
P.O. Box 570365 Houston, TX 77257-0365	--	9-12-2002

8. Location of well, relative to nearest lease boundaries of lease on which this well is located	12. Permit Number
1000.61 feet from East line and 835.70 feet from North line of the Doornbos lease	523631

9a. SECTION, BLOCK and SURVEY	9b. Distance and direction from nearest town in this county	13. Date Drilling Commenced
T. & N.O.R.R. Co., Sec 45, A-272	3.5 miles W from Winnie	10-11-2002

16. Type Well (oil, gas, or dry)	Total Depth	If multiple completion list all field names and oil lease or gas id no.'s	Gas ID or Oil Lease #	Oil - O Gas - G	Well #	14. Date Drilling Completed
Dry	10,300'					11-12-2002
18. If gas, amt. of cond. on hand at time of plugging						15. Date Well Plugged 12-10-2002

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7	PLUG #8
*19. Cementing Date 2002	12/10	12/10	12/10	12/10				
20. Size of Hole or Pipe in which Plug Placed (inches)	9 7/8	10 3/4	10 3/4	10 3/4				
21. Depth to Bottom of Tubing or Drill Pipe (ft.)	2150	2100	500	55				
*22. Sacks of Cement Used (each plug)	25	75	50	25				
*23. Slurry Volume Pumped (cu. ft.)	29.5	88.5	59	29.5				
*24. Calculated Top of Plug (ft.)	2100	2050	400	5				
25. Measured Top of Plug (if tagged) (ft.)			385					
*26. Slurry Wt. # / Gal	15.6	15.6	15.6	15.6				
*27. Type Cement	H	H	H	H				

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CENTRAL RECORDS
APR 30 2003
AUSTIN, TEX.

28. CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT.# / FT.	PUT IN WELL (ft.)	LEFT IN WELL (ft.)	HOLE SIZE (in.)
10-3/4"	40.5	2100	2100	14-3/4
7-5/8"	33.7	9719	7529	9-7/8

29. Was any non-drillable material (other than casing) left in this well? ☐ Yes ☒ No

29a. If answer to above is "Yes" state depth to top of "junk" left in hole and briefly describe non-drillable material (Use reverse side of form if more space is needed.)

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JAN 06 2003
OG DIVISION
HOUSTON, TX

30. LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS

FROM	9719'	TO	10,800'	FROM	TO
FROM		TO		FROM	TO
FROM		TO		FROM	TO
FROM		TO		FROM	TO
FROM		TO		FROM	TO

MAY 2003
LOG REC'D
RECORDS

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.
* Designates items to be completed by Cementing Company. Items not so designated shall be completed by operator.

Bill Lyd
Signature of Cementer or Authorized Representative

York Cmt & Acid
Name of Cementing Company

CERTIFICATE:
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Greg Colburn — Production Manager — 1-3-03 — PHONE 713 355-3408
REPRESENTATIVE OF COMPANY — TITLE — DATE — A/C NUMBER

NW
SIGNATURE: REPRESENTATIVE OF RAILROAD COMMISSION

MAPPING
071-32233

31. Was well filled with mud - laden fluid, according to the regulations of the Railroad Commission?	☒ Yes ☐ No	32. How was mud applied? Circulated	33. Mud Weight 9.5 LBS/GAL

34. Total Depth	Other Fresh Water Zones by T.D.W.R.		35. Have all abandoned wells on this lease been plugged according to R R C Rules?	☒ Yes ☐ No
	TOP	BOTTOM	36. If No, Explain	
10,800' Depth of Deepest Fresh Water 450'				

37. Name and address of cementing or service company who mixed and pumped cement plugs in this well: York Acidizing & Cementing Ltd 6511 FM 1464 PMB6 Richmond Tx 77469

Date RRC District Office notified of plugging: 12-5-2002, Nancy Cook

38. Name(s) and address(es) of surface owners of well site

C. Doornbos, Inc.
1148 Helena
Nederland, TX 77627

39. Was notice given before plugging to the above?

Yes

FILL IN BELOW FOR DRY HOLES ONLY

40. For dry holes, this form must be accompanied by either a driller's, electric, radioactivity, or acoustical/sonic log or such log must be released to a commercial log service.

☒ Log Attached ☐ Log released to _____ Date _____

Type Logs: ☐ Driller's ☒ Electric ☐ Radioactivity ☐ Acoustical / Sonic

41. Date FORM P-8 (Special Clearance) filed:

42. Amount of oil produced prior to plugging _____ bbls *

File FORM P-1 (Oil Production Report) for month this oil was produced

R R C USE ONLY

Nearest field _____

REMARKS

See W-15 (11-12-2002) for plug across 7-5/8" shoe. 75 sx "H" + 0.75% CFR-3 + 0.25% HR-5 spotted 9510'-9798'. Mud weight below cement plug 16.6 ppg.

Attempt to cut 7-5/8" casing at 2434' (unsuccessful). Cut & pulled pipe from 2190'.

Cementer: Fill in shaded areas
Operator: Fill in other items

Form W-15
Cementing Report
Rev.4/1/83
HAL1199

RAILROAD COMMISSION OF TEXAS

Oil and Gas Division

1. Operator's Name (As Shown on Form P-5, Organization Report)	2. RRC Operator No.	3. RRC District No.	4. County of Well Site
Goldston Oil Corporation	313990	03	Chambers

5. Field Name (Wildcat or Exactly as Shown on RRC Records)	6. API No.	7. Drilling Permit No
Wildcat	42- 071-32233	523631

8. Lease Name	9. Rule 37 Case No	10. Oil Lease/Gas ID No	11. Well No.
Doornbos	--	--	1

CASING CEMENTING DATA.	SURFACE CASING	INTERMEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
			Single String	Multiple Parallel Strings	Tool	Shoe
12. Cementing Date	10/13/2002					
13. *Drilled hole size	14-3/4"					
*Est. % wash or hole enlargement	100%					
14. Size of casing (in. O.D.)	10-3/4"					
15. Top of liner (ft)	--					
16. Setting depth (ft)	2100'					
17. Number of centralizers used	15					
18. Hrs. waiting on cement before drill-out	42					
1st Slurry 19. API cement used: No. of sacks >	840					
1st Slurry Class >	MHLC A	T.N.R.C.C.	LETTER DATED	8/20/02 #1291		
1st Slurry Additives >	See Remarks	Depth	450	ft.		
2nd Slurry No. of sacks >	465	13(A) Exception Dated		9/18/02		
2nd Slurry Class >	A	Surface Casing	2100	ft.		
2nd Slurry Additives >	See Remarks	D.V. @	NA	ft.		
3rd Slurry No. of sacks >						
3rd Slurry Class >						
3rd Slurry Additives >	See Remarks					
1st 20. Slurry pumped: Volume (cu.ft.) >	1,798					
1st Height (ft.) >	1350					
2nd Volume (cu.ft.) >	581.25					
2nd Height (ft.) >	750					
3rd Volume (cu.ft.) >						
3rd Height (ft) >						
Total Volume (cu.ft.) >	2378.85					
Total Height (ft.) >	2100					
21. Was cement circulated to ground surface (or bottom of cellar) outside casing?	Yes					

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OG DIVISION
HOUSTON, TX

22 Remarks

Goldston Oil Corp.
Doornbos #1

LEAD CEMENT **3% Salt + .1% FWCA**

TAIL CEMENT: **.1% FWCA**

Well Owner: **Same**
Sales Order: **2057662**

Top Out Cmt:

OVER ➔

CEMENTING TO PLUG AND ABANDON	G #1	PLUG #2	PLUG #3	PLUG #4	PL 5	PLUG #6	PLUG #7	PLUG #8
23. Cementing date								
24. Size of hole or pipe plugged (in.)								
25. Depth to bottom of tubing or drill pipe (ft.)								
26. Sacks of cement used (each plug)								
27. Slurry volume pumped (cu.ft.)								
28. Calculated top of plug (ft.)								
29. Measured top of plug, if tagged (ft.)								
30. Slurry wt. (lbs/gal)								
31. Type cement								

CEMENTER'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

W Lance Fielding	Service Supervisor	HALLIBURTON ENERGY SERVICES	X
Name and Title of Cementer's Representative		Cementing Company	Signature

101 HOLT ROAD	VICTORIA	TX	77905	361-575-1443	10/13/2002
Address	City,	State,	Zip Code	Tel: Area Code Number	Date: Mo. Day Yr.

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

Greg Colburn	Production Manager	
Typed or Printed Name of Operator's Representative	Title	Signature

P.O. Box 570365 Houston, TX 77257-0365	713/355-3408	10-23-02
Address City, State, Zip Code	Tel: Area Code Number	Date: Mo. Day Yr.

Instruction to Form W-15, Cementing Report

IMPORTANT: Operators and cementing companies must comply with the requirements of the Commission's Statewide rules 8 (Water Protection), 13 (Casing, Cementing, Drilling, and Completion, and 14 (Well Plugging). For offshore operations, see the requirements of Rule 13 (c).

A. What to file. An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form. Form W-15 should be filed with the following:

* An initial oil or gas completion report, **Form W-2 or G-1**, as required by Statewide or special field rules:
* Form **W-4**, Application for Multiple Completion, if the well is a multiple parallel casing completion; and
* Form **W-3**, Plugging Record, unless the W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form **W-15, in addition to Form W-3, to show any casing cemented in the hole.**

B. Where to file. The appropriate Commission District Office for the county in which the well is located.

C. **Surface casing.** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Texas Department of Water Resources, Austin. Before drilling a well in any field or area in which no field rules are in effect or in which surface casing requirements are not specified in the applicable rules, an operator must obtain a letter from the Department of Water Resources stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.

D. **Centralizers.** Surface casing must be centralized at the shoe, above and below a stage collar or diverting tool, if run, and through usable-quality water zones. In nondeviated holes, a centralizer must be placed every fourth joint from the cement shoe to the ground surface or to the bottom of the cellar. All centralizers must meet API specifications.

E. **Exceptions and alternative casing programs.** The District Director may grant an exception to the requirements of Statewide Rule 13. In a written application, an operator must state the reason for the requested exception and outline an alternate program for casing and cementing through the protection depth for strata containing usable-quality water. The District Director may approve, modify, or reject a proposed program. **An operator must obtain approval of any exception before beginning casing and cementing operations.**

F. **Intermediate and production casing.** For specific technical requirements, operators should consult Statewide Rule 13 (b) (3) and (4).

G. **Plugging and abandoning.** Cement plugs must be placed in the wellbore as required by Statewide Rule 14. The District Director may require additional cement plugs. For onshore or inland wells, a 10-foot cement plug must be placed in the top of the well, and the casing must be cut off three feet below the ground surface. All cement plugs, except the top plug, must have sufficient slurry volume to fill 100 feet of hole, plus ten percent for each 1,000 feet of depth from the ground surface to the bottom of the plug.

To plug and abandon a well, operators must use only cementers approved by the Director of Field Operations. Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.

Cementer: Fill in shaded areas
Operator: Fill in ather items

Form W-15
Cementing Report
Rev.4/1/83
HAL1199

RAILROAD COMMISSION OF TEXAS

Oil and Gas Division

1. Operator's Name (As Shown on Form P-5, Organization Report)	2. RRC Operator No.	3. RRC District No.	4. County of Well Site
Goldston Oil Corporation	313990	03	Chambers
5. Field Name (Wildcat or Exactly as Shown on RRC Records)	**6. API No.**		**7. Drilling Permit No.**
Wildcat	42-071-32233		523631
8. Lease Name	**9. Rule 37 Case No.**	**10. Oil Lease/Gas ID No.**	**11. Well No.**
Doornbos			1

CASING CEMENTING DATA:	SURFACE CASING	INTERMEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
			Single Sring	Multiple Parallel Strings	Tool	Shoe
12. Cementing Date		1-Nov-02				
13. *Drilled hole size		9 7/8"				
*Est. % wash or hole enlargement		15%				
14. Size of casing (in. O.D.)		7 5/8"				
15. Top of liner (ft)		-				
16. Setting depth (ft)		9719'				
17. Number of centralizers used		9				
18. Hrs. waiting on cement before drill-out		55				
1st Slurry — 19. API cement used: No. of sacks >		370				
1st Slurry — Class >		HLC PREM				
1st Slurry — Additives >		SEE REMARKS				
2nd Slurry — No. of sacks >		610				
2nd Slurry — Class >		PREMIUM				
2nd Slurry — Additives >		SEE REMARKS				
3rd Slurry — No. of sacks >						
3rd Slurry — Class >						
3rd Slurry — Additives >						
1st — 20. Slurry pumped: Volume (cu.ft.) >		651.2				
1st — Height (ft.) >		3032.25				
2nd — Volume (cu.ft.) >		646.6				
2nd — Height (ft.) >		3010.83				
3rd — Volume (cu.ft.) >						
3rd — Height (ft) >						
Total — Volume (cu.ft.) >		1297.8				
Total — Height (ft.) >		6043.08				
21. Was cement circulated to ground surface (or bottom of cellar) outside casing?		NO				

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OG DIVISION
HOUSTON, TX

22. Remarks

LEAD CEMENT **.45%HALAD-322+.15%FWCA+.1%HR-7**

GOLDSTON OIL CORP.
DOORNBOS #1

TAIL CEMENT: **.2%CFR-3+.7%HALAD-9+.1%HR-5**

CHAMBERS

Well Owner: **GOLDSTON OIL CORP.**

Sales Order: **2108787**

OVER →

CEMENTING TO PLUG AND ABANDON	UG #1	PLUG #2	PLUG #3	PLUG #4	JG #5	PLUG #6	PLUG #7	PLUG #8
23. Cementing date								
24. Size of hole or pipe plugged (in.)								
25. Depth to bottom of tubing or drill pipe (ft.)								
26. Sacks of cement used (each plug)								
27. Slurry volume pumped (cu.ft.)								
28. Calculated top of plug (ft.)								
29. Measured top of plug, if tagged (ft.)								
30. Slurry wt. (lbs/gal)								
31. Type cement								

CEMENTER'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

ADRIAN FUNARI	Service Supervisor	HALLIBURTON ENERGY SERVICES	X
Name and Title of Cementer's Representative		Cementing Company	Signature

101 HOLT ROAD	VICTORIA	TX	77905	361-575-1443	11/1/2002
Address	City,	State,	Zip Code	Tel: Area Code Number	Date: Mo. Day Yr.

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

Greg Colburn	Production Manager	
Typed or Printed Name of Operator's Representative	Title	Signature

P.O. Box 570365, Houston, TX 77257-0365	(713)355-3408	11-07-02
Address City, State Zip Code	Tel: Area Code Number	Date: Mo. Day Yr.

Instruction to Form W-15, Cementing Report

IMPORTANT: Operators and cementing companies must comply with the requirements of the Commission's Statewide rules 8 (Water Protection), 13 (Casing, Cementing, Drilling, and Completion, and 14 (Well Plugging). For offshore operations, see the requirements of Rule 13 (c).

A. What to file. An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form. Form W-15 should be filed with the following:

* An initial oil or gas completion report, **Form W-2 or G-1**, as required by Statewide or special field rules:
* Form **W-4**, Application for Multiple Completion, if the well is a multiple parallel casing completion; and
* Form **W-3**, Plugging Record, unless the W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form **W-15, in addition to Form W-3, to show any casing cemented in the hole.**

B. Where to file. The appropriate Commission District Office for the county in which the well is located.

C. **Surface casing.** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Texas Department of Water Resources, Austin. Before drilling a well in any field or area in which no field rules are in effect or in which surface casing requirements are not specified in the applicable rules, an operator must obtain a letter from the Department of Water Resources stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.

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E. **Exceptions and alternative casing programs.** The District Director may grant an exception to the requirements of Statewide Rule 13. In a written application, an operator must state the reason for the requested exception and outline an alternate program for casing and cementing through the protection depth for strata containing usable-quality water. The District Director may approve, modify, or reject a proposed program. **An operator must obtain approval of any exception before beginning casing and cementing operations.**

F. **Intermediate and production casing.** For specific technical requirements, operators should consult Statewide Rule 13 (b) (3) and (4).

G. **Plugging and abandoning.** Cement plugs must be placed in the wellbore as required by Statewide Rule 14. The District Director may require additional cement plugs. For onshore or inland wells, a 10-foot cement plug must be placed in the top of the well, and the casing must be cut off three feet below the ground surface. All cement plugs, except the top plug, must have sufficient slurry volume to fill 100 feet of hole, plus ten percent for each 1,000 feet of depth from the ground surface to the bottom of the plug.

To plug and abandon a well, operators must use only cementers approved by the Director of Field Operations. Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.

Cementer: Fill in shaded areas
Operator: Fill in other items

Form W-15
Cementing Report
Rev.4/1/83
HAL1199

RAILROAD COMMISSION OF TEXAS

Oil and Gas Division

1. Operator's Name (As Shown on Form P-5, Organization Report)	2. RRC Operator No.	3. RRC District No.	4. County of Well Site
Goldston Oil Corporation	313990	03	Chambers

5. Field Name (Wildcat or Exactly as Shown on RRC Records)	6. API No.	7. Drilling Permit No.
Wildcat	42- 071 32233	523631

8. Lease Name	9. Rule 37 Case No.	10. Oil Lease/Gas ID No.	11. Well No.
Doornbos			1

CASING CEMENTING DATA:	SURFACE CASING	INTERMEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
			Single Sring	Multiple Parallel Strings	Tool	Shoe
12. Cementing Date						
13. *Drilled hole size						
*Est. % wash or hole enlargement						
14. Size of casing (in. O.D.)						
15. Top of liner (ft)						
16. Setting depth (ft)						
17. Number of centralizers used						
18. Hrs. waiting on cement before drill-out						
1st Slurry — 19. API cement used: No. of sacks >						
1st Slurry — Class >						
1st Slurry — Additives >						
2nd Slurry — No. of sacks >						
2nd Slurry — Class >						
2nd Slurry — Additives >						
3rd Slurry — No. of sacks >						
3rd Slurry — Class >						
3rd Slurry — Additives >						
1st — 20. Slurry pumped: Volume (cu.ft.) >						
1st — Height (ft.) >						
2nd — Volume (cu.ft.) >						
2nd — Height (ft.) >						
3rd — Volume (cu.ft.) >						
3rd — Height (ft) >						
Total — Volume (cu.ft.) >						
Total — Height (ft.) >						
21. Was cement circulated to ground surface (or bottom of cellar) outside casing?						

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OG DIVISION
HOUSTON, TX

22. Remarks

Goldston Oil Corp *1st* **.75% CFR3 + .25% HR5**
Doornbos #1
Chambers
Well Owner: Goldston Oil Corp
Sales Order: 2135851

OVER →

CEMENTING TO PLUG AND ABANDON	#1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7	PLUG #8
23. Cementing date	11/12							
24. Size of hole or pipe plugged (in.)	6 1/2							
25. Depth to bottom of tubing or drill pipe (ft.)	9798							
26. Sacks of cement used (each plug)	75							
27. Slurry volume pumped (cu.ft.)	70							
28. Calculated top of plug (ft.)	9510							
29. Measured top of plug, if tagged (ft.)								
30. Slurry wt. (lbs/gal)	17.6							
31. Type cement	H							

CEMENTER'S CERTIFICATE. I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

W Lance Fielding	Service Supervisor	HALLIBURTON ENERGY SERVICES	X	
Name and Title of Cementer's Representative		Cementing Company	Signature	

101 HOLT ROAD	VICTORIA	TX	77905	361-575-1443	11/11/2002
Address	City,	State,	Zip Code	Tel: Area Code Number	Date: Mo. Day Yr.

OPERATOR'S CERTIFICATE. I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

Greg Colburn	Production Manager	
Typed or Printed Name of Operator's Representative	Title	Signature

P.O. Box 570365 Houston, TX 77257-0365	713/355-3408	11-20-02
Address City, State, Zip Code	Tel: Area Code Number	Date: Mo. Day Yr.

Instruction to Form W-15, Cementing Report

IMPORTANT: Operators and cementing companies must comply with the requirements of the Commission's Statewide rules 8 (Water Protection), 13 (Casing, Cementing, Drilling, and Completion, and 14 (Well Plugging). For offshore operations, see the requirements of Rule 13 (c).

A. What to file. An operator should file an original and one copy of the completed Form W-15 for each cementing company used on a well. The cementing of different casing strings on a well by one cementing company may be reported on one form. Form W-15 should be filed with the following:

* An initial oil or gas completion report, **Form W-2 or G-1**, as required by Statewide or special field rules;
* Form **W-4**, Application for Multiple Completion, if the well is a multiple parallel casing completion; and
* Form **W-3**, Plugging Record, unless the W-3 is signed by the cementing company representative. When reporting dry holes, operators must complete Form **W-15, in addition to Form W-3, to show any casing cemented in the hole.**

B. Where to file. The appropriate Commission District Office for the county in which the well is located.

C. **Surface casing.** An operator must set and cement sufficient surface casing to protect all usable-quality water strata, as defined by the Texas Department of Water Resources, Austin. Before drilling a well in any field or area in which no field rules are in effect or in which surface casing requirements are not specified in the applicable rules, an operator must obtain a letter from the Department of Water Resources stating the protection depth. Surface casing should not be set deeper than 200 feet below the specified depth without prior approval from the Commission.

D. **Centralizers.** Surface casing must be centralized at the shoe, above and below a stage collar or diverting tool, if run, and through usable-quality water zones. In nondeviated holes, a centralizer must be placed every fourth joint from the cement shoe to the ground surface or to the bottom of the cellar. All centralizers must meet API specifications.

E. **Exceptions and alternative casing programs.** The District Director may grant an exception to the requirements of Statewide Rule 13. In a written application, an operator must state the reason for the requested exception and outline an alternate program for casing and cementing through the protection depth for strata containing usable-quality water. The District Director may approve, modify, or reject a proposed program. **An operator must obtain approval of any exception before beginning casing and cementing operations.**

F. **Intermediate and production casing.** For specific technical requirements, operators should consult Statewide Rule 13 (b) (3) and (4).

G. **Plugging and abandoning.** Cement plugs must be placed in the wellbore as required by Statewide Rule 14. The District Director may require additional cement plugs. For onshore or inland wells, a 10-foot cement plug must be placed in the top of the well, and the casing must be cut off three feet below the ground surface. All cement plugs, except the top plug, must have sufficient slurry volume to fill 100 feet of hole, plus ten percent for each 1,000 feet of depth from the ground surface to the bottom of the plug.

To plug and abandon a well, operators must use only cementers approved by the Director of Field Operations. Cementing companies, service companies, or operators can qualify as approved cementers by demonstrating that they are able to mix and pump cement in compliance with Commission rules and regulations.

071 32233 (1)

HALLIBURTON

HRI/DFL GAMMA

M 1 8 4 0 1 7

COMPOSITE

COMPANY GOLDSTON OIL CORPORATION
WELL DOORNBOS #1
FIELD WILDCAT
COUNTY CHAMBERS STATE TEXAS

COMPANY GOLDSTON OIL CORPORATION

WELL DOORNBOS #1

FIELD WILDCAT D-03

COUNTY CHAMBERS STATE TEXAS

API No. 42-071-32233
Location 1000.61'FEL&1817.61'FSL
T.& N.O.R.R. CO.
SURVEY A-272

Sect Twp Rge

Other Services
NONE

Permanent Datum GROUND LEVEL Elev 25.38

Log measured from T.K.B. , 31.29 ft. above perm. datum

Drilling measured from T.K.B.

Elev.: K.B. 56.67
D.F. 55.42
G.L. 25.38

Date	10/31/02	11/11/02
Run No.	ONE	TWO
Depth – Driller	9720	10800
Depth – Logger	9722	10805
Bottom – Logged Interval	9710	10796
Top – Logged Interval	2100	9726
Casing – Driller	10.75 @ 2100	9.625 @ 9730
Casing – Logger	2100	9726
Bit Size	9.875	6.5
Type Fluid in Hole	WATERBASE	WATERBASE
Dens. | Visc.	12.4 | 41	10.7 | 42
Ph | Fluid Loss	10.0 | 5.8	10.2 | 10.2
Source of Sample	CIRCULATED	MUD TANK
Rm @ Meas. Temp.	1.22 @ 75 F	1.10 @ 65 F
Rmf @ Meas. Temp.	0.96 @ 65	0.81 @ 65
Rmc @ Meas. Temp.	2.01 @ 65	1.34 @ 65
Source Rmf | Rmc	MEAS | MEAS	MEAS | MEAS
Rm @ BHT	0.512 @ 188 F	0.378 @ 202 F
Time Since Circ.	1700 10/30	1100 11/11
Time on Bottom	2345 10/30	1630 11/11
Max. Rec. Temp.	188 @ TD	202 @ TD
Equip. | Location	53793 | KLGORE	9103 | KLGORE
Recorded By	P. EYLEY	P. EYLEY
Witnessed By	GREG COLBURN	GREG COLBURN R. HINKEL

21:00:11 50-60-150-203

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HOUSTON, TX

@ MAY 2003
OG REC'D
RECORDS

4

Jfd5a9d43819

ARTIFICIAL PENETRATION NO. 12

OPERATOR: P.H. WELDER
WELL NAME: WILLIAM DOORNBOS ET AL NO. 1

API NO: 42-071-01959

Geostock Sandia

4318488

Please refer to File No.....

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1

4-0267

APPLICATION TO DRILL, ~~DEEPEN OR PLUG BACK~~

IS THIS AN APPLICATION TO DRILL, ~~DEEPEN OR PLUG BACK~~ Drill ?

FILE DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines.. Also show the nearest wells on all sides of of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line....330.....feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease.....None.....feet.

Date.....3-27..... 19.56...

Name of company or operator

Name.....P. H. Welder.....

Address.....P. O. Box 604.....

City.....Victoria, Texas.....

Description of farm or lease:

Name of Lease...William Doornbos et al.....

Number of Acres...562.42.....Well No....1.....

Number of wells on lease.....None.....

Survey.....T & N.O. R.R. Co.

Elevation.....Feet
(ABOVE SEA LEVEL)

Section No....59.....Block No.....

Located in....Wildcat.....Field

(If Wildcat state above)

.....Chambers.....County

.....3.....Miles.....W.....direction from

.....Winnie.....nearest postoffice or town.

Rotary or Cable Tools.....Rotary.....

Date work will start drilling.....Immediately.....

Depth to which you propose to drill.9,050.....feet.

Date work will start deepening.....

IF LEASE PRUCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name.....

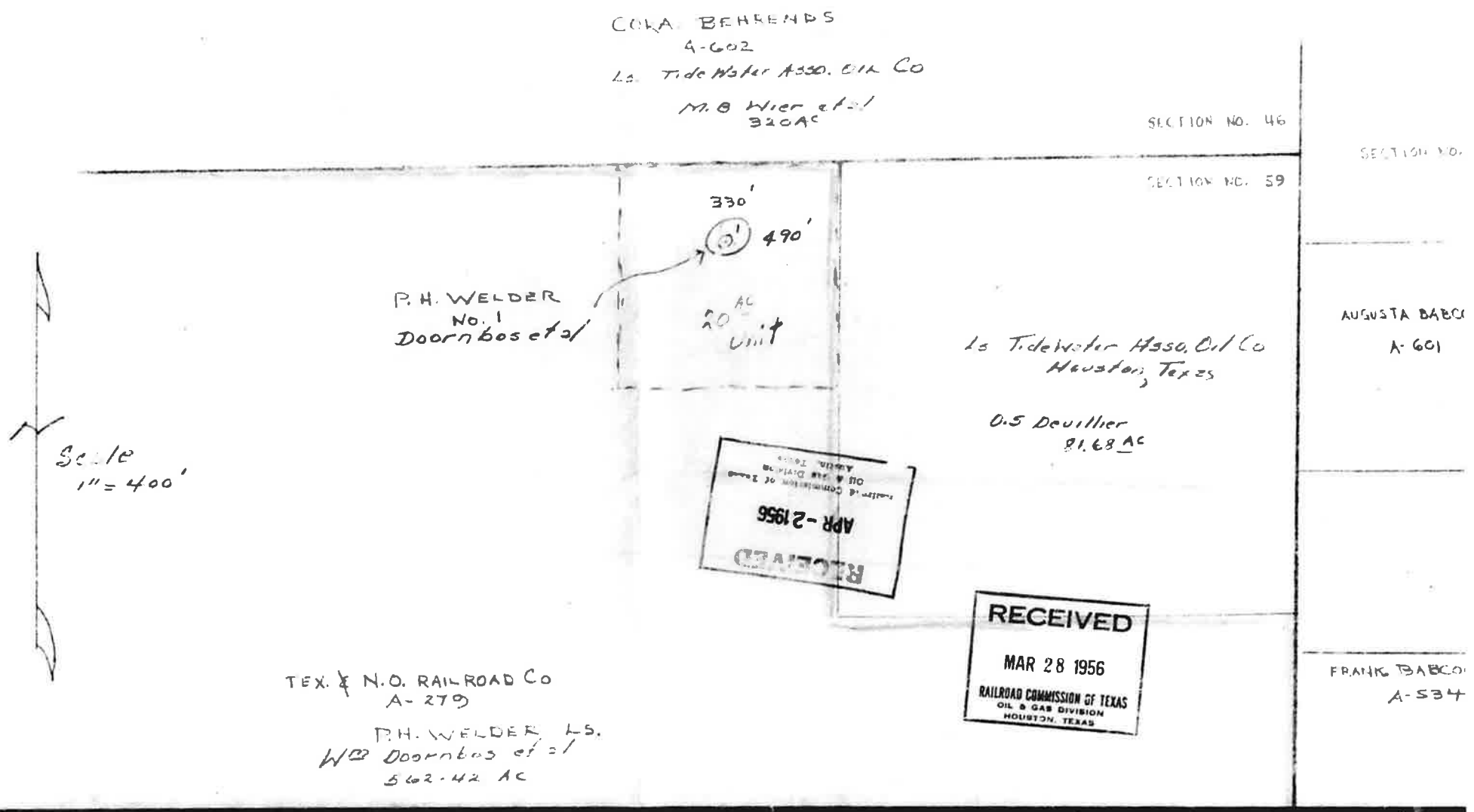
Address.....

330-933 2nd

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

PR 4 1956


COLA. BEHRENDS
A-602
La. Tide Water Asso. Oil Co
M. B Wier et al
320 Ac
SECTION NO. 46
SECTION NO. 59
SECTION NO.
330'
490'
P. H. WELDER
No. 1
Doornbos et al
40 AC
Unit
La Tidewater Asso. Oil Co
Houston, Texas
O.S Deuillier
81.68 AC
AUGUSTA BABCO
A-601
Scale
1" = 400'
APR -2 1956
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MAR 28 1956
RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
HOUSTON, TEXAS
TEX. & N.O. RAILROAD Co
A-279
P.H. WELDER, ET AL
Wm Doornbos et al
562.42 AC
FRANK BABCO
A-534

4 0067

Please Refer to File No.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 3A
Application To Plug and Well Record

FILE IN DUPLICATE, WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Company P. H. Welder Address Victoria, Texas.

Sec. No. 59 Block No. ____ Survey T. & N. O. County Chambers

Well No. 1 Name of Lease Wm. Dornbas et al No. of Acres 562.42 Elev. 30

Name of Field in which well is located Wildcat

Located 3 Miles West direction from Winnie, Texas (Nearest P. O. or Town)

Form 1, "Notice of Intention to Drill," was filed in name of P. H. Welder

Drilling Commenced 3/[illegible] 56, 1956. Drilling Completed 4/24, 1956

Has this well ever produced Oil? No or Gas? No

Character of Well (Oil, Gas or Dry) Dry Total Depth 9024

Date you wish to Plug 4/24/, 1956.

Name of Party Plugging Well Halliburton Oil Well Cementing Company Address Houston, Texas.

Correspondence regarding this well should be sent to: Name Cecil Blouin

Address 481 San Jacinto Bldg., Houston, Texas.

Initial Production of Gas: Volume (MCF) None 24 hrs. Pressure ____ lbs. per square inch

Initial Production of Oil: Barrels None

Give notice before Plugging to all available Lease Owners, as required by Rule (10). Yes.

When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information that can be obtained as to total depth, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks: No shows of oil, gas or condensate encountered. 10-3/4 inch casing cemented from top to bottom. Casing set at 1192'

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS
	0	15	Surface.
	15	1600	Sd. & Shale.
	1600	1675	Shale.
	1675	1702	Sand.
	1702	2401	Sand & Shale.
	2401	2570	Shale.
	2570	2680	Sand.
	2680	2745	Shale.
	2745	2765	Sand.
	2675	3002	Shale.
	3002	3043	Sand.
	3043	4501	Sand & Shale.
	4501	4735	Shale.
	4735	6473	Sand & Shale.
	6473	6764	Shale.
	6764	6706	Sand.
	6706	6917	Shale.
	6917	7140	Shale with lime stks.
7140	~~7537~~	7537	Shale.
	7537	7565	Sand.
	7565	7753	Shale.
	7753	8262	Sand with shale stks.
	8262	8537	Shale.
8537	~~8552~~	8552	Sand.
	8552	8936	Shale.
	8936	8982	Sand.
	8982	9020	Shale.

1956

Method of shutting off water Cement. Is water completely shut off? yes.

Amount of water with oil per cent.

I, Cecil Blouin being first duly sworn on oath state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Cecil Blouin

Representative of Company.

Subscribed and sworn to before me this 30 day of April, 1956

L. R. Tully

Notary Public

Harris County, Texas.

Please Refer to
File No. _____

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 4
Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company P. H. Welder Address Victoria, Texas

Sec. No. 59 Block No. ____ Survey T & N O County Chambers

Well No. 1 Name of Lease Wm. Doornbos et al No. of Acres 562.42

Name of Field in which well is located Wildcat Date well was plugged 4/24/ , 19 56

Form 1 (*Notice of Intention to Drill*) Was Filed in Name of P. H. Welder

Character of Well at the time of completion: Oil None (Initial Production) bbls; Gas None (Initial Production) Cu. Ft.; Dry Dry

Amount well producing when plugged: Oil None bbls; Gas None Cu. Ft.; Water None bbls.

Has this well ever produced oil or gas? No.

Total Depth 9024 feet. Top of each producing sand _____ feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? Yes

How was mud applied? Pump

Were plugs used? Cement If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depth placed. Also amount of cement and rock. Was well shot? No.

Cement plug from depth of 1142 to 1242 feet, 25 Sack Cement in Top of Casing

SIZE PIPE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOES
	Ft.	In.	Ft.	In.	Ft.	In.	
10-3/4	1192	-	None		1192		Cement from top to bottom

Show depth found and thickness of all water, oil and gas formations None

Have all abandoned wells on this lease been plugged according to Commissions rules? No other wells

Manner of confining all oil, gas or water to strata: mud and cement plug

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:

Tidewater Associated Oil Co., Houston, Texas. O. C. Deviller, Wilmie, Texas

Was notice given before plugging to all available adjacent lease owners as required by Rule 10? Yes

I, Cecil Blouin Cecil Blouin, being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth and that the same are true and correct.

Name Cecil Blouin Cecil Blouin, Title Geologist

Subscribed and sworn to before me this 30 day of April, 1956

E. R. Tully

Notary Public Harris County, Texas

Correspondence regarding this well should be addressed to:

Name Cecil Blouin Address 481 San Jacinto Bldg., Houston, Texas.

DR

[illegible] WELL SURVEYING CORPORATION

[illegible]

COUNTY CHAMBERS
FIELD or LOCATION WC-WINNIE AREA
WELL WILLIAM DORNBOS NO. 1
COMPANY P. H. WELDER

COMPANY P. H. WELDER
[illegible]
WELL WILLIAM DORNBOS
NO. 1
FIELD WILDCAT
LOCATION WINNIE AREA
COUNTY CHAMBERS
STATE TEXAS

Location of Well
562.42-acs, 330
FNL lse. & sur.
490' W of lse.
Sc 2375' FEL
sur. 2 3.4 m
NW No. Fig
Ridge prodn.

IES-ST-IND.

Elevation: D.F.
K.B.
G.L.

FILING No. SG-71

RUN No.	ONE	TWO	THREE	FOUR	FIVE
Date	4-12-56	4-23-56			
First Reading	7596	[illegible]			
Last Reading	1192	[illegible]			
Feet Measured	6404	1428			
Csg. Schlum.	1192	1192			
Csg. Driller	1200	1200			
Depth Reached	7597	9025			
Bottom Driller	7598	9025			
Depth Datum	KB-12.80' ABV. B. H.				
Mud Nature	PHOSPHATE				
Density	10	10.5			
Viscosity	40	5			
Resist.	.4 86 F	.3 85 F	F	F	F
Res. BHT	.85 148 F	.73 150 F	F	F	F
pH	8.5	8.5 F	F	F	F
Wtr. Loss	10 CC 30 min	8.0 CC 30 min	CC 30 min	CC 30 min	CC 30 min
Max Temp F	148	150			
Bit Size	8 3.4	8 3.4			
Spcgs.—AM					
AM					
AC					
Opr. Rig Time	2 1.2 HRS.	2 HRS.			
Truck & District	2713-BMT	2780-BMT.			
Recorded By	TINCH	ROBINSON			
Witness By	MR. BLOUIN	MR. BLOUIN			

Logid-N44124

FOLD HERE

REMARKS UNAVAILABLE

ARTIFICIAL PENETRATION NO. 13

OPERATOR: BLANKE, FROST, & FRAZIER
WELL NAME: J.W. GARTH JR. NO. 1

API NO: 42-071-01954

Geostock Sandia

Please Refer to File No. _____ Form 1

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

NOTICE OF INTENTION TO DRILL OR DEEPEN

IS THIS AN APPLICATION TO DRILL OR DEEPEN Drill ?

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, **THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE.** Do not begin operation on any location before filing Form 1, and do not begin operations on any location not conforming to the spacing rules for such location until you receive written order from the Commission granting permission.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location **with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distances from the proposed location to those wells.** Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 400 feet; if less than 2 acres use scale of one inch equaling 100 feet. **DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.**

* * * * *

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 467 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease NIL feet.

This notice must be delivered to Deputy Supervisor of your district before drilling, or deepening, five full days prior to spudding in.

Date September 5, , 1947

Name of company or operator

Name Blanke, Frost and Frazier

Address 805 Esperson Bldg.

City Houston 2, Texas

Description of farm or lease:

Name (Fee owner) J. W. Garth, Jr., et al

Number of Acres 100 Well No. 1

Number of wells on lease None

Survey T. & N. O. RR. CO.

Elevation _____ Feet
(Above Sea Level)

Section No. 57 Block No. _____

Located in Wildcat Field
(If Wildcat state above)

Chambers County

3 Miles NW direction from

Stowell nearest postoffice or town.

Rotary or Cable Tools Rotary

Date work will start drilling Immediately

Depth to which you propose to drill 9000 feet.

Date work will start deepening _____

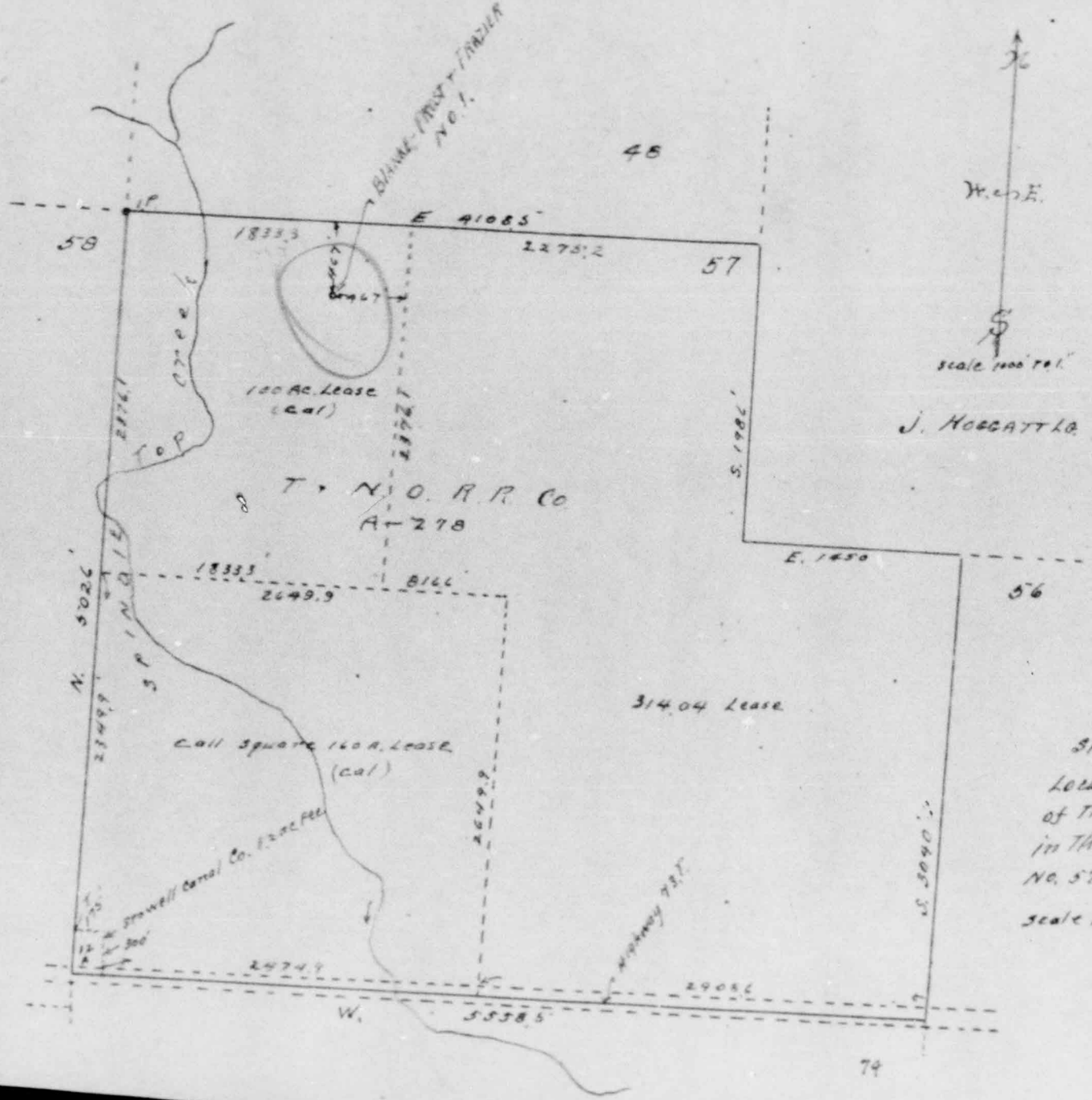
If Lease Purchased with one or more wells drilled From Whom Purchased?

Name NIL

Address _____

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE



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SEP 6 1947
OIL & GAS DIVISION
TEXAS RAILROAD COMMISSION
AUSTIN, TEXAS

Plat

Showing Location No. 1. Blanke, Frost & Frazier Located 467' W. of the East Line & 467' South of the North Line of the 100 Acre Lease Block in the N.W. corner of T & N.O.R.R. Section No. 57; A-278, Chambers Co. Texas.

Surveyed Sept. 2nd 1947

Scale 1000' To 1"

W. O. Stark
County Surveyor
Chambers Co. Texas

30843

Form 2A

Please Refer to File No. _____

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

APPLICATION TO PLUG AND WELL RECORD

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Name of Company or Operator JACK W. FRAZIER Address 1311 Esperson Bldg Houston 2, Texas

County Chambers Survey T&NO RR, A-278 Blk. _____ Sec. 57

Name of Lease J. W. Garth, Jr. No. of Acres 100 Well No. 1

Located 3 Miles NW Direction from Stowell, Texas (Nearest P. O. or Town)

Name of Field in which well is located W.C.

Form 1, "Notice of Intention to Drill," was filed in name of BLANKE, FROST & FRAZIER

Drilling Commenced 9/11/47, 19__, Drilling Completed 10/12/47, 19__,

Has this well ever produced oil? no or Gas? no

Character of Well (Oil, Gas or Dry) dry Total Depth 9012

Date you wish to Plug October 13, 19 47*

Name of Party Plugging Well Jack W. Frazier Address 1311 Esperson Bldg

Correspondence regarding this well should be sent to: Name same

Address same

CASING RECORD

SIZE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOES
	Ft.	In.	Ft.	In.	Ft.	In.	
10-3/4"	1000 W/375 sacks cement						

IF CASING WAS CEMENTED GIVE NUMBER OF SACKS USED ON DIFFERENT STRINGS

Initial Production of Gas: Volume _____ MCF 24 hrs. Pressure _____ lbs. per square inch

Initial Production of Oil: Barrels _____

Give notice before Plugging to all available Lease Owners, as required by Rule (10). When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information that can be obtained as to total depth, casing record, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks: * Permission to plug obtained by telephone.

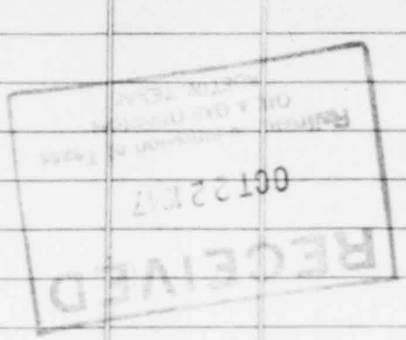
FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

B

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS

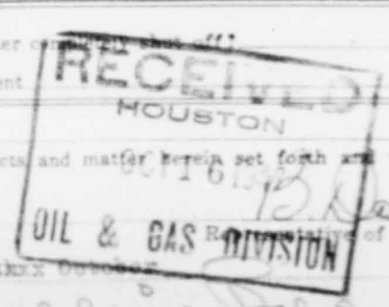


Method of shutting off water ____ Is water c[illegible]

Amount of water with oil ____ per cent

I, B. Dowe

being first duly sworn on oath state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.



B. Dowe

Representative of the Company.

Subscribed and sworn to before me this 14th day of ~~October~~ October, A. D. 19 47.

Geraldine Baldwin

Geraldine Baldwin Notary Public

Harris County, Texas.

BLANKE-FROST-FRAZIER, NO. 1 GARTH
CHAMBERS COUNTY, TEXAS
SCHLUMBERGER RUN

OPERATION COMMENCED: 9/1/47
DRILLING COMMENCED: 9/11/47
DRILLING COMPLETED: 10/12/47
SET & CEMENTED 1000 FT 10-3/4" SURFACE CASING W/375 SACKS CEMENT

0-80	clay & sand
619	sd, clay, sh
1018	sd, grvl, sh
1205	sand
1787	sdy sh
2173	sdy sh, sd & sh
2355	sd, stcky sh
2600	sdy sh, stcky sh
2886	sdy sh, sh, stcky sh
3041	sh & stcky sh w/sd strks
3206	stcky sh, sdy sh
3250	sdy sh
3345	sh, lime stks, stcky sh
3445	stcky sh
3544	sdy sh
3668	stcky sh
3688	sdy sh
3775	stcky sh
3850	sh & shells
4117	sdy sh
4350	sh stcky strks
4392	sand
4430	sdy sh
4559	sdy sh, stks stcky sh
4570	stcky sh
4707	sdy sh, sh
4800	shale
4910	sdy sh
5033	shale
5095	sdy sh
5141	sh, stcky
5175	sh, lime stks
5300	sdy sh
5376	sh, thin stks sd
5450	stcky sh
5513	sdy sh
5575	shale
5580	sand
5667	sdy sh stks sd
5719	shale
5749	sdy sh
5805	sh w/sdy strks
5892	sdy sh lime strks
6009	sh, lime sd stks
6141	sh & stcky strks
6227	sdy sh
6260	sdy sh
6409	sh, lime sd stks
6573	sdy sh
6723	sdy sh
6850	sdy sh, thin sd
6876	sh, stcky stks
6912	hd sh
6963	hd sh
7097	sh, stks lime & hd sd
7163	stcky sh & lime
7230	stcky sh
7300	hd sh
7375	sh, lime
7475	hd sdy sh, stky sd
7575	sdy sh
7640	hd sh
7700	CORED
7725	hd sh
7895	sdy sh, sd stks
7914	CORED
8078	sdy sh
8173	sh, lime strks
8223	hd sh, stks sdy lime
8254	hd sh
8275	hd sh
8355	sh, stks hd sd & lime
8425	hd sh lime stks
8435	hd sh
8471	hd sh & lime
8495	hd sh
8530	hd sh
8592	hd sh lime stks
8644	hd sh
8661	hd sh
8684	sh thin stks sd & lime
8744	hd sh
8800	hd sh
8913	sh w/sd strks
8973	hd sh
9012	sdy sh
9012	TOTAL DEPTH

CORE RECORD:

#1	7640-50	9' sh, 1' shly sd, 10' Rec
#2	7650-60	6' hd blue sh, 6' Rec
#3	7660-70	hd sh 10' Rec
#4	7670-85	7' med grain sd, 6' sh, 2' firm sd S. W. & N. S., 15' Rec
#5	7685-7700	5' sd, 5' sh & sd, 2' sd N.S. S.W. 12' R
#6	7895-7900	2' hd sh, 2" shly sd, 8" sd N.S. 5' Rec
#7-	7900-14	14' med gray S.W. sd, 14' Rec

I, JACK W. FRAZIER, being first duly sworn on oath, state I have knowleage of the facts and matter herein set forth and that same are true and correct.

Jack W. Frazier
JACK W. FRAZIER

SUBSCRIBED AND SWORN TO BEFORE ME this 14th day of October, 1947.

Geraldine Baldwin
Geraldine Baldwin, Notary Public, Harris County, Texas

RECEIVED
HOUSTON
OCT 16 1947
OIL & GAS DIVISION

Please Refer to File No. 30843

Form 4

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

PLUGGING RECORD

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Operator JACK W. FRAZIER Address 1311 Esperson Bldg Houston 2, Texas

Sec. No. 57 Blk No. Survey T&NO RR, A-278 County Chambers

Well No. 1 Name of Lease J. W. Garth, Jr. No. of Acres 100

Name of Field in which well is located WC Date well was plugged Oct 13, 1947

Form 1, "Notice of Intention to Drill," was filed in name of Blanke, Frost & Frazier

Character of Well at the time of completion: Oil (Initial Production) bbls.; Gas (Initial Production) Cu. ft.; Dry dry

Amount well producing when plugged: Oil none bbls.; Gas none Cu. ft.; Water none bbls.

Has this well ever produced oil or gas? no

Total Depth 9012 feet. Top of each producing sand none feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? yes

How was mud applied? 10.5 mud pupmped into formation under pressure

Were plugs used, yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock.

Was well shot? no

Show depth found and thickness of all water, oil and gas formations 1012-1400' water sand; 7677-7800 SW sd; 7890-8000' SW sd; no oil or gas sds

Have all abandoned wells on this lease been plugged according to Commission rules?

Manner of confining all oil, gas and water to strata: Closed rams on preventers & pumped all heavy mud back into formation; then placed 20 bags of cement in bottom of 10-3/4" casing & 5 bags in top of same for plugs.

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:

Was notice given before plugging to all available adjacent lease owners as required by Rule 10? yes

I, R. F. Newman, being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth and that the same are true and correct.

Name R. F. Newman Title Supt

Subscribed and sworn to before me this 16 th day of October, 19 47

Geraldine Baldwin

Notary Public Harris County, Texas

Correspondence regarding this well should be addressed to:

Name Address 1311 Esperson Bldg, Houston 2, Texas

SCHLUMBERGER

WELL SURVEYING CORPORATION

Location of Well

160 ac lse, T&NO
SEC 73, 1½ mi W
of Stowell twst
[illegible] Tr E & 778
Tr N/L SEC 73.

From Rinehart

#2863-B

Elevation D.F. _____
K.B. _____
G.L. _____

COMPANY: BLANKE, FROST & FRAZIER

WELL: R. M. WHITE ESTATE #1

RUN NO.: COMPOSITE ONE & TWO

FIELD: WC-STOWELL AREA

LOCATION:

COUNTY: CHAMBERS

STATE: TEXAS

FILING No. SO-71

COUNTY: CHAMBERS SO-71

FIELD OR LOCATION: WC-STOWELL AREA

WELL: R. M. WHITE ESTATE #1 (Run #1-2)

COMPANY: BLANKE, FROST & FRAZIER

RUN	ONE	TWO			
Date	11/12/47	11/15/47			
First Reading	8532	9015			
Last Reading	1021	8532			
Footage Measured	7511	483			
Csg Shoe Schlum	1021	-			
Csg Shoe Driller	1017	-			
Max. Depth Reached	8532	9015			
Bottom Driller	8523	9012			
Depth Datum	#	#			
Mud Nature	B-R/QUEB/CAUS	B-R/QUEB/CAUS			
" Density	10#	10.1#			
" Viscosity	35"	40"			
" Resistivity	2.2 @ 81 °F	1.7 @ 70 °F	@ °F	@ °F	@ °F
Maximum Temp. °F	172°	179			
Bit Size	9-7/8"	9 7/8"			
Spacings					
AM	16"	16"			
AM'	63"	63"			
OA	24'	24'			
E.S. Rig Time	3 HRS	1[illegible] HRS			
Observers	OLSON	OLSON			

REMARKS

#MEASUREMENTS FROM 1' ABOVE ROTARY OR 12.70'

ARTIFICIAL PENETRATION NO. 14

OPERATOR: DAN J. HARRISON JR
WELL NAME: THOMAS T. GARTH NO. 1

API NO: 42-071-03174

Geostock Sandia

7435

Application to Drill, Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1
Rev. 4/60

STATE WHETHER THIS IS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK Drill

SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED
DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE,
ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION.
(Black Ink or Black Typewriter Ribbon Preferable)

m

READ CAREFULLY AND COMPLY FULLY

SPS

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, fo this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. . Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR

Nearest distance from proposed location to property or lease line 467 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease ---- feet.

IS THE ACREAGE ON WHICH THIS WELL IS TO BE LOCATED, PRESENTLY ASSIGNED TO ANOTHER WELL IN ANY RESERVOIR FOR WHICH THIS PERMIT IS REQUESTED? NO

Date March 3, 19 65

Name of company or operator

Name Dan J. Harrison, Jr.

Address 2105 Gulf Building

City Houston, Texas 77002

Description of farm or lease:

Name of Lease Thomas T. Garth

Number of Acres 575.24 Well No. 1

Number of wells on lease None

Elevation 20' Approx (Ft. above sea level) Section No. 57 Block No. ____

Survey T.& N.O. A-278

Zone or Reservoir Frio

To be Located in Wildcat Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 1000' from North line & 467' from East line. Chambers County

2 Miles S.W. direction from Winnie nearest post office or town.

Rotary or Cable Tools Rotary

Date work will start drilling when permitted

Depth to which you propose to drill 9800 feet.

Date work will start deepening ____

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name ____

Address ____

RECEIVED
MAR 5 1965
RAILROAD COMMISSION OF TEXAS
OIL & GAS DIVISION
AUSTIN, TEXAS

RECEIVED
MAR 5 1965
HOUSTON

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

Frio Hudson N Ill area

1965

Jos. D. Gober

Jordan Reese, Jr

100 Ac

Eva Mae Lieberman, et al

Dan J. Harrison, Jr. 58

Dan J. Harrison, Jr

Blanke

9012

1000'

467

Proposed Location

40 Ac Drlg Unit

Dan J. Harrison, Jr

2049 Ac

513 Ac

Rbt G & Henry Marshall

Frank Grundt

HUGH NELSON
A-474

T. & N.O.
A-278

575.24 Ac

P.O.A.

9240

57

Unknown

56

R.P. WILLIAMSON
A-552

R.M. WHITE
A-620

N

Thomas T. Gerth et al 4605

74

71

F.P. STERLING
A-477

J.H. HUNEFELT
A-591

LOCATION PLAT

DAN J. HARRISON, JR.

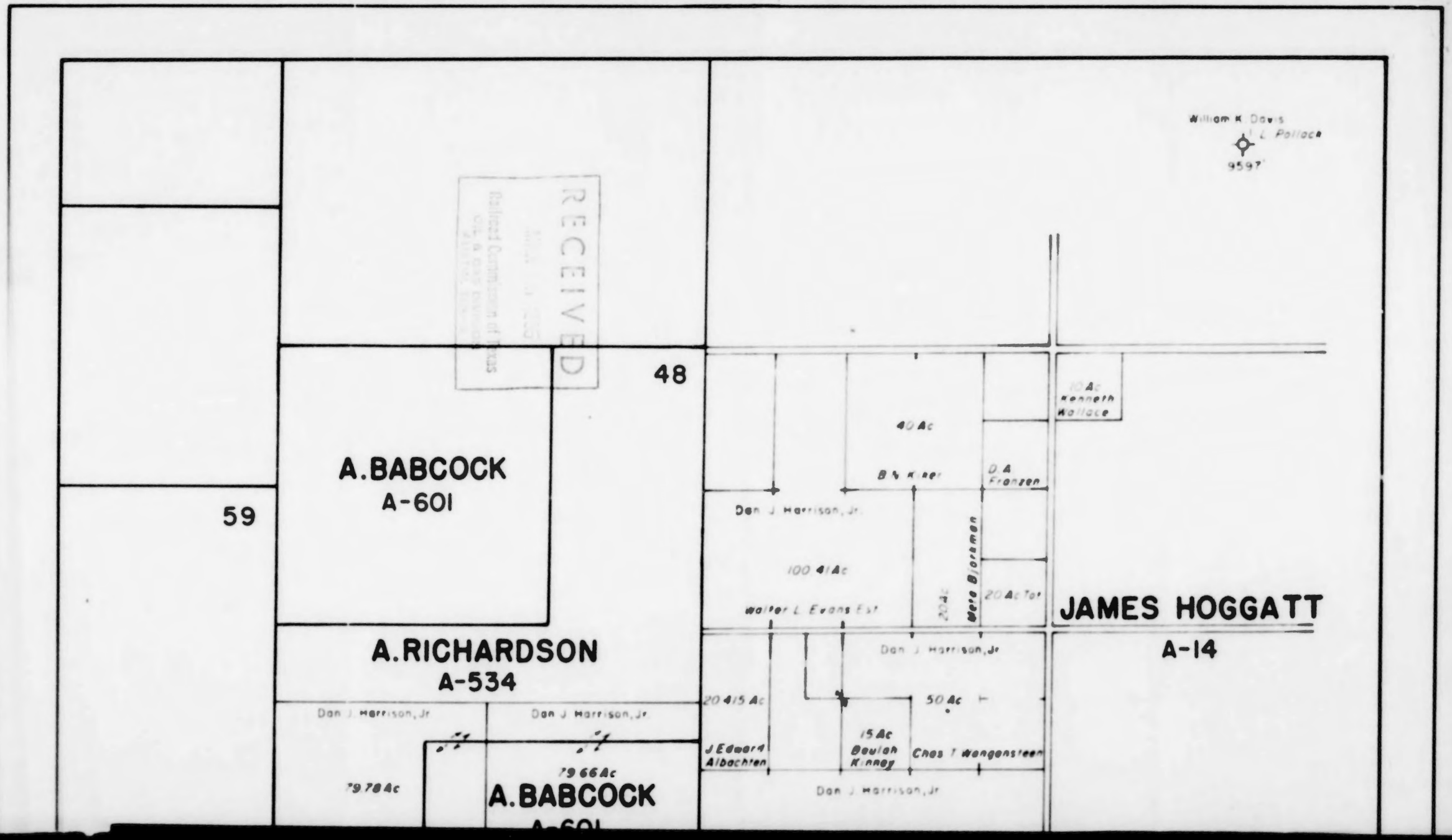
Thomas T. Gerth et al, Well No. 1

WILDCAT

CHAMBERS COUNTY, TEXAS

Scale 1" = 1000'

Date Mar 1965



RECEIVED
Railroad Commission of Texas

4435

Please Refer to File No.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 2A
Application
To Plug and
Well Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Company Dan J. Harrison, Jr. Address 2105 Gulf Building, Houston, Tex.

Sec. No. 57 Block No. _____ Survey T.&N.O. A-278 County Chambers

Well No. 1 Name of Lease Thomas T. Garth No. of Acres 575.24 Elev. 20' Approx.

Name of Field in which well is located Wildcat

Located 2 Miles S.W. Direction from Winnie (Nearest P. O. or Town)

Form 1, "Notice of Intention to Drill," was filed in name of Dan J. Harrison, Jr.

Drilling Commenced March 18, 19 65 Drilling Completed March 30, 19 65

Has this well ever produced Oil? No or Gas? No

Character of Well (Oil, Gas or Dry) Dry Total Depth 9800'

Date you wish to Plug March 30, 19 65

Name of Party Plugging Well Halliburton Co. Address Duncan, Oklahoma

Correspondence regarding this well should be sent to: Name Dan J. Harrison, Jr.
ATTN: Mr. A. E. Woodard

Address 2105 Gulf Bldg., Houston, Texas 77002

Initial Production of Gas: Volume (MCF) None 24 hrs. Pressure None lbs. per square inch

Initial Production of Oil: Barrels None

RECEIVED
APR 1 1965
Railroad Commission of Texas
OIL & GAS DIVISION
AUSTIN, TEXAS

Give notice before Plugging to all available Lease Owners, as required by Rule (10). Dan J. Harrison, Jr. owns all adjacent leases.

When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information that can be obtained as to total depth, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks: Permission to plug received by phone from Mr. Bob Taylor.
Immediate plugging was necessary because of rig on location.

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

RECEIVED
R. R. C. OF TEXAS
APR - 9 1965
O. G.
HOUSTON, TEXAS

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS
Clay, sand & shale	0	1337	Sand & shale
	1337	4650	" "
	4650	4998	Shale
	4998	6762	Shale & sand
	6762	8005	Shale
	8005	8334	Sand & shale
	8334	9325	Shale
	9325	9490	Hard shale
	9490	9800	Shale Total Depth

Method of shutting off water Cement Is water completely shut off? Yes

Amount of water with oil None per cent ---

I, A. E. Woodard

being first duly sworn on oath state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

A. E. Woodard A. E. Woodard
Representative of Company.

Subscribed and sworn to before me this 8th day of April, 1965

JO ANN DePRIMA
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1965

Jo Ann DePrima
Notary Public

Harris County, Texas.

7431

Please Refer to File No. _____

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 4
Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company Dan J. Harrison, Jr. Address 2105 Gulf Building, Houston, Tex.

Sec. No. 57 Block No. _____ Survey T.&N.O. A-278 County Chambers

Well No. 1 Name of Lease Thomas T. Garth No. of Acres 575.24

Name of Field in which well is located Wildcat Date well was plugged 3/30 19 65

Form 1 (Notice of Intention to Drill) Was Filed in Name of Dan J. Harrison, Jr.

Character of Well at the time of completion: Oil None bbls; Gas None Cu. Ft.; Dry Yes
(Initial Production) (Initial Production)

Amount well producing when plugged: Oil None bbls; Gas None Cu. Ft.; Water None bbls.

Has this well ever produced oil or gas? No

Total Depth 9800 feet. Top of each producing sand None feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? Yes

How was mud applied? By pump

Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depth placed. Also amount of cement and rock. Was well shot? No. Plugs placed from 1421' to 1320'. 10' plug placed in top of surface casing.

SIZE PIPE	PUT IN WELL Ft.	PUT IN WELL In.	PULLED OUT Ft.	PULLED OUT In.	LEFT IN WELL Ft.	LEFT IN WELL In.	PACKERS AND SHOES
10 3/4	1371.00		----------		1371.00		Halliburton

Show depth found and thickness of all water, oil and gas formations See Form 2A

Have all abandoned wells on this lease been plugged according to Commissions rules? Yes

Manner of confining all oil, gas or water to strata: Mud & Cement

The names of adjacent lease, royalty and landowners with their addresses in each instance by tracts.
Dan J. Harrison, Jr. owns all adjacent leases.

RECEIVED
APR 14 1965
Railroad Commission of Texas
OIL & GAS DIVISION
AUSTIN

Was notice given before plugging to all available adjacent lease owners as required by Rule 10? See above

I, A. E. Woodard, being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth and that the same are true and correct.

Name A. E. Woodard Title Chief Geologist

Subscribed and sworn to before me this 8th day of April 1965

JO ANN DePRIMA
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1965

Jo Ann DePrima
Notary Public Harris County, Texas

Correspondence regarding this well should be addressed to:
Name Dan J. Harrison, Jr. Address 2105 Gulf Bldg., Houston, Texas 77002
ATTN: Mr. A. E. Woodard

7435

AFFIDAVIT ON PLUG TO ABANDON WELL

STATE OF TEXAS)
) SS
COUNTY OF JEFFERSON)

I, J. R. Pack, being of lawful age and having full knowledge of the facts hereinbelow set out, do state:

That I am an employee of Halliburton Company, of Duncan, Oklahoma, employed as a "Cementer", and as such employee am engaged in the operation of the Halliburton Company's equipment employed in the cementing of wells being drilled for oil and/or gas;

That on the 31st day of March, 1965, I operated the aforesaid cementing equipment under the direction, supervision and control of Dan J. Harrison, Jr. (customer) in the pumping of cement into said Well Number 1 situated on the Thomas T. Garth Lease in Chambers County, Texas, which, according to the customer was for the purpose of plugging and abandoning said well;

That according to the information furnished me by the customer, his agent or representative, a cement plug was placed in said well from

1421 depth to the 1320 depth

_____ depth to the _____ depth

_____ depth to the _____ depth

RECEIVED
APR 12 1965
Railroad Commission of Texas
OIL & GAS DIVISION
GALVESTON, TEXAS

AFFIANT: J. R. Pack
Halliburton Company employee

STATE OF TEXAS)
) SS
COUNTY OF JEFFERSON)

BEFORE ME, the undersigned authority, on this day personally appeared J. R. Pack, known to me to be the person whose name is subscribed to this statement; who, after being duly sworn upon oath states: That to the best of his knowledge and belief the facts as recited above are true and correct.

Given under my hand and seal this 2nd day of April, 1965.

RECEIVED
O. G.
R. R. C. OF TEXAS
APR - 9 1965
O. G.
HOUSTON, TEXAS

(Notary Seal)

James L. Caffrey
Notary Public, in and for
JEFFERSON County, Texas
James L. Caffrey

SCHLUMBERGER INDUCTION ELECTRICAL LOG

COUNTY CHAMBERS
FIELD or LOCATION WILDCAT
WELL THOMAS T. GARTH #1
COMPANY DAN J. HARRISON, JR.

COMPANY DAN J. HARRISON, JR.

WELL THOMAS T. GARTH #1

FIELD WILDCAT (S.W. WINNIE)

COUNTY CHAMBERS STATE TEXAS

LOCATION 2 MI SW WINNIE, 575.24-AC LSE, SEC 57, T&NO RR CO. SUR, A-278; 467'FR MOST N'LY EL & 1000'FR MOST N'LY NL LSE & SUR.

Other Services:
SL/C

Permanent Datum: BHF, Elev.
Log Measured From KB, 15.0 Ft. Above Perm. Datum
Drilling Measured From KB=15.0' ABOVE BHF

Elev.: K.B.
D.F. 34
G.L.

Date	3-28-65	3-30-65		
Run No.	ONE	TWO		
Depth—Driller	9250	9800		
Depth—Logger	9251	9806		
Btm. Log Interval	9250	9805		
Top Log Interval	1372	9250		
Casing—Driller	10-3/4@1371	10-3/4@1372	@	@
Casing—Logger	1372	1371		
Bit Size	9-7/8"	9-7/8"		
Type Fluid in Hole	LOW PH.	LOW PH.		
Dens. | Visc.	11.2 | 55	12.0 | 49		
pH | Fluid Loss	9.5 | 3.8ml	9.5 | 3.2ml	ml	ml
Source of Sample	MUD PIT	MUD PIT		
R_m @ Meas. Temp.	1.01 @ 90 °F	1.02 @ 85 °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.3 @ 85 °F	.22 @ 75 °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	1.0 @ 85 °F	1.9 @ 75 °F	@ °F	@ °F
Source: R_{mf} R_{mc}	FP | FP	FP | C		
R_m @ BHT	.5 @ 181 °F	@ °F	@ °F	@ °F
Time Since Circ.	4 HOURS	4 HOURS		
Max. Rec. Temp.	181 °F	°F	°F	°F
Equip. | Location	2589 | BHT.	2589 | BHT.		
Recorded By	KENDRICK	CROMELL		
Witnessed By	MR. WOODARD	MR. WOODARD		

136324.1

ARTIFICIAL PENETRATION NO. 15

OPERATOR: PETROLEUM DEVELOPOMENT ASSOCIATION
WELL NAME: GARTH ESTATE NO. 1

API NO: 42-071-01953

Geostock Sandia

4318480

45864

Application to Drill, Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1
Rev. 4/60

STATE WHETHER THIS IS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK Drill

SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED
DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE.
ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION.
(Black Ink or Black Typewriter Ribbon Preferable)

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. . Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 900 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease nil feet.

IS THE ACREAGE ON WHICH THIS WELL IS TO BE LOCATED, PRESENTLY ASSIGNED TO ANOTHER WELL IN ANY RESERVOIR FOR WHICH THIS PERMIT IS REQUESTED? no

Date December 15, 1960

Name of company or operator

Name Petroleum Development Associates

Address 2121 Lexington

City Houston 6, Texas

Description of farm or lease:

Name of Lease Garth Estate

Number of Acres 622.24 Well No. 1

Number of wells on lease None

Elevation ? (Ft. above sea level) Section No. ____ Block No. ____

Survey T. & M. N. O., Abs. 278

Zone or Reservoir Frio

To be Located in Wildcat Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 2700' from NNL, & 1980' from EEL, Chambers County

Three Miles southwest direction from Winnie nearest post office or town.

Rotary or Cable Tools Rotary

Date work will start drilling Dec. 20, 1960 Approx.

Depth to which you propose to drill 8500' feet.

Date work will start deepening --

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name nil

Address --

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

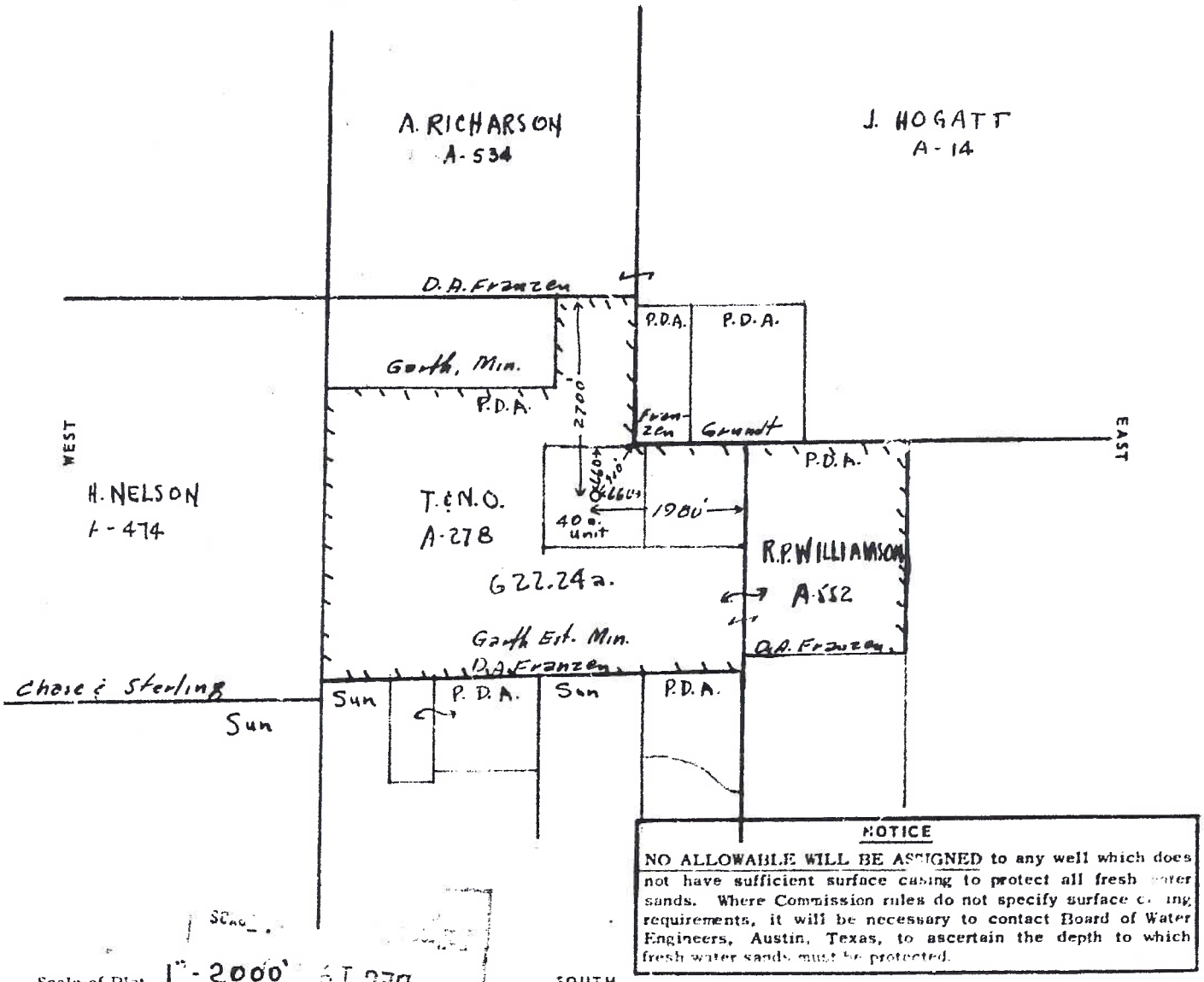
RECEIVED
DEC 15 1960
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

2

DRAW SKETCH IN SPACE BELOW OR FILE CERTIFIED LEASE PLAT
(Be sure that all required locations, footages, distances, and scales are given in clearly legible print. Black printing preferable.)

NORTH



NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Board of Water Engineers, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

Scale of Plat 1"-2000'

I, Don G. Lovett, being first duly sworn on oath, state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Name Don G. Lovett, Title Partner

Subscribed and sworn to before me this 15th day of December, 19 60

(Mazie M. Paris) Mazie M. Paris
Notary Public Harris County, Texas

Correspondence regarding this well should be addressed to:
Name Petroleum Development Associates Address 2121 Lexington Houston 6 Texas

2

45864

Application to Drill, Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1
Rev. 4/60

DEEPEN

STATE WHETHER THIS IS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK _____

SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED
DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE,
ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION.
(Black Ink or Black Typewriter Ribbon Preferable)

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 900 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease nil feet.

IS THE ACREAGE ON WHICH THIS WELL IS TO BE LOCATED, PRESENTLY ASSIGNED TO ANOTHER WELL IN ANY RESERVOIR FOR WHICH THIS PERMIT IS REQUESTED? no

Date Feb. 7, 19 61

Name of company or operator

Name Petroleum Development Associates

Address 2121 Lexington

City Houston 6, Texas

Description of farm or lease:

Name of Lease Garth Estate

Number of Acres 622.24 Well No. 1

Number of wells on lease None

Elevation - (Ft. above sea level) Section No. _____ Block No. _____

Survey T. & I. O. #278

Zone or Reservoir Frio

To be Located in Wildcat Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 2700' from NEL, & 1980' from EEL, Chambers County

Three Miles southwest direction from Winnie nearest post office or town.

Rotary or Cable Tools Rotary

Date work will start drilling Jan. 20 1961 approx.

Depth to which you propose to drill 9300' feet.

Date work will start deepening Feb. 8, 1961 approx.

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name nil

Address --

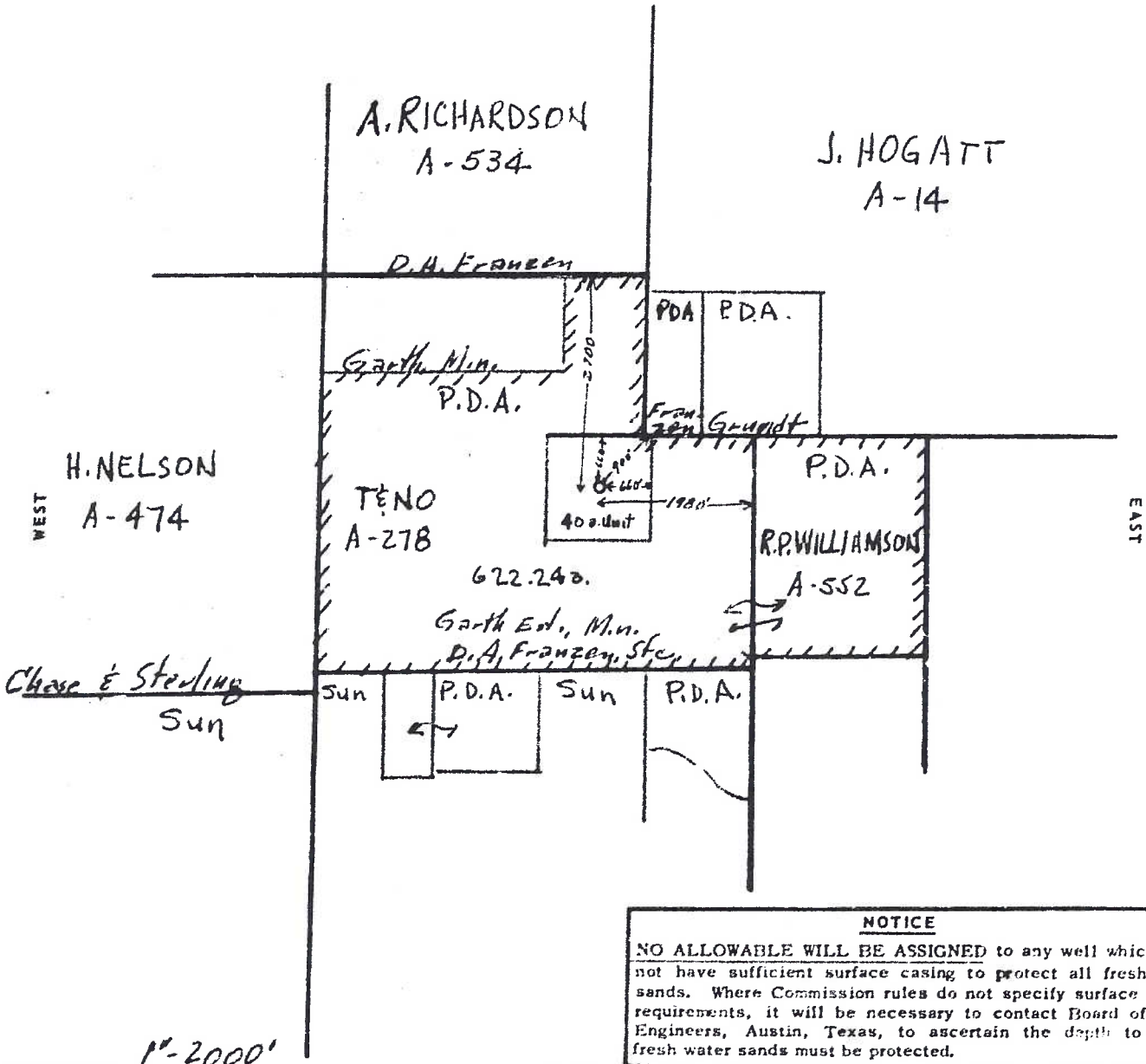
RECEIVED
FEB -7 1961
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

DRAW SKETCH IN SPACE BELOW OR FILE CERTIFIED LEASE PLAT
(Be sure that all required locations, footages, distances, and scales are given in clearly legible print. Black printing preferable.)

NORTH



NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Board of Water Engineers, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

Scale of Plat 1"-2000'

SOUTH

I, Harold E. Kent, being first duly sworn on oath, state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Name Harold E Kent, Title Partner

Subscribed and sworn to before me this 7th day of February, 19 61

Magle M. Paris Magle M Paris

Notary Public Harris County, Texas

Correspondence regarding this well should be addressed to:

Name Petroleum Development Associates Address 2121 Lexington, Houston 6, Texas

45864

Please Refer to File No._____

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 2A
Application
To Plug and
Well Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Company Petroleum Development Associates Address 2121 Lexington, Houston, Texas

Sec. No. _____ Block No. _____ Survey T & NO #278 County Chambers

Well No. 1 Name of Lease Garth Estate No. of Acres 622.24 Elev. 30' est.

Name of Field in which well is located Wildcat north of Fig Ridge Area

Located 3 Miles S.W. Direction from Winnie, Texas (Nearest P. O. or Town)

Form 1, "Notice of Intention to Drill," was filed in name of Petroleum Development Associates

Drilling Commenced 1-20-61, 19__, Drilling Completed 4-26-61, 19__

Has this well ever produced Oil? Yes or Gas? _____

Character of Well (Oil, Gas or Dry) Dry Total Depth 9240

Date you wish to Plug *, 19__.

Name of Party Plugging Well _____ Address _____

Correspondence regarding this well should be sent to: Name Drew Cornell, Inc., Box 1267, OCS

Address Lafayette, Louisiana

Initial Production of Gas: Volume (MCF) ----- 24 hrs. Pressure ----- lbs. per square inch

Initial Production of Oil: Barrels -----

Give notice before Plugging to all available Lease Owners, as required by Rule (10). Yes

When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information that can be obtained to as total depth, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks: *Wish to leave date open till other drilling operations are completed in this area. Might want to convert this well to a salt water disposal well.

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS
Surface sand & gravel (Fresh to brackish water)	0'	1330'	9-5/8" casing run to 1330' (PGAC)
Sand & shale (Salt Water)	1330'	2900'	
Shale, sand & lime (Salt water)	4300'	6690'	
Massive shale, thin sand beds & lime	6690'	8010'	
Sand w/ shale beds (salt water)	8010'	8550'	
Massive shale & thin sands (salt water)	8550'	9227'	Total depth - 9222 (PGAS) 9240 (driller)
			2-7/8" tubing set & cemented to total depth

RECEIVED
MAY 17 1961

Method of shutting off water Casing-cement & Bridge plug Is water completely shut off? Yes

Amount of water with oil? per cent -------

I, [illegible] being first duly sworn on oath state that I have knowledge of the facts and matter hereinset forth and that the same are true and correct.

[illegible] Representative of Company.

Subscribed and sworn to before me this 15th day of May, 1961

[illegible] Notary Public

Lafayette Parish, Louisiana

GEO ATLAS CORP.

AC Induction-Electrical Log

COMPANY PETROLEUM DEVELOPMENT ASSOCIATES

WELL GARTH ESTATE #1

FIELD WILDCAT FIG RIDGE AREA

COUNTY CHAMBERS STATE TEXAS

LOCATION:

SEC _____ TWP _____ RGE _____

Other Services
MS, AL
SATA
SWS
CDM

um B. H. Elev. _____

from 1' AB R. T. 13.20 Ft. Above Permanent Datum

red from 1' AB R. T.

Elevations: *
KB _____ *
DF _____ *
GL _____

	1-30-61	2-2-61		
	ONE	TWO		
	9000	9240		
r	9003	9233		
d Interval	8997	9227		
nterval	1330	8997		
r	9 5/8@ 1331	- @1330	@	@
er	1330	-		
	8 3/4"	8¾"		
Hole	LIME	LIME OIL EMULSION		
	OIL EMULSION 10%			
Viscosity	11.2 | 45	11.1 | 44		
l Loss	12.0 | 5.6 cc	12.0 | 5.6cc	cc	cc
mple	FLOWLINE	PIT		
Temp.	0.36 @ 74 °F	0.5 @ 70 °F	@ °F	@ °F
s. Temp.	0.52 @ 72 °F	0.12 @163 °F	@ °F	@ °F
s. Temp.	1.3 @ 72 °F	0.65 @163 °F	@ °F	@ °F
f and Rmc	M | M	C | C		
	0.18 @160 °F	0.213@163 °F	@ °F	@ °F
rc.	NONE	2 HRS.		
p. Deg. F.	160 °F	163 °F	°F	°F
d Location	EL-18 | BMT	EL-13 | BMT		
	GAGE	SNEED		
	WHITESIDE	WHITESIDE		

THIS HEADING AND LOG CONFORMS TO API RECOMMENDED STANDARD PRACTICE RP-31

FOLD HERE

REMARKS

ARTIFICIAL PENETRATION NO. 16

OPERATOR: HUNT ENERGY
WELL NAME: GARTH NO. 1

API NO: 42-071-31164

Geostock Sandia

106300 R39

FORM W-1 (6/78)

API Well No. 42-071-31164
Instruction (7a & 7b) on back side.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

☐ Directional Well ☐ Amended or Corrected Permit

RRC Permit Number, if previously assigned.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

Check one: [X] DRILL ☐ DEEPEN (Below Casing) ☐ DEEPEN (Within Casing) ☐ PLUG BACK ☐ OTHER (Specify) _____

If Amended Application, explain fully in Remarks or Attach Separate Page.

1. Operator
Hunt Energy Corporation 414655

2. Address (Including City and Zip Code)
2500 First National Bank Bldg.
Dallas, Texas 75202

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed?
YES [X] NO ☐ (Instruction (2) on back side.)

4. Lease Name and RRC Lease or ID No. (If Assigned)
Garth

5. Location (Sec., Blk., Survey)
Sec. 61 T&NORR Survey A-280

6. This well is to be located 2 miles SW Direction from Winnie, Texas Nearest Post Office or Town.

7. RRC District
3

8. County
Chambers

9. Well Number
1

10. Number of Acres in Lease
314

11. Distance from Proposed Location to Nearest Property or Lease Line (ft.)
467'

12. Total Depth
15,000'

EACH PROPOSED COMPLETION

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R.R.C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below.	14. Completion Depth	15. All Prior Rule 37 Exc. Case Numbers for this wellbore. If none, State "None."	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same field? (Yes or No. If yes explain in remarks.)	20. Distance and Direction from proposed location to nearest drilling completed or applied for well in same res. on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Exc. Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of Wells or Permitted locations on this Lease in same Reservoir for which this Permit is Requested? OIL	GAS
ok as Regular BRS 1/22/81 00006 001											
Wildcat	15,000'	None	467-1200	40	40	No	---	Regular 1 [X] Rule 37 2 ☐	Oil or Gas	0	0
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED:
A. Lease Lines 467' FEL & 1980' FNL
B. Survey Lines 467' FEL & 1980' FNL of Section 61 T.&N.O.R.R. Survey A-280

25. (a) Is this wellbore subject to SWR 36? Yes ☐ No [X]
(b) If subject to SWR 36, has Form H-9 been filed? (If no, attach explanation.) Yes ☐ No ☐

NOTICE
NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

RECEIVED R.R.C. OF TEXAS JAN 5 1981 O.G. AUSTIN, TEXAS

CERTIFICATE
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated herein are true, correct, and complete, to the best of my knowledge.

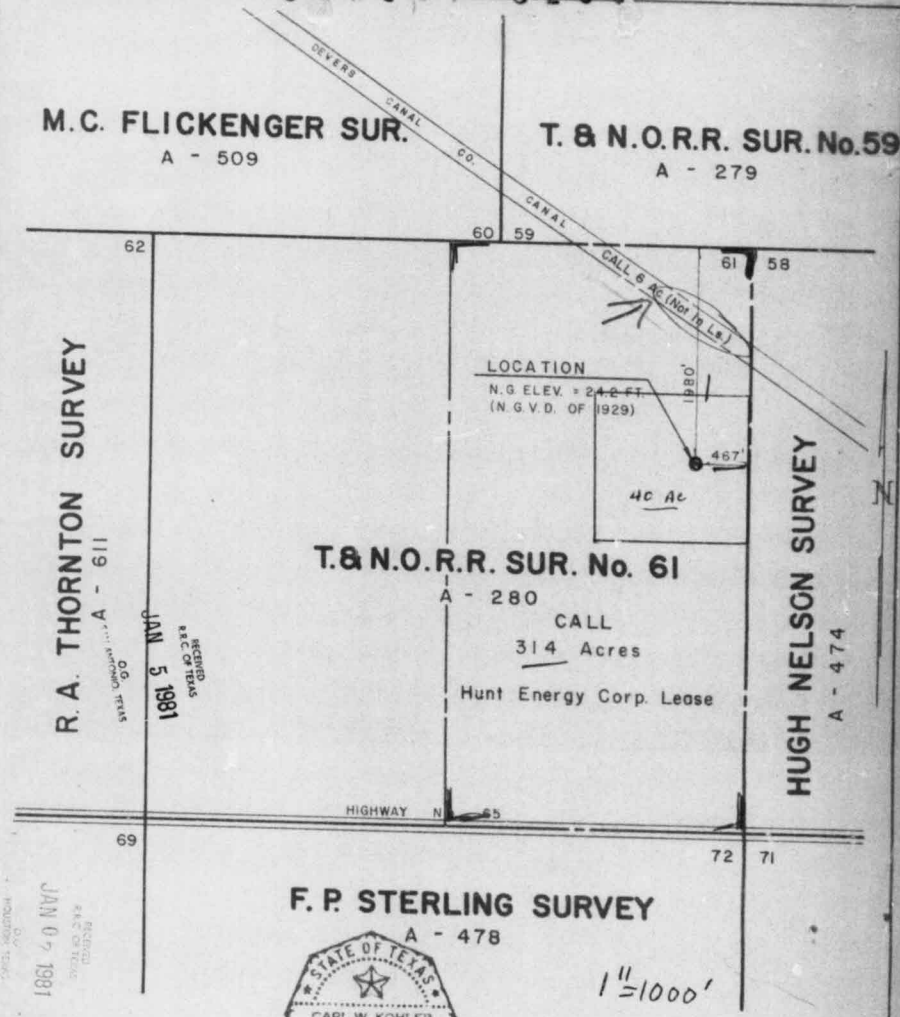
Signature H. N. Owens
Title Dist. Supt.
Date 12-30-80
Telephone: Area Code 713 925-3531

REMARKS:

RECEIVED R.R.C. OF TEXAS JAN 14 1981 O.G. AUSTIN, TEXAS

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071-31164



STATE OF TEXAS
CARL W. KOHLER
2083
REGISTERED PUBLIC SURVEYOR

SURVEYOR'S CERTIFICATE:

KNOW ALL MEN BY THESE PRESENTS, THAT I, CARL W. KOHLER, REGISTERED PUBLIC SURVEYOR No. 2083, DO HEREBY CERTIFY THAT THIS PLAT CORRECTLY SHOWS THE LOCATION OF THE WELL AS STAKED ON THE GROUND.

Carl W. Kohler

CARL W. KOHLER, R.P.S. No. 2083

REV: DEC. 1980

WELL LOCATION
HUNT ENERGY CORPORATION
GARTH No. 1 WILDCAT
in the
T. & N.O.R.R. SUR., SEC. No. 61
A-280
CHAMBERS COUNTY, TEXAS
SCALE 1" = 1000' DECEMBER, 1980
BY
KOHLER & KOHLER
ENGINEERS & SURVEYORS
625 FOURTEENTH ST.
BEAUMONT, TEXAS
FN. G77-3

STATE OF TEXAS
COUNTY OF JEFFERSON

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS DAY PERSONALLY APPEARED CARL W. KOHLER, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE 22 DAY OF December AD 1980

Mary A. Calvert

NOTARY PUBLIC IN & FOR JEFFERSON COUNTY, TEXAS

THIS APPLICATION MUST BE FILED IN DUPLICATE IN THE APPROPRIATE DISTRICT OFFICE.

ED

FORM W-1
1/1/81

API Well No. 42 — 42 071 31164
Instruction (7a & b) on back side.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

☐ Directional Well ☐ Sidetrack ☒ Amended Permit (Explain in Remarks)

RRC Permit Number, if previously assigned. 106300

APPLICATION FOR PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER

Check one: ☐ DRILL ☐ DEEPEN (Below Casing) ☐ DEEPEN (Within Casing) ☐ PLUG BACK ☐ RE-ENTER

7. RRC District: 3

8. County: Chambers

1. Operator: Hunt Energy Corporation

2. Address (Including City and Zip Code): 2500 1st. Nat'l. Bk. Bldg. Dallas, Tx. 75202

414455

4a. Lease Name (32 Spaces Maximum): Garth

4b. RRC Lease or ID No. (If assigned)

9. Well Number: 1

5. Location (Sec., Blk., Survey): Sec. 61, T & NORR Survey A-280

10. Number of Contiguous Acres in Lease or Unitized Tract: 314

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed? YES ☐ NO ☐ (Instruction (2) on back side.)

6. This well is to be located 2 miles SW Direction from Winnie, Texas Nearest Post Office or Town.

11. Distance from Proposed Location to Nearest Lease or Unit Line (ft.): 467'

12. Total Depth: 17,000'

EACH PROPOSED COMPLETION

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R.R.C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below. One zone per line. List all zones for which a permit is sought.	14. Completion Depth	15. All Prior Rule 37 Exc. Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (Ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. (acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same res. on same lease? Yes or No. If yes explain in remarks.	20. Distance and Direction from proposed location to nearest drilling completed or applied for well in same res. on same lease (ft.)	21. 1. Regular or 2. Rule 37 Exc. Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of completed, permitted or applied for, locations on this lease in same reservoir for which this permit is sought? OIL	GAS
00006001 Wildcat	17,000'	None	467' 1200'	40	40	No	-	Regular 1 ☒ Rule 37 2 ☐	Oil or Gas	0	0
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			

Code

1000 ft Rule

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED LINES

A. Lease Lines: 467' FEL & 1980' FNL of Sec. 61 T & N.O.R.R. Sur. A-280

B. Survey Lines: 467' FEL & 1980' FNL of Sec. 61 T & N.O.R.R. Sur. A-280

25. (a) Is this well to be subject to SWR 36? Yes ☐ No ☒
(b) If subject to SWR 36, has Form H-9 been filed? Yes ☐ No ☐
If no, attach explanation.)

26. Do you anticipate future use of this wellbore to complete in any penetrated zone not listed in Column 13, for which a Rule 37 or Rule 38 exception is presently required? If Yes, attach a list of such zones and see Instruction #8. Yes ☐ No ☒

27. Is this a pooled unit? YES ☐ (Attach P-12, certified plat, & list of pooled zones) NO ☒

28. Substandard Acreage YES ☐ (Attach W-1A) NO ☒

NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that the data and facts stated therein are true, correct, and complete, to the best of my knowledge.

REMARKS: This well was permitted to 15,000' and we want to amend the proposed total depth to 17,000'.

G. F. Wolfe

Signature: Mgr. Engr. Services Section

Title: 5-8-81

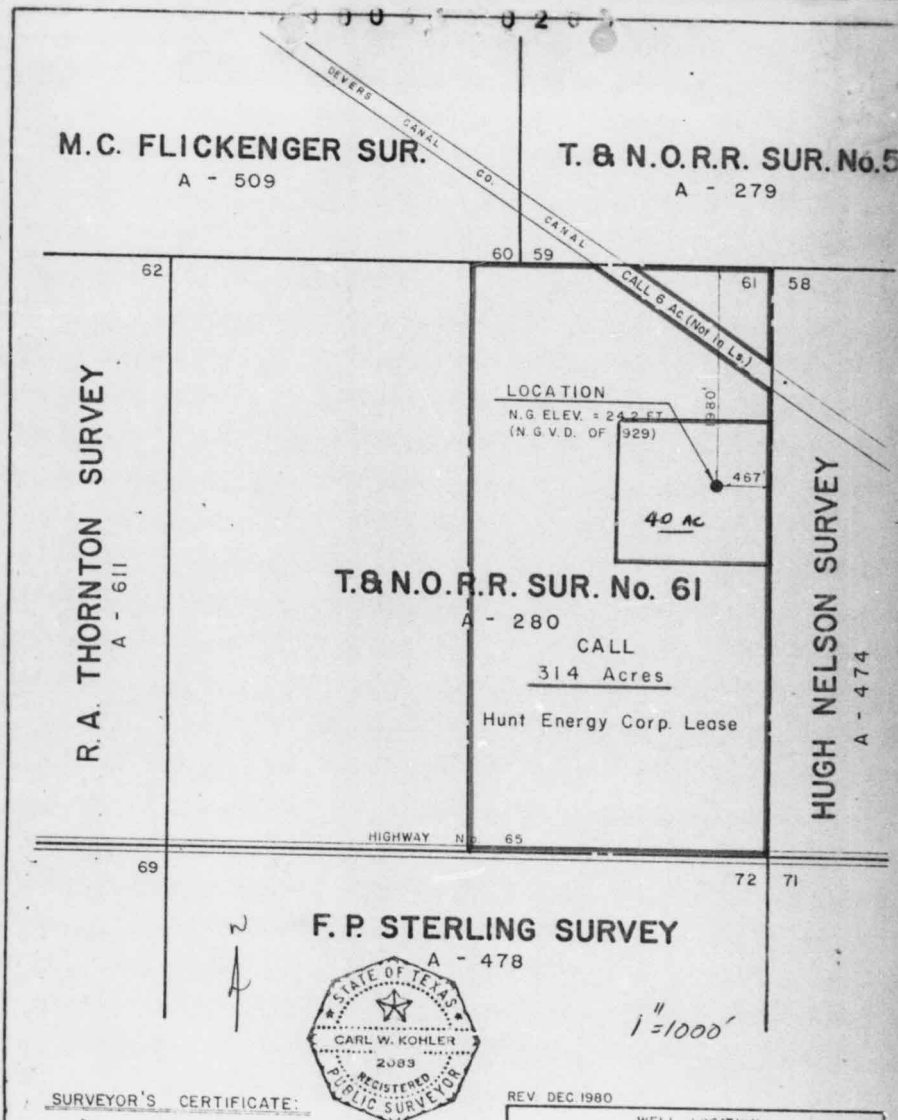
Date

Telephone: Area Code 214, 748-1300 Ext. 492

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071-31164

DE67



SURVEYOR'S CERTIFICATE:

KNOW ALL MEN BY THESE PRESENTS, THAT I, CARL W. KOHLER, REGISTERED PUBLIC SURVEYOR No. 2083, DO HEREBY CERTIFY THAT THIS PLAT CORRECTLY SHOWS THE LOCATION OF THE WELL AS STAKED ON THE GROUND.

Carl W. Kohler

CARL W. KOHLER, R.P.S. No. 2083

STATE OF TEXAS
COUNTY OF JEFFERSON

BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, ON THIS DAY PERSONALLY APPEARED CARL W. KOHLER, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS THE 22 DAY OF December A.D. 1980

Mary A. Colvert

NOTARY PUBLIC IN & FOR JEFFERSON COUNTY, TEXAS

REV. DEC. 1980

WELL LOCATION
HUNT ENERGY CORPORATION
GARTH No. 1 WILDCAT
in the
T. & N.O.R.R. SUR., SEC. No. 61
A-280
CHAMBERS COUNTY, TEXAS
SCALE 1" = 1000' DECEMBER, 1980
BY
KOHLER & KOHLER
ENGINEERS & SURVEYORS
525 FOURTEENTH ST.
BEAUMONT, TEXAS
FN G77-3

Plugging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FORM W-3
Rev. 10/78

API NO. 42 071 31164 (if available)

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

1. RRC District: 3
2. FIELD NAME (as per RRC Records): Wildcat
3. Lease Name: Garth
4. RRC Lease or Id. Number:
5. Well Number: 1
6. OPERATOR: Hunt Energy Corporation
6a. Original Form W-1 Filed in Name of: Hunt Energy Corporation
7. ADDRESS: 2500 First National Bank Bldg. Dallas, Texas 75202
7b. Any Subsequent W-1's Filed in Name of: Hunt Energy Corporation
8. Location of Well, Relative to Nearest Lease Boundaries of Lease on which this Well is Located: 467' Feet From North Line of the East Line and 1980 Feet From T&NORR Line of the Lease
9a. SECTION, BLOCK, AND SURVEY: Sec. 61 T&NORR Svy A-280
9b. Distance and Direction From Nearest Town in this County: 2 miles SW Winnie, Texas
10. County: Chambers
11. Date Drilling Completed: 1-22-81
12. Permit Number: 106300
13. Date Drilling: 2-26-81
14. Date Drilling Completed: 6-2-81
15. Date Well Plugged: 6-4-81
16. Type Well (Oil, Gas, Dry): Dry
Total Depth: 16000
17. If Multiple Completion List All Field Names and Oil Lease or Gas ID No.'s: N/A
18. If Gas, Amt. of Cond. on Hand at time of Plugging:

GAS ID or OIL LEASE #	OIL-O Gas-G	WELL #

CEMENTING TO PLUG AND ABANDON DATA:

	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7	PLUG #8
*19. Cementing Date	6-3	6-3	6-3-81					
20. Size of Hole or Pipe in which Plug Placed (inches)	5 7/8 7"	9 7/8	9 7/8					
21. Depth to Bottom of Tubing or Drill Pipe (ft.)	14273	450	200					
*22. Sacks of Cement Used (each plug)	150	35	35					
*23. Slurry Volume Pumped (cu. ft.)	217.5	41.3	41.3					
*24. Calculated Top of Plug (ft.)	13200	350	100					
25. Measured Top of Plug (if tagged) (ft.)								
*26. Slurry Wt. #/Gal.	18	15.6	15.6					
*27. Type Cement	SEE REMARKS							

28. CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT. #/FT.	PUT IN WELL (ft.)	LEFT IN WELL (ft.)	HOLE SIZE (in.)
13 3/8	54.5&61	2341	2341	17
9 5/8	47&53.5	9808	9808	12 1/4
7	32&35	3738	3738	7

29. Was any Non-Drillable Material (Other than Casing) Left in This Well: Yes [ ] No [X]

29a. If answer to above is "Yes" state depth to top of "junk" left in hole and briefly describe non-drillable material. (Use Reverse Side of Form if more space is needed.)

30. LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS

FROM	TO	FROM	TO

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.
* Designates items to be completed by Cementing Company. Items not so designated shall be completed by Operator.

Signature of Cementer or Authorized Representative

HALLIBURTON SERVICES
Name of Cementing Company

CERTIFICATE:
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

REPRESENTATIVE OF COMPANY

RECEIVED R.R.C. OF TEXAS JUL 1 8 1981

Dist. Supt. — TITLE
6-30-81 — DATE
Phone 713 925-3531 — A/C NUMBER

SIGNATURE: REPRESENTATIVE OF RAILROAD COMMISSION

RECEIVED R.R.C. OF TEXAS JUL 1 8 1981 OIL HOUSTON, TEXAS

071-31164

CB

779 DR67

31. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission: [X] Yes [ ] No

32. How was Mud Applied? Left in hole from drilling

33. Mud Weight: 16.9 LBS/GAL

34. Total Depth: 16,000'

Depth of Deepest Fresh Water: 400'

Other Fresh Water Zones by T.D.W.R. — TOP / BOTTOM

35. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? N/A [ ] Yes [ ] No

36. If NO, Explain

37. Name and Address of Cementing or Service company who mixed and pumped cement plugs in this well: Halliburton Services, 6750 Broad Oak, Beaumont, Texas 77706

Date RRC District Office notified of plugging: 6-2-81

38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases

Mrs. W. B. Berry (Ruby), Rt.1, Box 537, Winnie, Texas 77665

39. Was Notice Given Before Plugging to Each of the Above?

Yes

FILL IN BELOW FOR DRY HOLES ONLY

40. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

[X] Log Attached [ ] Log released to _____ Date _____

Type Logs: [ ] Driller's [ ] Electric [ ] Radioactivity [ ] Acoustical/Sonic — Gamma Ray - Neutron

41. Date FORM P-8 (Special Clearance) Filed?

N/A

42. Amount of Oil produced prior to Plugging N/A bbls*

* File FORM P-1 (Oil Production Report) for month this oil was produced

RRC USE ONLY

Nearest Field _____

REMARKS Cl. H + 35% Silica Flour + 24 #/sk Hi-Dense + .75% CFR-2 + 15% HR-12

122908

Schlumberger

DUAL INDUCTION SFL SONIC

WITH LINEAR CORRELATION FDC

COUNTY CHAMBERS
FIELD WILDCAT
LOCATION GARTH #1
WELL HUNT ENERGY CORP.
COMPANY

COMPANY HUNT ENERGY CORPORATION

WELL GARTH #1

FIELD WILDCAT

COUNTY CHAMBERS STATE TEXAS

LOCATION 467'FEL & 1980'FNL OF SEC. 6
T & NORR SURVEY A-280

API SERIAL NO	SEC	TWP	RANGE

Other Services:
FDC/CNL/GR, SRS, HDT

Permanent Datum: GROUND LEVEL ; Elev.: 25
Log Measured From R.K.B. 26 Ft. Above Perm. Datum
Drilling Measured From R.K.B.

Elev.: K.B. 51
D.F. 50
G.L. 25

Date	3-18-81	3-29-81	4-5-81	5-5-81
Run No.	ONE	TWO	THREE	FOUR
Depth—Driller	9750	11343	13300	15000
Depth—Logger	9746	11341	13297	14986
Btm. Log Interval	9749	11338	13294	14983
Top Log Interval	2331	9783	9783	13294
Casing—Driller	13 3/8 @2300	9 5/8 @ 9800	9 7/8 @9800	7" @13300
Casing—Logger	2331	9783	9783	13294
Bit Size	12 1/4	8 1/2	8 1/2	5 7/8
Type Fluid in Hole	LNS	LNS	LNS	LNS
Dens. | Visc.	11.6 | 41	16.8 | 47	16.8 | 44	16.9 | 45
pH | Fluid Loss	10.0 | 4.8 ml	10.5 | 4.8 ml	10.0 | 3.9 ml	10.0 | 12.3 ml
Source of Sample	CIRC. PIT	CIRC. PIT	CIRC TANK	CIRC. PIT
Rm @ Meas. Temp.	1.82 @ 75 °F	1.32 @ 75 °F	1.71 @ 75 °F	1.05 @ 75 °F
Rmf @ Meas. Temp.	1.47 @ 75 °F	1.09 @ 75 °F	1.37 @ 75 °F	.522 @ 75 °F
Rmc @ Meas. Temp.	2.73 @ 75 °F	2.00 @ 75 °F	2.55 @ 75 °F	1.47 @ 75 °F
Source: Rmf | Rmc	M | C	M | C	M | C	M | C
Rm @ BHT	0.74 @ 189 °F	.465 @ 213 °F	0.49 @ 260 °F	.260 @ 295 °F
TIME Circulation Stopped	1100	0230 3-29	0100	1830 5-4
TIME Logger on Bottom	1700	0900 3-29	1100	0400 5-5
Max. Rec. Temp.	189 °F	213 °F	260 °F	295 °F
Equip. | Location	8013 VICTORIA	8078 DAYTON	8072 DAYTON	8066 DAYTON
Recorded By	PETERSON	ELBEL	DONALDSON	HARRISON, BA
Witnessed By	HERRERA, FLOYD, ARCHER		ARCHER, HERRERA	

SMS-2807

ARTIFICIAL PENETRATION NO. 17

OPERATOR: THE DOW CHEMICAL COMPANY
WELL NAME: WILLIAM DOORNBOS NO. 1

API NO: 42-071-31267

Geostock Sandia

THIS APPLICATION MUST BE FILED IN DUPLICATE IN THE APPROPRIATE DISTRICT OFFICE.

136462

FORM W-1
1/1/81

API Well No. 42 Instruction (7a & b) on back side. 071-31867

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

☐ Directional Well ☐ Sidetrack ☐ Amended Permit (Explain in Remarks)

RRC Permit Number, if previously assigned.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER

Check one: ☒ DRILL ☐ DEEPEN (Below Casing) ☐ DEEPEN (Within Casing) ☐ PLUG BACK ☐ RE-ENTER

1. Operator: The Dow Chemical Company 007595

2. Address (Including City and Zip Code)
Attn: R. W. Boyle
P. O. Box 4322
Houston, Texas 77210

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed?
YES ☒ NO ☐ (Instruction (2) on back side.)

4a. Lease Name (32 Spaces Maximum): William Doornbos et al

4b. RRC Lease or ID No. (if assigned)

5. Location (Sec., Blk., Survey): T. & N. O. R.R. A-279

6. This well is to be located 4 miles West Direction from Winnie Nearest Post Office or Town.

7. RRC District: 3

8. County: Chambers

9. Well Number: 1

10. Number of Contiguous Acres in Lease or Unitized Tract: 559.25

11. Distance from Proposed Location to Nearest Lease or Unit Line (ft.): 913'

12. Total Depth: 18,000'

EACH PROPOSED COMPLETION

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R. R. C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below. One zone per line. List all zones for which a permit is sought.	14. Completion Depth	15. All Prior Rule 37 Exc. Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. (acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT	19. Is this acreage presently assigned to another well in same res. on same lease? Yes or No. If yes explain in remarks.	20. Distance and Direction from proposed location to nearest drilling completed or applied for well in same res. on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Exc. Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of completed, permitted or applied for, locations on this lease in same reservoir for which this permit is sought? OIL	GAS
Wildcat	17,500'	None	467 1200	40	40	No	None	Regular 1 ☒ Rule 37 2 ☐	OIL GAS	None	None
00006 001								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED:
A. Lease Lines: 1000' FSL & 1000' FWL
B. Survey Lines: 1000' FSL & 1000' FWL

25. (a) Is this wellbore subject to SWR 36? Yes ☐ No ☒
(b) If subject to SWR 36, has Form H-9 been filed? If no, attach explanation.) Yes ☐ No ☐

26. Do you anticipate future use of this wellbore to complete in any penetrated zone not listed in Column 13, for which a Rule 37 or Rule 38 exception is presently required? If Yes, attach a list of such zones and see Instruction #8. Yes ☐ No ☒

27. Is this a pooled unit? YES ☐ (Attach P-12, certified plat, & list of pooled zones) NO ☒

28. Substandard Acreage YES ☐ (Attach W-1A) NO ☒

NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

REMARKS:

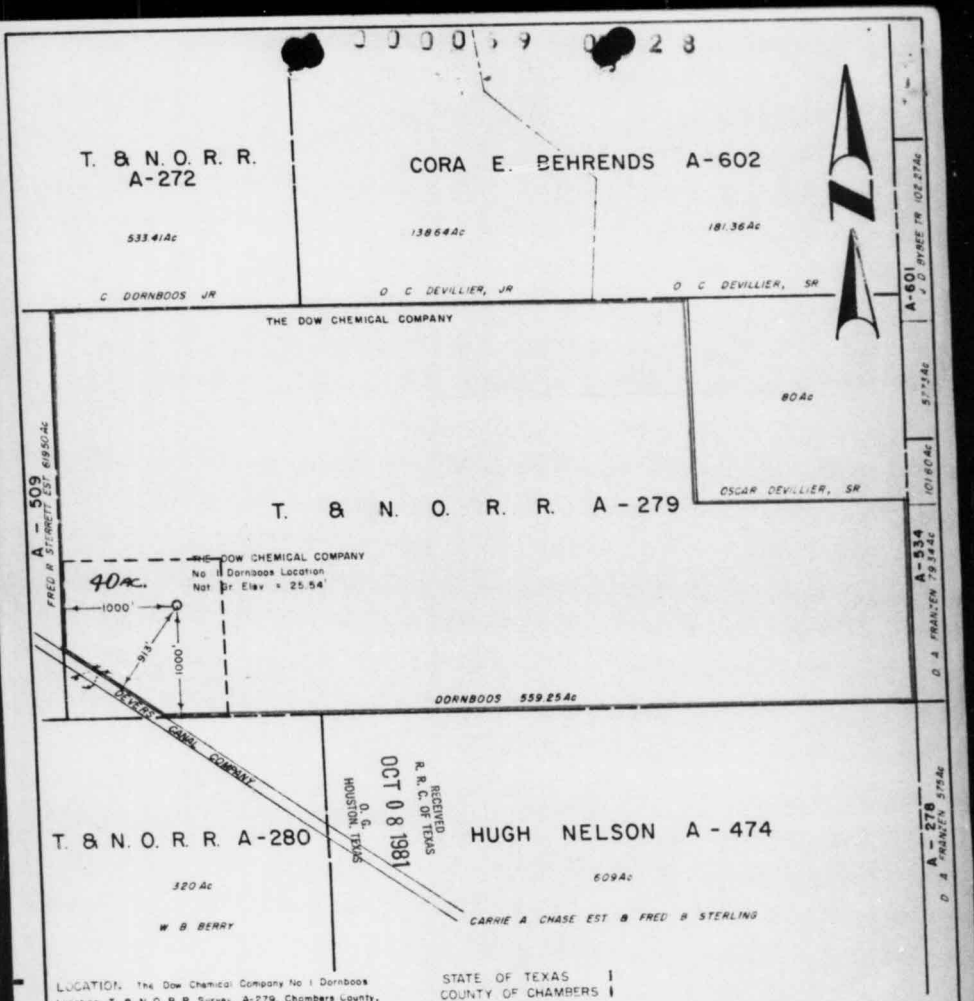
RECEIVED
R. R. C. OF TEXAS
OCT 08 1981
O. G.
HOUSTON, TEXAS

Signature: R W Boyle R. W. Boyle
Title: Division Drilling Manager
Date: 10/6/81
Telephone: Area Code 713 978-3910

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

00006 001

071-31867



LOCATION: The Dow Chemical Company No 1 Dornboos Location, T & N O R R Survey, A-279, Chambers County, Texas

Beginning at the Southwest corner of The Dow Chemical Company 559.25 acre lease tract, thence Northerly along West line for 1000', thence Easterly at right angles for 1000' to Location. Location also being 1000'± from the South line and 1000'± from the West line of the T. & N. O. R. R. Survey, A-279, Chambers County, Texas.

STATE OF TEXAS
COUNTY OF CHAMBERS

The above plat accurately shows to scale The Dow Chemical Company 559.25 acre Dornboos lease tract and the 40.00 acres allocated to subject well and the above plat correctly reflects all and pertinent and required data.

By Dudward Gail Ford
Ford Engineering Firm
Reg Public Surveyor Of Texas No 348

SUBSCRIBED AND SWORN TO BEFORE Me this 1st day of October, 1981.

Gregory James Kandis
NOTARY PUBLIC in and for VICTORIA COUNTY, TEXAS

SCALE: 1" = 1000'	CHAM. 81-15
DATE October 1, 1981	
Job No 57-981-D	

THIS APPLICATION MUST BE FILED IN DUPLICATE IN THE APPROPRIATE DISTRICT OFFICE.

FORM W-1
1/1/81

API Well No. 42 42-071-31267
Instruction (7a & b) on back side.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

☐ Directional Well ☐ Sidetrack ☒ Amended Permit (Explain in Remarks)

RRC Permit Number, if previously assigned. 136462

APPLICATION FOR PERMIT TO DRILL, DEEPEN, PLUG BACK, OR RE-ENTER

Check one: ☒ DRILL ☐ DEEPEN (Below Casing) ☐ DEEPEN (Within Casing) ☐ PLUG BACK ☐ RE-ENTER

7. RRC District: 3

8. County: Chambers

1. Operator: The Dow Chemical Company

2. Address (Including City and Zip Code)
Attn: R. W. Boyle
P. O. Box 4322
Houston, Texas 77210

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed?
YES ☒ NO ☐ (Instruction (2) on back side.)

4a. Lease Name (32 Spaces Maximum): William Doornbos et al

4b. RRC Lease or ID No. (if assigned)

5. Location (Sec., Blk., Survey): T. & N. O. R.R. A-279

6. This well is to be located 4 miles West Direction from Winnie Nearest Post Office or Town.

9. Well Number: 1

10. Number of Contiguous Acres in Lease or Unitized Tract: 559.25

11. Distance from Proposed Location to Nearest Lease or Unit Line (ft.): 913'

12. Total Depth: 19,000'

EACH PROPOSED COMPLETION

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R.R.C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below. One zone per line. List all zones for which a permit is sought.	14. Completion Depth	15. All Prior Rule 37 Exc. Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. (acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same res. on same lease? Yes or No. If yes explain in remarks.	20. Distance and Direction from proposed location to nearest drilling completed or applied for well in same res. on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Exc. Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of completed, permitted or applied for, locations on this lease in same reservoir for which this permit is sought? OIL	GAS
Wildcat 9000260	17,800	None	467-1200	40	40	No	None	Regular 1 ☒ Rule 37 2 ☐	OIL GAS	None	None
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			

RECEIVED
R.R.C. OF TEXAS
JAN 15 1982
O. G.
HOUSTON, TEXAS

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED:
A. Lease Lines: 1000' FSL & 1000' FWL
B. Survey Lines: 1000' FSL & 1000' FWL

25. (a) Is this wellbore subject to SWR 36? Yes ☐ No ☒
(b) If subject to SWR 36, has Form H-9 been filed? If no, attach explanation.) ☐ ☐

26. Do you anticipate future use of this wellbore to complete in any penetrated zone not listed in Column 13, for which a Rule 37 or Rule 38 exception is presently required? If Yes, attach a list of such zones and see Instruction #8. Yes ☐ No ☒

27. Is this a pooled unit? YES ☐ (Attach P-12, certified plat, & list of pooled zones) NO ☒

28. Substandard Acreage YES ☐ (Attach W-1A) NO ☒

NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

REMARKS: Amended to increase T.D. from 18,000 to 19,000'

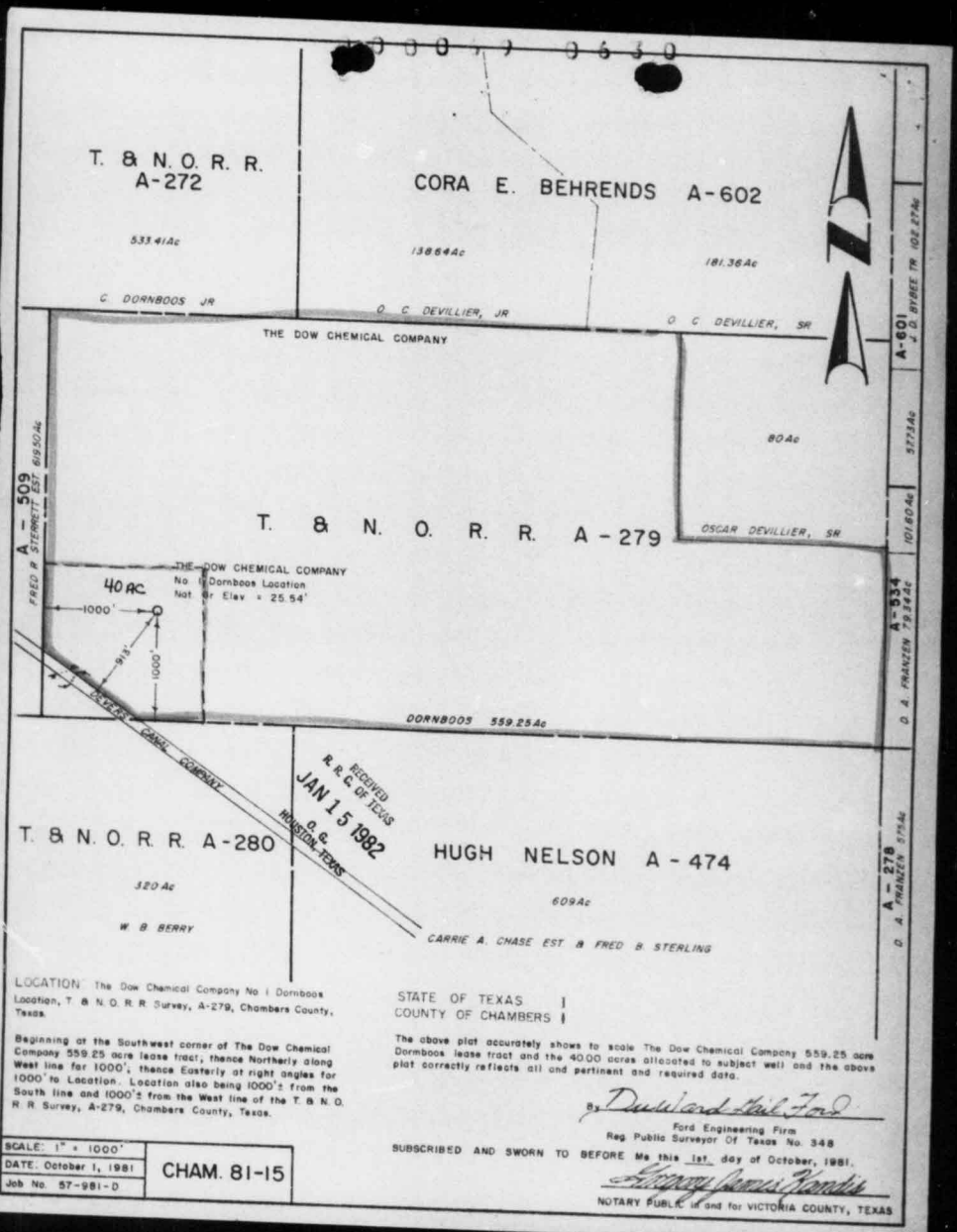
CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature: R W Boyle R. W. Boyle
Title: Division Drilling Manager
Date: 1/14/82
Telephone: Area Code 713 978-3910

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071-31267



LOCATION The Dow Chemical Company No 1 Dornboos Location, T. & N. O. R. R. Survey, A-279, Chambers County, Texas.

Beginning at the Southwest corner of The Dow Chemical Company 559.25 acre lease tract, thence Northerly along West line for 1000', thence Easterly at right angles for 1000' to Location. Location also being 1000'± from the South line and 1000'± from the West line of the T. & N. O. R. R. Survey, A-279, Chambers County, Texas.

STATE OF TEXAS }
COUNTY OF CHAMBERS }

The above plat accurately shows to scale The Dow Chemical Company 559.25 acre Dornboos lease tract and the 40.00 acres allocated to subject well and the above plat correctly reflects all and pertinent and required data.

By Durland Lail Ford
Ford Engineering Firm
Reg. Public Surveyor Of Texas No. 348

SUBSCRIBED AND SWORN TO BEFORE Me this 1st day of October, 1981.

Gregory Dennis Rankin
NOTARY PUBLIC in and for VICTORIA COUNTY, TEXAS

SCALE: 1" = 1000'	CHAM. 81-15
DATE: October 1, 1981	
Job No. 57-981-D	

000059 0631

Plugging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-3
Rev. 9/1/67

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

1. RRC District: Houston -03
2. FIELD NAME (as per RRC Records): Wildcat
3. LEASE NAME: William Doornbos
4. RRC Lease or Id. Number:
5. Well Number: 1
6. OPERATOR: The Dow Chemical Company
7. ADDRESS: P. O. Box 4322 - Houston, Texas 77210
8. SURFACE LOCATION: 1000 FEET FROM South LINE, AND 1000 FEET FROM West LINE
9. SECTION, BLOCK, AND SURVEY: T. & N. O. R.R. A-279
10. County: Chambers
11. Date Drilling Permit Issued: 10/15/81
12. Date Drilling Commenced: 10/25/81
13. Date Drilling Completed: 2/11/82
14. Date Well Plugged: 8/5/82
15. Type of Well (Oil, Gas, Dry)*: Dry
16. Type of Completion (Single, Dual, Etc.):
17. Total Depth: 18,950'
18. FORM W-1 (Intention to Drill) Filed in Name of: The Dow Chemical Company
19. Manner of Placement

PLUG #1	80	SACKS	TOP	3742'	BOTTOM	3900'	TYPE Cement
PLUG #2	110	SACKS	TOP	303'	BOTTOM	450'	TYPE Cement
PLUG #3	20	SACKS	TOP	5'	BOTTOM	30	TYPE Cement
PLUG #4		SACKS	TOP		BOTTOM		TYPE

20. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission: YES [X] NO [ ]
21. How was Mud applied? Rig Pump
22. Mud Weight: 13.2 LBS/GAL
23. Depth of Deepest Fresh Water: 400 FEET
24. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? YES [ ] NO [ ]
25. If NO, Explain
26. Name and Address of Party Plugging Well: Seaboard Well Service, Inc. - P. O. Box 51286, Lafayette, Louisiana
27. Casing and Tubing Record after Plugging

SIZE	PUT IN WELL FEET	PUT IN WELL INCHES	LEFT IN WELL FEET	LEFT IN WELL INCHES
13 3/8	4009'		4009'	
9 5/8	9934'		6087'	
7 5/8	5920'		5920'	
5 1/2	18950'		7950'	

28. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases

RECEIVED R.R.C. OF TEXAS SEP 07 1982 O. G. HOUSTON, TEXAS

29. Was Notice given before Plugging to each of the above and RRC District Office? YES [X] NO [ ]

CERTIFICATE:

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Bobby Kidder — REPRESENTATIVE OF COMPANY
Rig Operator — TITLE
8/17/82 — DATE

Signature: REPRESENTATIVE OF RAILROAD COMMISSION

RECEIVED R.R.C. OF TEXAS SEP 01 1982 O.G. HOUSTON, TEXAS

*All Dry Holes, Fill in Reverse Side.

071-31767

30. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

☐ Log attached ☐ Log released to _____ Date _____

Type Logs:
☐ Driller's ☐ Electric ☐ Radioactivity ☐ Acoustical/Sonic

REMARKS log not available at time of filming.

000059 0632

Plugging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FORM W-3
Rev. 10/78

API NO. (If available) 42-071 31267

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

1. RRC District: 03
2. FIELD NAME (as per RRC Records): Wildcat
3. Lease Name: William Doornbos
4. RRC Lease or Id. Number:
5. Well Number: 1
6. OPERATOR: The Dow Chemical Company
6a. Original Form W-1 Filed in Name of: The Dow Chemical Company
6b. Any Subsequent W-1's Filed in Name of:
7. ADDRESS: P.O. Box 4322, Houston, Texas 77210
8. Location of Well, Relative to Nearest Lease Boundaries of Lease on which this Well is Located: 1000 Feet From South Line and 1000 Feet From West Line of the William Doornbos Lease
9a. SECTION, BLOCK, AND SURVEY: T. & N. O. R.R. A-279
9b. Distance and Direction From Nearest Town in this County: 4 Miles West From Winnie
10. County: Chambers
11. Date Drilling Permit Issued: 10/15/81
12. Permit Number: 136462
13. Date Drilling Commenced: 10/25/81
14. Date Drilling Completed: 2/11/82
15. Date Well Plugged: 8/5/82
16. Type Well (Oil, Gas, Dry): Dry
Total Depth: 18,950
17. If Multiple Completion List All Field Names and Oil Lease or Gas ID No.'s — GAS ID or OIL LEASE # | Oil-O Gas-G | WELL #
18. If Gas, Amt. of Cond. on Hand at time of Plugging

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7	PLUG #8
*19. Cementing Date	6/12/82	8/3/82	8/4/82	8/4/82				
20. Size of Hole or Pipe in which Plug Placed (inches)	5-1/2"	9-5/8	13-3/8	13-3/8				
21. Depth to Bottom of Tubing or Drill Pipe (ft.)	17,323	3900	450	30				
*22. Sacks of Cement Used (each plug)	22	80	110	20				
*23. Slurry Volume Pumped (cu. ft.)	36.11	94.4	129	23				
*24. Calculated Top of Plug (ft.)	17,023	3742	303	Surface				
25. Measured Top of Plug (if tagged) (ft.)								
*26. Slurry Wt. #/Gal.	18	15	15	15				
*27. Type Cement	H+35%	D-30	+ .75%	D-65 +	35#/sk.	D-18 + 1%	D-28	

28. CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT. #/FT.	PUT IN WELL (ft.)	LEFT IN WELL (ft.)	HOLE SIZE (in.)
13-3/8	54.5,61.0	4009	4009	17-1/2"
9-5/8	53.5	9934	6087	12-1/4"
7-5/8	39.0	5920	5920	8-1/2"
5-1/2	23.0	18,950	7950	6-1/2"

29. Was any Non-Drillable Material (Other than Casing) Left in This Well? ☐ Yes ☒ No
29a. If answer to above is "Yes" state depth to top of "junk" left in hole and briefly describe non-drillable material. (Use Reverse Side of Form if more space is needed.)

30. LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS

FROM 18,682	TO 18,688	FROM	TO
FROM 18,580	TO 18,588	FROM	TO
FROM 17,380	TO 17,390	FROM	TO
FROM	TO	FROM	TO
FROM	TO	FROM	TO

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.
* Designates items to be completed by Cementing Company. Items not so designated shall be completed by Operator.

See attached W-3's for signatures

Signature of Cementer or Authorized Representative

Dowell, Division of The Dow Chemical Co.
Name of Cementing Company

CERTIFICATE:
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct and complete, to the best of my knowledge.

RECEIVED R.R.C. OF TEXAS SEP 07 1982 O.G. HOUSTON, TEXAS

D. M. Tirey — REPRESENTATIVE OF COMPANY
D. M. Tirey — Drlg. Engineer — TITLE
8/27/82 — DATE
Phone 713 978-3855 — A/C NUMBER

SIGNATURE: REPRESENTATIVE OF RAILROAD COMMISSION

RECEIVED R.R.C. OF TEXAS SEP 01 1982 O.G. HOUSTON, TEXAS

071-31267 DR-80

31. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission: [X] Yes [ ] No

32. How was Mud Applied? Pump

33. Mud Weight: 13.2 LBS/GAL

34. Total Depth: 18,950

Depth of Deepest Fresh Water: 400

Other Fresh Water Zones by T.D.W.R.

TOP	BOTTOM

35. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? [X] Yes [ ] No

36. If NO, Explain

37. Name and Address of Cementing or Service company who mixed and pumped cement plugs in this well: *See Remarks

Date RRC District Office notified of plugging:

38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases

39. Was Notice Given Before Plugging to Each of the Above?

FILL IN BELOW FOR DRY HOLES ONLY

40. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

[ ] Log Attached [ ] Log released to _____ Date _____

Type Logs:

[ ] Driller's [ ] Electric [ ] Radioactivity [ ] Accoustical/Sonic

41. Date FORM P-8 (Special Clearance) Filed?

42. Amount of Oil produced prior to Plugging _____ bbls*

* File FORM P-1 (Oil Production Report) for month this oil was produced

RRC USE ONLY

Nearest Field _____

REMARKS (1) Dowell, Division of The Dow Chemical Company, 5155 W. Cardinal, Beaumont, Texas 77705
(2) Seaboard Well Service, Inc., P. O. Box 51286, Lafayette, Louisiana

Plugging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FORM W-3
Rev. 10/78

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

API NO. (If available)

1. RRC District: 03

4. RRC Lease or Id. Number

2. FIELD NAME (as per RRC Records): Wildcat

3. Lease Name: William Doornbos

5. Well Number: 1

6. OPERATOR: The Dow Chemical Company

6a. Original Form W-1 Filed in Name of: The Dow Chemical Company

10. County: Chambers

7. ADDRESS: P. O. Box 4322 - Houston, TX. 77210

6b. Any Subsequent W-1's Filed in Name of:

11. Date Drilling Permit Issued: 10/15/81

8. Location of Well, Relative to Nearest Lease Boundaries of Lease on which this Well is Located: 1000 Feet From South Line and 1000 Feet From West Line of the William Doornbos Lease

12. Permit Number: 136462

9a. SECTION, BLOCK, AND SURVEY: T. & N. O. R. R. A-279

9b. Distance and Direction From Nearest Town in this County: 4 Miles West from Winnie

13. Date Drilling Commenced: 10/25/81

16. Type Well (Oil, Gas, Dry): Dry

Total Depth: 18,950'

17. If Multiple Completion List All Field Names and Oil Lease or Gas ID No.'s — GAS ID or OIL LEASE #: | OIL-O Gas-G: | WELL #:

14. Date Drilling Completed: 2/11/82

18. If Gas, Amt. of Cond. on Hand at time of Plugging:

15. Date Well Plugged: 8/5/82

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7	PLUG #8
*19. Cementing Date	6/12/82							
20. Size of Hole or Pipe in which Plug Placed (inches)	5-1/2"							
21. Depth to Bottom of Tubing or Drill Pipe (ft.)	17,323'							
*22. Sacks of Cement Used (each plug)	22							
*23. Slurry Volume Pumped (cu. ft.)	36.11							
*24. Calculated Top of Plug (ft.)	17023							
25. Measured Top of Plug (if tagged) (ft.)								
*26. Slurry Wt. #/Gal.	18							
*27. Type Cement	H + 35% D-30 + .75% D-65 + 35#/sk D-18 + 1% D-28							

28. CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT. #/FT.	PUT IN WELL (ft.)	LEFT IN WELL (ft.)	HOLE SIZE (in.)

29. Was any Non-Drillable Material (Other than Casing) Left in This Well? ☐ Yes ☐ No

29a. If answer to above is "Yes" state depth to top of "junk" left in hole and briefly describe non-drillable material. (Use Reverse Side of Form if more space is needed.)

30. LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS

FROM	TO	FROM	TO
FROM	TO	FROM	TO
FROM	TO	FROM	TO
FROM	TO	FROM	TO
FROM	TO	FROM	TO

R.R.C. OF TEXAS SEP 07 1982 O. G. HOUSTON, TEXAS

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.

* Designates items to be completed by Cementing Company. Items not so designated shall be completed by Operator.

Signature of Cementer or Authorized Representative

DOWELL DIV. OF DOWELL CHEMICAL
Name of Cementing Company

CERTIFICATE:
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

REPRESENTATIVE OF COMPANY | TITLE | DATE | Phone A/C NUMBER

SIGNATURE: REPRESENTATIVE OF RAILROAD COMMISSION

RAILROAD COMMISSION OF TEXAS SEP 01 1982 O. G. HOUSTON, TEXAS

071-31267

31. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission	☐ Yes ☐ No	32. How was Mud Applied?	33. Mud Weight LBS/GAL
34. Total Depth Depth of Deepest Fresh Water	Other Fresh Water Zones by T.D.W.R. TOP / BOTTOM	35. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules?	☐ Yes ☐ No
		36. If NO, Explain	
37. Name and Address of Cementing or Service company who mixed and pumped cement plugs in this well			Date RRC District Office notified of plugging

38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases

39. Was Notice Given Before Plugging to Each of the Above?

FILL IN BELOW FOR DRY HOLES ONLY

40. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

☐ Log Attached ☐ Log released to _____ Date _____

Type Logs:

☐ Driller's ☐ Electric ☐ Radioactivity ☐ Acoustical/Sonic

41. Date FORM P-5 (Special Clearance) Filed?

42. Amount of Oil produced prior to Plugging _____ bbls*

* File FORM P-1 (Oil Production Report) for month this oil was produced

RRC USE ONLY

Nearest Field _____

REMARKS _____

Dow Oil & Gas
Doornbos #1
Winnie
Chambers County Texas

300,9 0634

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-15
(Rev. 11-1-69)

CEMENTING REPORT

*1. Field Name (as per RRC Records or Wildcat): Wildcat	*2. RRC District: 03
*3. Operator: The Dow Chemical Company	*4. County: Chambers
*5. Lease Name(s) and RRC Lease Number(s) or I. D. Number(s): William Doornbos	*6. Well Number: 1
*7. Location (Section, Block, and Survey): T. & N. O. R.R. Survey, A-279	

CASING CEMENTING DATA:	SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING: Single String	PRODUCTION CASING: Multiple Parallel Strings	MULTI-STAGE CEMENTING PROCESS: Tool	MULTI-STAGE CEMENTING PROCESS: Shoe
*8. Cementing Date	102881					
*9. (a) Size of Drill Bit (inches)	17-1/2"					
(b) Estimated % Wash or Hole Enlargement Used in Calculations	75%					
*10. Size of Casing (inches O.D.)	13-3/8"					
*11. Top of Liner (if liner used) (ft.)						
*12. Setting Depth of Casing (ft.)	4009					
13. Type API Class Cement & Amount of Additives Used: (a) In First (Lead) or Only Slurry (If additional space is needed, use "REMARKS" on reverse side.)	DLW + .2% D-46					
(b) In Second Slurry	H + .2% D-46					
(c) In Third Slurry						
14. Sacks of Cement Used: (a) In First (Lead) or Only Slurry	2850					
(b) In Second Slurry	400					
(c) In Third Slurry						
(d) Total Sacks of Cement Used	3250					
15. Slurry Volume per Sack of Cement (cu.ft./sack): (a) In First (Lead) or Only Slurry	1.54					
(b) In Second Slurry	1.18					
(c) In Third Slurry						
16. Volume of Slurry Pumped: (cu. ft.) (Item 14 x Item 15): (a) In First (Lead) or Only Slurry	4389					
(b) In Second Slurry	472					
(c) In Third Slurry						
(d) Total Slurry Volume Pumped (cu.ft.)	4861					
17. Calculated Annular Height of Cement Slurry behind Pipe (ft.)	6997.89					
18. Was cement circulated to ground surface (or bottom of cellar) outside casing? (Yes or No)	YES					

CEMENTING TO PLUG AND ABANDON DATA:	PLUG NO. 1	PLUG NO. 2	PLUG NO. 3	PLUG NO. 4	PLUG NO. 5	PLUG NO. 6
19. Cementing Date						
*20. Size of Hole or Pipe in which Plug Placed (inches)						
*21. Depth to Bottom of Tubing or Drill Pipe (ft.)						
22. Sacks of Cement Used (each plug)						
23. Slurry Volume Pumped (cu. ft.)						
24. Calculated Top of Plug (ft.)						
*25. Measured Top of Plug (if tagged) (ft.)						

RECEIVED R.R. COMMISSION OF TEXAS SEP 07 1982 O.G. HOUSTON, TEXAS

RECEIVED R.R. COMMISSION OF TEXAS SEP 01 1982 O.G. HOUSTON, TEXAS

(CEMENTING COMPANY AND OPERATOR MUST COMPLY WITH THE INSTRUCTIONS ON REVERSE SIDE HEREOF.)

-- OVER --

* Designates Items to be completed by Operator. Items not so designated shall be completed by Cementing Company.

26. Remarks:

QW/ OIL & GAS

DORNBOO #1

STOWELL
CHAMBERS COUNTY, TEXAS

*27. Remarks:

CEMENTING COMPANY

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

Signature of Cementer or Authorized Representative

BURCY THIERRY SERV. SUPV.

Name of Cementing Company (type or print)

DOWELL DIV. OF DOW CHEMICAL

5155 AT CARDINAL

BEAUMONT, TEXAS 77705

City, State Zip Code

713 8425420

Telephone Area Code

10 28 81

Date

*OPERATOR

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data and information presented herein.

D. M. Tirey

*Signature of Operator or Authorized Representative

D. M. Tirey, Drilling Engineer

*Name of Person and Title (type or print)

The Dow Chemical Company

*Operator

P. O. Box 4322

*Street Address or P.O. Box

Houston, Texas 77210

*City, State Zip Code

*Telephone 713 978-3855

Area Code

August 27, 1982

*Date

INSTRUCTIONS

1. A. This form shall be filed by the operator in the RRC District Office with:
   (1) Each copy of an initial Form G-1 or W-2 if a cementing report is required by Statewide or Special Rules, or if exception is needed to cementing requirements in Statewide or Special Rules;
   (2) Each copy of Form W-3,
   (3) Each copy of Form W-4 if a multiple parallel casing completion.
   B. At least an original and one copy of this form shall be filed for each cementing company used on a well.
   C. The cementing of different casing strings on a well by one cementing company may be consolidated on one form (to be filed in duplicate)
2. Cementing Company and Operator shall comply with the applicable portions of Statewide Rules 8, 13, and 14. For offshore operations, Cementing Company and Operator shall comply with Statewide Rule 13(E).
3. If setting FULL AMOUNT OF SURFACE CASING:
   A. Depth to protect fresh water determined by:
   (1) F[illegible] Rule
   (2) T[illegible] s Water Development Board, if no Field Rule
   B. Set surface casing below depth to be protected and cement from casing shoe to ground surface.
4. IF SETTING ANYTHING OTHER THAN THE FULL AMOUNT OF SURFACE CASING, PERMISSION SHALL BE OBTAINED FROM THE RAILROAD COMMISSION.
5. If setting NO SURFACE CASING (See Item 4 above.):
   A. If no multi-stage tool is used, the next deeper casing string shall be cemented from the casing shoe to the surface.
   B. If using the multi-stage tool on the next deeper string, cement from the depth that protects fresh water sands to the surface.
6. If setting SHORT SURFACE CASING (See Item 4 above.):
   A. Cement short surface casing from the shoe to the surface.
   B. Whether the multi-stage tool is or is not used on the next deeper casing string, cement from the depth that protects fresh water sands to:
   (1) the surface, or
   (2) a point midway between shoe of surface string and the surface. Compliance will be considered if a temperature survey shows that the top of the cement is at least one-third of the distance from the shoe of the surface string to the surface.
7. Setting PRODUCTION STRING of Casing: (Statewide Rules; Special Rules may vary.)
   A. Cement to a point at least 600 feet above the casing shoe.
   B. When 3,000 feet or more of pipe is set for the production or protecting string, a minimum of 30 feet of cement shall be left inside the pipe
8. PLUGGING and ABANDONING.
   A. Cement plugs shall be placed in the well bore as required by Rules and Regulations of the Commission plus any additional plugs as may be specified by the RRC District Director.
   B. The minimum amount of cement normally used in each plug shall be a slurry volume equal to the amount necessary to fill the calculated volume of 100 feet of the hole in which the plug is placed.
   C. A 10 foot cement plug is required to be placed in the top of the well.

26. Remarks:

Cut All Pipe 5' Below Ground Level
And Weld ¼" Steel Plate On Top.

*27. Remarks:

CEMENTING COMPANY

I declare under penalties prescribed in Article 6033c, R. C. S., that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers cementing data only.

Bobby Kidder
Signature of Cementer or Authorized Representative

Bobby Kidder
Name of Person and Title (type or print)

Seaboard Well Service, Inc.
Cementing Company

P. O. Box 51286
Street Address or P.O. Box

Lafayette, Louisiana 70505
City, State Zip Code

Telephone 318 235-4545
Area Code

8/17/82
Date

***OPERATOR**

I declare under penalties prescribed in Article 6033c, R. C. S., that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all well data and information presented herein.

D M Tirey
*Signature of Operator or Authorized Representative

D. M. Tirey, Drilling Engineer
*Name of Person and Title (type or print)

The Dow Chemical Company
*Operator

P. O. Box 4322
*Street Address or P.O. Box

Houston, Texas 77210
*City, State Zip Code

*Telephone 713 978-3855
Area Code

August 27, 1982
*Date

INSTRUCTIONS

1. A. This form shall be filed by the operator in the RRC District Office with:
   (1) Each copy of an initial Form G-1 or W-2 if a cementing report is required by Statewide or Special Rules, or if exception is needed to cementing requirements in Statewide or Special Rules;
   (2) Each copy of Form W-3;
   (3) Each copy of Form W-4 if a multiple parallel casing completion.
   B. At least an original and one copy of this form shall be filed for each cementing company used on a well.
   C. The cementing of different casing strings on a well by one cementing company may be consolidated on one form (to be filed in duplicate).
2. Cementing Company and Operator shall comply with the applicable portions of Statewide Rules 8, 13, and 14. For offshore operations, Cementing Company and Operator shall comply with Statewide Rule 13(E).
3. If setting FULL AMOUNT OF SURFACE CASING:
   A. Depth to protect fresh water determined by:
   (1) Field Rule
   (2) Texas Water Development Board, if no Field Rule
   B. Set surface casing below depth to be protected and cement from casing shoe to ground surface.
4. IF SETTING ANYTHING OTHER THAN THE FULL AMOUNT OF SURFACE CASING, PERMISSION SHALL BE OBTAINED FROM THE RAILROAD COMMISSION.
5. If setting NO SURFACE CASING (See Item 4 above.):
   A. If no multi-stage tool is used, the next deeper casing string shall be cemented from the casing shoe to the surface.
   B. If using the multi-stage tool on the next deeper string, cement from the depth that protects fresh water sands to the surface.
6. If setting SHORT SURFACE CASING (See Item 4 above.):
   A. Cement short surface casing from the shoe to the surface.
   B. Whether the multi-stage tool is or is not used on the next deeper casing string, cement from the depth that protects fresh water sands to:
   (1) the surface, or
   (2) a point midway between shoe of surface string and the surface. Compliance will be considered if a temperature survey shows that the top of the cement is at least one-third of the distance from the shoe of the surface string to the surface.
7. Setting PRODUCTION STRING of Casing: (Statewide Rules; Special Rules may vary.)
   A. Cement to a point at least 600 feet above the casing shoe.
   B. When 3,000 feet or more of pipe is set for the production or protecting string, a minimum of 30 feet of cement shall be left inside the pipe.
8. PLUGGING and ABANDONING:
   A. Cement plugs shall be placed in the well bore as required by Rules and Regulations of the Commission plus any additional plugs as may be specified by the RRC District Director.
   B. The minimum amount of cement normally used in each plug shall be a slurry volume equal to the amount necessary to fill the calculated volume of 100 feet of the hole in which the plug is placed.
   C. A 10 foot cement plug is required to be placed in the top of the well.

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

Form W-15
(Rev. 11-1-69)

CEMENTING REPORT

*1. Field Name (as per RRC Records or Wildcat): Wildcat

*2. RRC District: Houston

*3. Operator: The Dow Chemical Company

*4. County: Chambers

*5. Lease Name(s) and RRC Lease Number(s) or I. D. Number(s): William Doornbos

*6. Well Number: 1

*7. Location (Section, Block, and Survey): T. & N. O. R.R. A-279

CASING CEMENTING DATA:	SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
			Single String	Multiple Parallel Strings	Tool	Shoe
8. Cementing Date						
*9. (a) Size of Drill Bit (inches)						
(b) Estimated % Wash or Hole Enlargement Used in Calculations						
*10. Size of Casing (inches O.D.)						
*11. Top of Liner (if liner used) (ft.)						
*12. Setting Depth of Casing (ft.)						
13. Type API Class Cement & Amount of Additives Used: (a) In First (Lead) or Only Slurry (If additional space is needed, use "REMARKS" on reverse side.)						
(b) In Second Slurry						
(c) In Third Slurry						
14. Sacks of Cement Used: (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Sacks of Cement Used						
15. Slurry Volume per Sack of Cement (cu.ft./sack): (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
16. Volume of Slurry Pumped: (cu. ft.) (Item 14 x Item 15) (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Slurry Volume Pumped (cu.ft.)						
17. Calculated Annular Height of Cement Slurry behind Pipe (ft.)						
18. Was cement circulated to ground surface (or bottom of cellar) outside casing? (Yes or No)						

CEMENTING TO PLUG AND ABANDON DATA:	PLUG NO. 1	PLUG NO. 2	PLUG NO. 3	PLUG NO. 4	PLUG NO. 5	PLUG NO. 6
19. Cementing Date	8/3/82	8/4/82	8/4/82			
*20. Size of Hole or Pipe in which Plug Placed (inches)	95/8&133/8	13 3/8	13 3/8			
*21. Depth to Bottom of Tubing or Drill Pipe (ft.)	3900'	450'	30'			
22. Sacks of Cement Used (each plug)	80	110	20			
23. Slurry Volume Pumped (cu. ft.)	94.40	129	23			
24. Calculated Top of Plug (ft.)	3742'	303'	5'			
*25. Measured Top of Plug (if tagged) (ft.)						

(CEMENTING COMPANY AND OPERATOR MUST COMPLY WITH THE INSTRUCTIONS ON REVERSE SIDE HEREOF.)

– OVER –

* Designates items to be completed by Operator. Items not so designated shall be completed by Cementing Company.

R. R. C. OF TEXAS
SEP 01 1982
O. G.
HOUSTON, TEXAS

Chambers Wildcat 0 400

1001025941

Schlumberger

DUAL INDUCTION-SFL-SONIC
WITH LINEAR CORRELATION LOG

COUNTY CHAMBERS
FIELD WILDCAT
LOCATION DOORNBOS #1
WELL DOORNBOS #1
COMPANY DOW CHEMICAL USA

COMPANY DOW CHEMICAL USA 42071 31267
CONFIDENTIAL Not from operator
WELL DOORNBOS #1
FIELD WILDCAT Paleo
COUNTY CHAMBERS STATE TEXAS

CONFIDENTIAL TO:
M. J. McGRAW

LOCATION 100' FSL & 1000' FWL OF T &
NO RR SUR. 59 A-279

API SERIAL NO	SEC.	TWP	RANGE

Other Services:
FDC/CNL-GR
CSTT, RFT, SRS
CALIPER

Permanent Datum: GROUND LEVEL ; Elev.: 26.0
Log Measured From R.K.B. 26 Ft. Above Perm. Datum
Drilling Measured From R.K.B.

Elev.: K.B. 52.0
D.F. 51.0
G.L. 26.0

Date	11-14-81	12-4-81	12-17-82	1-12-82	1-20-82	2-3-82	2-11-82
Run No.	ONE	TWO	THREE	FOUR	FIVE	SIX	SEVEN
Depth—Driller	9957	14092	15553	17505	18082	18650	18950
Depth—Logger	9951	14071	15519	17520	18026	18646	18951
Btm. Log Interval	9949	14064	15516	17514	18020	18640	18943
Top Log Interval	4018	9939	14000	15551	17350	17800	17288
Casing—Driller	13-3/8@4009	9-5/8@9934	9-5/8@9934	7-5/8@15552	7-5/8@15552	7-5/8@15552	7-5/8@15552
Casing—Logger	4018	9939	9939	15551	15551	15551	15551
Bit Size	12-1/4	8-1/2	8-1/2	6-1/2	6-1/2	6-1/2	6-1/2
Type Fluid in Hole	LIGNO	LNS	LIGNO	INVERT O&W	OIL EMULSON	OIL EMULSION	INVERT O&M
Dens. / Visc.	13.2 / 45	16.8 / 50	17.3 / 52	17.5 / 69	17.8 / 69	-- / --	17.8 / 69
pH / Fluid Loss	10.5 / 5.0 ml	11.0 / 1.7 ml	10.5 / 1.6 ml	-- / 4.6 ml	-- / -- ml	-- / -- ml	-- / 3.8 ml
Source of Sample	FLOWLINE	CIRC. TANK	FLOWLINE	NONE	NONE	--	--
Rm @ Meas. Temp.	1.08 @ 75 °F	1.12 @ 75 °F	0.88 @ 75 °F	-- @ -- °F	-- @ 75 °F	-- @ -- °F	-- @ -- °F
Rmf @ Meas. Temp.	0.92 @ 75 °F	0.44 @ 75 °F	0.74 @ 75 °F	-- @ -- °F	-- @ 75 °F	-- @ -- °F	-- @ -- °F
Rmc @ Meas. Temp.	1.60 @ 75 °F	1.68 @ 75 °F	1.30 @ 75 °F	-- @ -- °F	-- @ 75 °F	-- @ -- °F	-- @ -- °F
Source: Rmf / Rmc	M / C	C / C	M / C	OIL / BASE	-- / --	-- / --	-- / --
Rm @ BHT	0.48 @ 176 °F	0.33 @ 264 °F	0.24 @ 290 °F	-- @ -- °F	-- @ -- °F	-- @ 337 °F	-- @ 355 °F
TIME Circulation Stopped	1900 11-14	1500	1100 12-17	2400 1-11	17:00	11:00	1000
TIME Logger on Bottom	0200 11-15	2200	2300 12-17	0930 1-11	5:00	23:00	0000
Max. Rec. Temp.	176 °F	264 °F	290 °F	327 °F	334 °F	353 °F	355 °F
Equip. / Location	8078 / DAYTON	8282 / GCN	8078 / DAYTON	8238 / WHAR	8157 / WHAR	8259 / WHAR	8219 / WHAR
Recorded By	FELICE	KOELLING	FELICE	LANGHAMER	ANGUS	PYATT	VLKOJAN
Witnessed By	HERRERA, HARTZELL, BOYLE		HERRERA	HARTZELL	HERRERA	HARTZELL	SORRELL

SWS-2807

ARTIFICIAL PENETRATION NO. 18

OPERATOR: UNION OIL COMPANY OF CALIFORNIA
WELL NAME: H.P. DROUGHT NO. 1

API NO: 42-071-01955

Geostock Sandia

4318483

Please refer to File No. .....

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1

DW

2/2/5

APPLICATION TO DRILL, DEEPEN OR PLUG BACK

IS THIS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK..Drill.....?

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines.. Also show the nearest wells on all sides of of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line.....660.....feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease.....--.....feet.

Date..September 9,..... 1955.....

Name of company or operator

Name..Union Oil Company of California.....

Address..800 Prudential Building.....

City..Houston, Texas.....

Description of farm or lease:

Name of Lease..H. P. Drought, et al.....

Number of Acres..158.79.....Well No..1.....

Number of wells on lease...None.....

Survey.....T & NO A-280.....

Elevation.....Feet
(ABOVE SEA LEVEL)

Section No.....61.....Block No.....

Located in...Wildcat.....Field

(If Wildcat state above)

.....Chambers.....County

.....6.....Miles.....W.....direction from

Stowell, Texas.....nearest postoffice or town.

Rotary or Cable Tools.....Rotary.....

Date work will start drilling..Immediately.....

Depth to which you propose to drill..9500.....feet.

Date work will start deepening.....

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name.....

Address.....

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

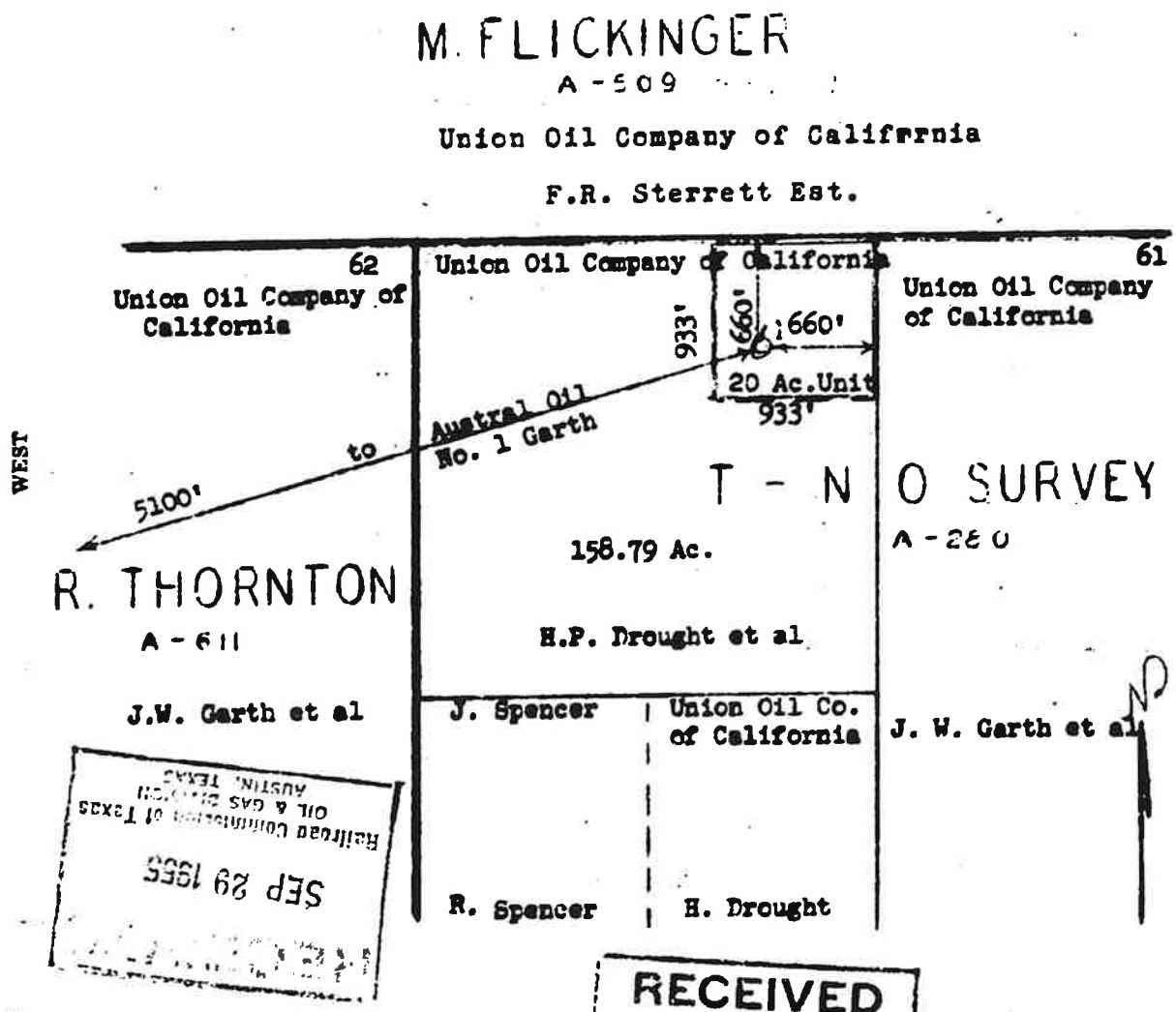
DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

DR

FILE No.....

DRAW SKETCH IN SPACE BELOW OR FILE CERTIFIED LEASE PLAT
(Be sure that all required locations, footages, distances, and scales are given.)

NORTH



Railroad Commission of Texas
OIL & GAS DIVISION
AUSTIN, TEXAS
SEP 29 1955

RECEIVED
SEP 1955
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Board of Water Engineers, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

Scale of Plat 1" = 1000'

I, J. R. Evans, being first duly sworn on oath, state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Name J. R. Evans, Title Dist. Supt.

Subscribed and sworn to before me this 16th day of September, 1955

Correspondence regarding this well should be addressed to: Buford E. McBride

Notary Public, County, Texas

Name Union Oil Company of California Address 600 Prudential Building, Houston 25, Texas

BUFORD E. McBRIDE
Notary Public, in and for Harris County, Texas

21215

Please Refer to File No.

Form 2A

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

APPLICATION TO PLUG AND WELL RECORD

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Name of Company or Operator UNION OIL COMPANY OF CALIFORNIA Address 800 Prudential Building Houston 25, Texas

County Chambers Survey T&NO A-280 Blk. Sec. 61

Name of Lease H. P. Drought No. of Acres 158.79 Well No. 1 Elev. 25'

Located 13 Miles East Direction from Anahuac, Texas (Nearest P. O. or Town)

Name of Field in which well is located Wildcat

Form 1, "Notice of Intention to Drill," was filed in name of Union Oil Company of California

Drilling Commenced October 2, 19 55, Drilling Completed October 25, 19 55

Has this well ever produced oil? No or Gas? No

Character of Well (Oil, Gas or Dry) Dry Total Depth 9500'

Date you wish to Plug October 25, 19 55

Name of Party Plugging Well Tyler Brinker Address 800 Prudential Bldg., Houston 25, Texas

Correspondence regarding this well should be sent to: Name Union Oil Company of California

Address 800 Prudential Building, Houston 25, Texas

CASING RECORD

SIZE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOES
	Ft.	In.	Ft.	In.	Ft.	In.	
10-3/4	1641				1641		Guide & Float Collar
							900 sx common cement

IF CASING WAS CEMENTED GIVE NUMBER OF SACKS USED ON DIFFERENT STRINGS

Initial Production of Gas: Volume (MCF) -- 24 hrs. Pressure -- lbs. per square inch

Initial Production of Oil: Barrels --

Give notice before Plugging to all available Lease Owners, as required by Rule (10).

When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information that can be obtained to the total depth, casing record, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks:

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS
Surface, Sand & Shale	0	1750	
Sand w/streaks of shale	1750	3400	
Shale w/streaks of sand	3400	4965	
Shale	4965	5419	
Sand w/streaks of shale	5419	6505	
Shale	6505	7791	
Sand w/streaks of shale	7791	8279	
Shale	8279	9500	TOTAL DEPTH

Method of shutting off water Cement Is water completely shut off? Yes

Amount of water with oil ... per cent

I, Tyler Brinker being first duly sworn on oath state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Tyler Brinker
Pet. Eng.
Representative of Company.

Subscribed and sworn to before me this 20th day of October, 1955

Lillie Lunn
Notary Public

LILLIE LUNN
Notary Public, in and for Harris County, Texas

Harris County, Texas.

Please Refer to
File No.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 4
Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company UNION OIL COMPANY OF CALIFORNIA Address 800 Prudential Building Houston 25, Texas

Sec. No. 61 Block No. Survey T&NO A-280 County Chambers

Well No. 1 Name of Lease H. P. Drought No. of Acres 158.79

Name of Field in which well is located Wildcat Date well was plugged 10-25-55, 19 55

Character of Well at the time of completion: Oil (Initial Production) bbls.; Gas (Initial Production) Cu. ft.; Dry X

Amount well producing when plugged: Oil -- bbls.; Gas -- Cu. ft.; Water -- bbls.

Has this well ever produced oil or gas? No

Total Depth 9500 feet. Top of each producing sand -- feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? YES

How was mud applied? Pump

Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depths placed. Also amount of cement and rock. Was well shot? No

50 sx cement plug, 1570' to 1670'.

Show depth found and thickness of all water, oil and gas formations None

Have all abandoned wells on this lease been plugged according to Commissions rules? Yes

Manner of confining all oil, gas or water to strata: Cement

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:

Cox & Hamon, Houston, Texas

American National Insurance Co., Houston, Texas

Was notice given before plugging to all available adjacent lease owners as required by Rule 10? Yes

I, Tyler Brinker, being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth and that the same are true and correct.

Name Tyler Brinker, Title Pet. Eng.

Subscribed and sworn to before me this 26th day of October, 19 55

LILLIE LUNN
Notary Public in and for Harris County, Texas

Lillie Lunn

Correspondence regarding this well should be addressed to: Notary Public Harris County, Texas

Name Union Oil Company of California Address 800 Prudential Bldg., Houston 25, Tex.

PR

PERFORATING GUNS ATLAS CORPORATION

Electrical Log

COUNTY CHAMBERS
FIELD or LOCATION W. STOWELL W/C
WELL H.P. DROUGHT ETAL #1
COMPANY UNION OIL COMPANY OF CALIFORNIA

COMPANY UNION OIL COMPANY OF CALIFORNIA
WELL H. P. DROUGHT ETAL #1
071-01955
FIELD (WEST STOWELL) WILDCAT
LOCATION
COUNTY CHAMBERS
STATE TEXAS

Location of Well
660' FNL & EL of 160ac. H.P. DROUGHT ETAL TCT. (LOT 4) Sc:1980 FWL & 10 660' FNL of T & NO Survey Sec.61, A-280, EAST ANAHUAC AREA
Elevation: D.F.: 40
K.B.:
or G.L.: 26

FILING No.

126927

RUN No.	ONE	TWO			
Date	10-22-55	10-26-55			
First Reading	9051	9064			
Last Reading	1640	9061			
Feet Measured	7411	453			
Csg. P. G. A. C.	1640	-			
Csg. Driller	1641	-			
Depth Reached	9062	9508			
Bottom Driller	9060	9500			
Depth Datum	11' AB R.T.	(14' AB G.L.)			
Mud Nat.	WATERBASE	-			
" Density	12.2	12.2			
" Viscosity	59	58			
" Resist.	1.25 @ 95°	1.25 @ 100°			
" Res. BHT	.68	.68			
" pH	9.0	9.0			
" Wtr. Loss	5.0 CC 30 min.	5.0 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. F	175°	175°			
Bit Size	9 7/8"	9 7/8"			
Spcgs.—AM	16"				
AM'	64"				
AO	8'				
AO'	18'				
Opr. Rig Time	2:00	1:45			
Truck No.	EL-5	EL-5			
Recorded By	MONTES	HEARD			
Witness	BANKSTON	BANKSTON			

ARTIFICIAL PENETRATION NO. 19

OPERATOR: MORRIS CANNAN
WELL NAME: GARTH NO. 1

API NO: 42-071-31036

Geostock Sandia

API Well No. 42 Instruction (7a & b) 071 31036

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Directional Well ☐ Amended or Corrected Permit ☐

FORM W-1 (6/78)

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

#077299

Check one: ☒ DRILL ☐ DEEPEN (Below Casing) ☐ DEEPEN (Within Casing) ☐ PLUG BACK ☐ OTHER (Specify)

If Amended Application, explain fully in Remarks or Attach Separate Page.

1. Operator: Morris Cannan 129030

2. Address (Including City and Zip Code): 1645 Milam Building, San Antonio, Texas 78205

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed? YES ☒ NO ☐ (Instruction (2) on back side.)

4. Lease Name and RRC Lease or ID No. if Assigned: Garth

5. Location (Sec., Blk., Survey): THORTON R. A. [redacted] A-611

6. This well is to be located 6 miles West Direction from Winnie Nearest Post Office or Town.

RRC Permit Number, if previously assigned.

7. RRC District: 3

8. County: Chambers

9. Well Number: 1

10. Number of Acres in Lease: 320

11. Distance from Proposed Location to Nearest Property or Lease Line (ft.): 467'

12. Total Depth: 12,000'

EACH PROPOSED COMPLETION

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R.R.C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below.	14. Completion Depth	15. All Prior Rule 37 Exc. Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. (acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same field? (Yes or No. If yes explain in remarks.)	20. Distance and Direction from proposed location to nearest drilling completed or applied for well in same res. on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Exc. Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of Wells or Permitted locations on this Lease in same Reservoir for which this Permit is Requested? OIL	GAS
0006 001											
Wildcat	10,500	none	467-1200	40 ac	40 ac	no	none	Regular 1 ☒ Rule 37 2 ☐	Gas	none	none
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			

RECEIVED RRC OF TEXAS APR - 1 1980 HOUSTON, TEXAS

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED:
A. Lease Lines 1400' FNL, 467' FEL
B. Survey Lines 1400' FNL, 467' FEL

25. (a) Is this wellbore subject to SWR 36? Yes ☐ No ☒
(b) If subject to SWR 36, has Form H-9 been filed? (If no, attach explanation.)

NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

REMARKS: Houston Gas Unit 4-1-80 Lay Barge

Verbal O.K. Johnnie Ransom

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature: William F. Howell William F. Howell

Title: Agent

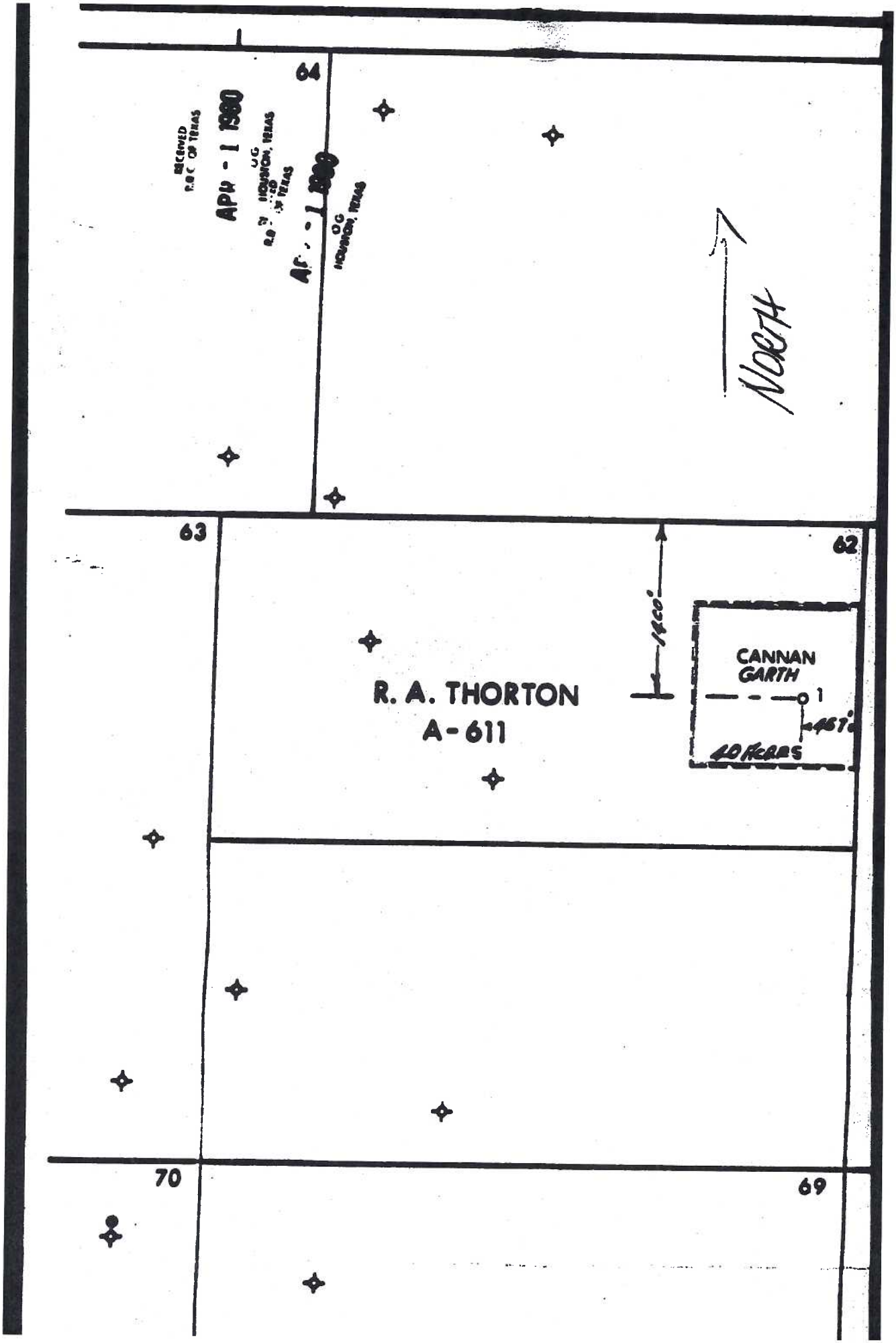
Date: April 1, 1980

Telephone: Area Code 713 237-[redacted]

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071-31036

1 3 0 4 0 0 3 6 0 0 0 0 1 0 0 0 0


64
63
62
70
69
APR - 1 1980
O.G.
HOUSTON, TEXAS
NORTH
1400'
R. A. THORTON
A-611
CANNAN
GARTH
1
451'
40 ACRES

0 0 0 0 4 3 0 0 4 7 0

Plugging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FORM W-3
Rev. 10/78

API NO. 42-071-31036 (if available)

1. RRC District: 3

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

4. RRC Lease or Id. Number:

2. FIELD NAME (as per RRC Records): Wildcat

3. Lease Name: Garth

5. Well Number: 1

6. OPERATOR: Morris Cannan

6a. Original Form W-1 Filed in Name of: Morris Cannan

10. County: Chambers

7. ADDRESS: 1645 Milam Bldg. San Antonio, TX 78205

6b. Any Subsequent W-1's Filed in Name of:

11. Date Drilling Permit Issued: 4-1-80

8. Location of Well, Relative to Nearest Lease Boundaries of Lease on which this Well is Located: 1400 Feet From N Line and 467 Feet From E Line of the Garth Lease

12. Permit Number: 077299

9a. SECTION, BLOCK, AND SURVEY: R. A. Thorton A-611

9b. Distance and Direction From Nearest Town in this County: 6 miles W. of Winnie

13. Date Drilling Completed: 4-5-80

16. Type Well (Oil, Gas, Dry): Dry

Total Depth: 11,000

17. If Multiple Completion List All Field Names and Oil Lease Or Gas ID No.'s

GAS ID or OIL LEASE #	Oil - O Gas - G	WELL #

14. Date Drilling Completed: 5-4-80

18. If Gas, Amt. of Cond. on Hand at time of Plugging:

15. Date Well Plugged: 5-24-80

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7	PLUG #8
*19. Cementing Date	5-22-80							
20. Size of Hole or Pipe in which Plug Placed (inches)	7"							
21. Depth to Bottom of Tubing or Drill Pipe (ft.)	8900							
*22. Sacks of Cement Used (each plug)	25							
*23. Slurry Volume Pumped (cu. ft.)	29.5							
*24. Calculated Top of Plug (ft.)	8800							
25. Measured Top of Plug (if tagged) (ft.)	8755							
*26. Slurry Wt. #/Gal.	15.6							
*27. Type Cement	Class H							

28. CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT. #/FT.	PUT IN WELL (ft.)	LEFT IN WELL (ft.)	HOLE SIZE (in.)
10-3/4		1497'	1497'	16"
7"		9510'	7910'	

29. Was any Non-Drillable Material (Other than Casing) Left in This Well: ☐ Yes ☒ No

29a. If answer to above is "Yes" state depth to top of "junk" left in hole and briefly describe non-drillable material. (Use Reverse Side of Form if more space is needed.)

30. LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS

FROM 8894	TO 8898	FROM	TO
FROM 8892	TO [illegible]	FROM	TO
FROM [illegible]	TO [illegible]	FROM	TO
FROM 8825	TO 8827	FROM	TO
FROM	TO	FROM	TO

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.
* Designates items to be completed by Cementing Company. Items not so designated shall be completed by Operator.

B. Langston
Signature of Cementer or Authorized Representative

Halliburton Services
Name of Cementing Company

CERTIFICATE:
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Phyllis A. Massengale — REPRESENTATIVE OF COMPANY
Accountant — TITLE
7-10-80 — DATE
Phone 512 226-0100 — A/C NUMBER

SIGNATURE: REPRESENTATIVE OF RAILROAD COMMISSION

071-31036

DR67

31. Was Well filled with Mud-Laden Fluid, according to the Regulations of the Railroad Commission: [X] Yes [ ] No

32. How was Mud Applied? **Left from drilling**

Mud Weight: **10 lb.** LBS/GAL **salt water**

34. Total Depth: **11,000'**

Other Fresh Water Zones by T.D.W.R. TOP / BOTTOM:

35. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? [X] Yes [ ] No

36. If NO, Explain

Depth of Deepest Fresh Water: **400'**

37. Name and Address of Cementing or Service company who mixed and pumped cement plugs in this well: **Halliburton Services P. O. BOX 7126 Beaumont, TX 77706**

Date RRC District Office notified before plugging: **5-2-80**

38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases:

Mark Huddleston Rtl. Box 535 , Winnie, TX 77665

Gulf Oil Exploration and Production Co. / P. O. Box 2100/Houston, TX 77001

Prudential Drilling Co. / 5433 Westheimer St. e.620/ Houston, TX 77056

39. Was Notice Given Before Plugging to Each of the Above? **Yes**

FILL IN BELOW FOR DRY HOLES ONLY

40. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

[X] Log Attached [ ] Log released to _____ Date _____

Type Logs

[ ] Driller's [X] Electric [ ] Radioactivity [ ] Acoustical/Sonic

41. Date FORM P-8 (Special Clearance) Filed?

42. Amount of Oil produced prior to Plugging _____ bbls

* File FORM P-1 (Oil Production Report) for month this oil was produced

RRC USE ONLY

Nearest Field _____

REMARKS **Pumped in 75 sx Class H at perfs; tagged at 8936'. Cleaned out to 8939'. Cement retaining packer set at 9444'. 20 sx. Cement thru EZSV 9444-9544'; 5 sx. on top of EZSV.**

071-31037

Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FORM W-3
Rev. 10/78

API NO. 42-071-31036 (if available)

1. RRC District: 3

4. RRC Lease or Id. Number:

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

2. FIELD NAME (as per RRC Records): Wildcat	3. Lease Name: Garth	5. Well Number: 1
6. OPERATOR: Morris Cannan	6a. Original Form W-1 Filed in Name of: Morris Cannan	10. County: Chambers
7. ADDRESS: 1645 Milam Bldg. San Antonio, Texas 78205	6b. Any Subsequent W-1's Filed in Name of:	11. Date Drilling Permit Issued: 4-1-80
8. Location of Well, Relative to Nearest Lease Boundaries of Lease on which this Well is Located: 1400 Feet From N Line and 467 Feet From E Line of the Garth Lease		12. Permit Number: 077299
9a. SECTION, BLOCK, AND SURVEY: R. A. Thorton A-611	9b. Distance and Direction From Nearest Town in this County: 6 Miles W. of Winnie	13. Date Drilling Commenced: 4-3-80
16. Type Well (Oil, Gas, Dry): Dry; Total Depth: 11,000	17. If Multiple Completion List All Field Names and Oil Lease or Gas ID No.: GAS ID or OIL LEASE #; Oil-O Gas-G; WELL #	14. Date Drilling Completed: 5-4-80
18. If Gas, Amt. of Cond. on Hand at time of Plugging:		15. Date Well Plugged: 5-24-80

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7	PLUG #8
*19. Cementing Date	5-24-80	5-24-80						
20. Size of Hole or Pipe in which Plug Placed (inches)	7"	7"						
21. Depth to Bottom of Tubing or Drill Pipe (ft.)	1650	1650	36'					
*22. Sacks of Cement Used (each plug)	50	50	15					
*23. Slurry Volume Pumped (cu. ft.)	59	59						
*24. Calculated Top of Plug (ft.)	1550	1550						
25. Measured Top of Plug (if tagged)			6'					
*26. Slurry Wt. # /Gal.	15.6	15.6						
*27. Type Cement	Cl.H	Cl.H						

28. CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT. #/FT.	PUT IN WELL (ft.)	LEFT IN WELL (ft.)	HOLE SIZE (in.)
10-3/4		1497'	1497'	16"
7"		9510'	7910'	

29. Was any Non-Drillable Material (Other than Casing) Left in This Well: Yes X No

29a. If answer to above is "Yes" state depth to top of "junk" left in hole and briefly describe non-drillable material. Use Reverse Side of Form if more space is needed.

30. LIST ALL OPEN HOLE AND OR PERFORATED INTERVALS

FROM 8894	TO 8898	FROM	TO
FROM 8892	TO 8896	FROM	TO
FROM 8821	TO 8825	FROM	TO
FROM 8825	TO 8827	FROM	TO
FROM	TO	FROM	TO

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.

* Designates items to be completed by Cementing Company. Items not so designated shall be completed by Operator.

William [signature]
Signature of Cementer or Authorized Representative

HALLIBURTON SERVICES
Name of Cementing Company

CERTIFICATE

I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

[signature]
REPRESENTATIVE OF COMPANY

Accountant
TITLE

7-10-80
DATE

Phone 512 226-9109
A/C NUMBER

SIGNATURE REPRESENTATIVE OF RAILROAD COMMISSION

071-31036

31. Was Well filled with Mud-Laden Fluid, according to the Regulations of the Railroad Commission	[X] Yes [ ] No	32. How was Mud Applied? **Left from drilling**
33. Mud Weight **10 lb. salt water**		

34. Total Depth **11,000**	Other Fresh Water Zones by T.D.W.R. TOP / BOTTOM	35. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? [X] Yes [ ] No
Depth of Deepest Fresh Water **400**		36. If NO, Explain

37. Name and Address of Cementing or Service company who mixed and pumped cement plugs in this well
Halliburton Services, P.O.Box 7126, Beaumont, TX 77706

38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases
Mark Huddleston, Rtl. Box 535, Winnie, Tx 77665
Gulf Oil Exploration and Production Co., P.O. Box 2100, Houston, TX 77001
Prudential Drilling Co., 5433 Westheimer Ste. 620, Houston, TX 77056

39. Was Notice Given Before Plugging to Each of the Above?
Yes

FILL IN BELOW FOR DRY HOLES ONLY

40 For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

[X] Log Attached [ ] Log released to _____ Date _____

Type Logs
[ ] Driller's [X] Electric [ ] Radioactivity [ ] Acoustical/Sonic

41 Date FORM P-8 (Special Clearance) Filed?

42. Amount of Oil produced prior to Plugging _____ bbls

* File FORM P-1 (O & G Production Report) for month this oil was produced

RRC USE ONLY

Nearest Field _____

REMARKS **Surface pipe cut off six feet below ground level. Surface plug set by rig hand. Plate welded on top of 10-3/4" S.C. 7" shot off at 1600'.**

071-31036

Schlumberger

DUAL INDUCTION-SFL-SONIC

WITH LINEAR CORRELATION LOG

COUNTY CHAMBERS
FIELD WILDCAT
LOCATION GARTH #1
WELL GARTH #1
COMPANY MORRIS CANNAN

COMPANY MORRIS CANNAN

WELL GARTH #1

FIELD WILDCAT

COUNTY CHAMBERS STATE TEXAS

RECEIVED R.R.C. OF TEXAS JUL 15 1980 HOUSTON, TEXAS

LOCATION 1400' FNL & 467'-FEL OF LSE

API SERIAL NO	SEC.	TWP.	RANGE

Other Services: CST

Permanent Datum GROUND LEVEL Elev. 20.0
Log Measured From K.B. 17.5 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. 37.5
D.F. 36.5
G.L. 20.0

Date	4-16-80	5-1-80		
Run No.	ONE	TWO		
Depth—Driller	9513	11000		
Depth—Logger	9499	11003		
Btm. Log Interval	9496	11000		
Top Log Interval	1498	9503		
Casing—Driller	10 3/4@1502	7" @ 9505	@	@
Casing—Logger	1498	9503		
Bit Size	9 7/8	6.0		
Type Fluid in Hole	LNS	LNS		
Dens. / Visc.	11.0 / 55	17.1 / 57	/	/
pH / Fluid Loss	10 / 6 cml	11 / 3.2 ml	/ ml	/ ml
Source of Sample	PIT	CIRC. TANK		
Rm @ Meas. Temp.	1.5 @ 75°F	1.18 @ 75 °F	@ °F	@ °F
Rmf @ Meas. Temp.	1.3 @ 75°F	1.02 @ 75 °F	@ °F	@ °F
Rmc @ Meas. Temp.	2.2 @ 75°F	1.77 @ 75 °F	@ °F	@ °F
Source: Rmf / Rmc	M / C	M / C	/	/
Rm @ BHT	.64 @175°F	0.41 @ 216°F	@ °F	@ °F
TIME Circulation Stopped	1500 4-15	1800 5-1		
TIME Logger on Bottom	2030	0215 5-2		
Max. Rec. Temp.	175 °F	216 °F	°F	°F
Equip. / Location	8084 DAYTON	8072 DAYTON	/	/
Recorded By	ALLEN	MURRAY/PENA		
Witnessed By	MOSES/ FORBISH/HOWELL			

R.R.C.

FOLD HERE

The well name, location and borehole reference data were furnished by the customer.

SCALE CHANGES

	Type Log	Depth	Scale Up Hole	Scale Down Hole
	ΔT	5400'	170-70	150-50

RUN NO.	ONE	TWO		
Service Order No.	114385	108389		
Fluid Level	FULL	FULL		
Salinity, PPM Cl.	1500	2800		

EQUIPMENT DATA

Ind. Panel No.	238	198		

ARTIFICIAL PENETRATION NO. 20

OPERATOR: AUSTRAL OIL EXPLORATION
WELL NAME: GARTH BROS NO. 1

API NO: 42-071-01956

Geostock Sandia

4318484

35089

Please refer to File No.

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

Form 1

APPLICATION TO DRILL OR DEEPEN

IS THIS AN APPLICATION TO DRILL OR DEEPEN Drill ?

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines.. Also show the nearest wells on all sides of of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line.....330.....feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease..None.....feet.

Date.....January 7, 1955

Name of company or operator

Name Austral Oil Exploration Co. Inc.

Address...707 San Jacinto Bldg.

City....Houston, Texas

Description of farm or lease:

Name of Lease.....Garth Bros.

Number of Acres...160.....Well No....1

Number of wells on lease....None

Survey R. A. Thornton A-611

Elevation.....Feet (ABOVE SEA LEVEL)

Section No....62.....Block No.....

Located in.....Wildcat.....Field

(If Wildcat state above)

.....Chambers.....County

...5-1/2.....Miles..W & S..direction from

Winnie, Texas.....nearest postoffice or town.

Rotary or Cable Tools.....Rotary

Date work will start drilling..January 15, 1955.

Depth to which you propose to drill...9500....feet.

Date work will start deepening.....

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name.....

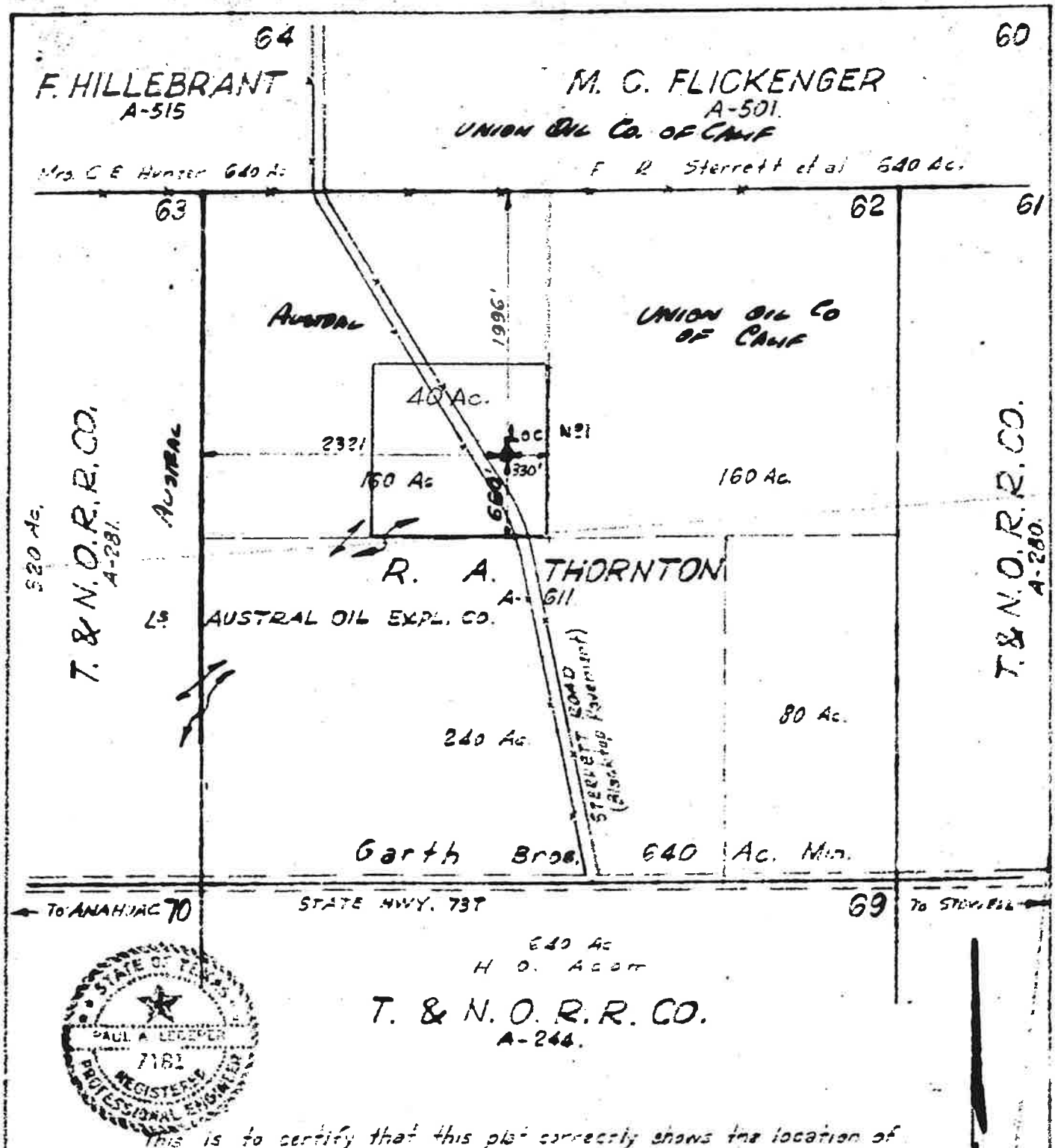
Address.....

Note: The mineral rights under the Sterrett Road and a part of the Garth Bros. lease and are claimed by Austral Oil Exploration Co. Inc.

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

779



This is to certify that this plat correctly shows the location of AUSTRAL OIL EXPLORATION CO. INC. No 1 GARTH BROTHERS as staked on the ground by me Jan. 3, 1955.

Paul A. Lecerf

1" = 1000'

AUSTRAL OIL EXPLORATION CO. INC - HOUSTON.
OIL No 1 GARTH BROS., CHAMBERS COUNTY, TEXAS

PAUL A. LECERF
CIVIL ENGINEER
HOUSTON TEXAS

3 5089

Please Refer to File No. _____

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

3

Form 2A
Application To Plug and Well Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Company Austral Oil Exploration Company Incorporated Address 707 San Jacinto Bldg., Houston, Texas

Sec. No. _____ Block No. _____ Survey R.A. Thornton A-611 County Chambers

Well No. 1 Name of Lease Garth Bros. No. of Acres 160 Elev. 27' GL 40' DF

Name of Field in which well is located Wildcat

Located 5½ Miles W&S Direction from Winnie, Texas (Nearest P. O. or Town)

Form 1, "Notice of Intention to Drill," was filed in name of Austral Oil Exploration Company Incorporated

Drilling Commenced Jan. 22, 1955. Drilling Completed Feb. 7, 1955

Has this well ever produced Oil? No or Gas? No

Character of Well (Oil, Gas or Dry) Dry Total Depth 9250

Date you wish to Plug Feb. 10, 1955.

Name of Party Plugging Well Halliburton Address Houston, Texas

Correspondence regarding this well should be sent to: Name Winston G. Smith

Address 707 San Jacinto Bldg., Houston, Texas

Initial Production of Gas: Volume (MCF) None 24 hrs. Pressure -- lbs. per square inch

Initial Production of Oil: Barrels None

Give notice before Plugging to all available Lease Owners, as required by Rule (10).

When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information that can be obtained to as total depth, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks:

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

779

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS
Surface clay, sd. & sh.	Surface	1630	
Sand and sandy shale	1630	1785	
Sand shale & lime strks	1785	2536	
Shale and sand strks.	2536	3185	
Sand and shale	3185	4031	
Shale and sandy shale	4031	4562	
Shale, sand & lime strks	4562	5373	
Sand, sandy shale, lm. strks	5373	6250	
Sand and lime streaks	6250	6450	
Shale	6450	6700	
Sandy shale	6700	6740	
Shale w/strks sd. shale	6740	7750	
Sand, sandy shale	7750	8220	
Shale	8220	8420	
Hard sand and shale	8420	8500	
Hard shale & sd streaks	8500	8790	
Shale with hd.sd. strks	8790	9170	
Hard sand	9170	9200	
Hard shale	9200	9250	TD No procuctive sands.

RECEIVED
FEB 16 1955
Railroad Commission of Texas
OIL & GAS DIVISION
AUSTIN, TEXAS

Method of shutting off water [illegible] completely shut off? Yes

Amount of water with oil None per cent

I, Winston G. Smith being first duly sworn on oath state that I have knowledge of the [illegible] and matter herein set forth and that the same are true and correct.

Winston G. Smith
Representative of Company.

Subscribed and sworn to before me this 11th day of February, 1955

Ruby Lee Miles
Notary Public
Harris County, Texas.

RECEIVED
FEB 1[illegible] 1955
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

Please Refer to
File No.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 4
Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company Austral Oil Exploration Co. Inc. Address 707 San Jacinto Bldg., Houston, Texas

Sec. No. ____ Block No. ____ Survey R. A. Thornton A-611 County Chambers

Well No. 1 Name of Lease Garth Bros. No. of Acres 160

Name of Field in which well is located Wildcat Date well was plugged Feb. 10, 1955

Form 1 (*Notice of Intention to Drill*) Was Filed in Name of Austral Oil Exploration Company Incorporated

Character of Well at the time of completion: Oil -- (Initial Production) bbls; Gas -- (Initial Production) Cu. Ft.: Dry Yes

Amount well producing when plugged: Oil None bbls; Gas None Cu. Ft.: Water ____ bbls.

Has this well ever produced oil or gas? No

Total Depth 9250 feet. Top of each producing sand None feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? Yes 12.1#/gallon

How was mud applied? Circulated by pump through drill pipe.

Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depth placed. Also amount of cement and rock. Was well shot? No

100 sacks cement 1526' to 1726'; 10 sacks in top of 10-3/4" surface casing. Steel plate on top 10-3/4"

SIZE PIPE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOES
	Ft.	In.	Ft.	In.	Ft.	In.	
10-3/4"	1626	6	None		1626	6	Guide Shoe & Float collar
Cemented with 650 sacks cement with 6% gel and 200 sacks neat cement. Cement was circulated to surface.							

Show depth found and thickness of all water, oil and gas formations None

Have all abandoned wells on this lease been plugged according to Commissions rules? No others

Manner of confining all oil, gas or water to strata: Casing, mud and cement.

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:

Was notice given before plugging to all available adjacent lease owners as required by Rule 10?

I, Winston G. Smith, being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth and that the same are true and correct.

Name Winston G. Smith, Title Petroleum Engineer

Subscribed and sworn to before me this 11th day of February, 1955

Ruby Lee Miles
Notary Public Harris County, Texas
Ruby Lee Miles
Notary Public

Correspondence regarding this well should be addressed to:

Name Winston G. Smith Address 707 San Jacinto Bldg., Houston, Texas

PERFORATING GUNS ATLAS CORPORATION

CAMBRIDGE LOG LIBRARY - Houston - Lafayette - New Orleans

Electrical Log

COUNTY CHAMBERS
FIELD or LOCATION WILDCAT
WELL GARTH BROS. #1
COMPANY AUSTRAL OIL EXP. CO.

COMPANY AUSTRAL OIL EXPLORATION COMPANY
WELL GARTH BROTHERS #1
FIELD WILDCAT
LOCATION
COUNTY CHAMBERS
STATE TEXAS

Location of Well

40
23

Elevation: D.F.:
K.B.:
or G.L.:

FILING No.

RUN No.	ONE	TWO			
Date	2-1-55	2-8-55			
First Reading	8002	9249			
Last Reading	1624	8002			
Feet Measured	6378	1247			
Csg. P. G. A. C.	1624	-			
Csg. Driller	1626	-			
Depth Reached	8003	9250			
Bottom Driller	8002	9250			
Depth Datum	K.B. (14.85' ab B.H.)				
Mud Nat.	WATERBASE	-			
" Density	10.3	12.3			
" Viscosity	44	55			
" Resist.	1.9 @ 80°	2.2 @ 70°			
" Res. BHT	1.3	1.0			
" pH	8				
" Wtr. Loss	8.8CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Max. Temp. F	161°	174°			
Bit Size	9 7/8"	-			
Spcgs.—AM	16"				
AM'	64"				
AO	8'				
AO'	18'				
Opr. Rig Time	1:45	1:45			
Truck No.	61-2	61-2			
Recorded By	KAHN	RUSK			
Witness	TRASK	TRASK			

FOLD HERE

ARTIFICIAL PENETRATION NO. 22

OPERATOR: TEXAS CONSOLIDATED
WELL NAME: GARTH CO NO. 3

API NO: 42-071-30073

Geostock Sandia

4320471

0041 0540

16

Application to Drill, Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1
Rev. 4/60

STATE WHETHER THIS IS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK Drill
SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED
DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE,
ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION.
(Black Ink or Black Typewriter Ribbon Preferable)

CHAMBERS DIST. 3
API NO. 42 071 30073

READ CAREFULLY AND COMPLY FULLY

SPS

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, to this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 1000 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease 4450 feet.

IS THE ACREAGE ON WHICH THIS WELL IS TO BE LOCATED, PRESENTLY ASSIGNED TO ANOTHER WELL IN ANY RESERVOIR FOR WHICH THIS PERMIT IS REQUESTED? no

Date February 5, 1970

Name of company or operator

Name Texas Consolidated Petroleum Corp

Address P. O. Box 6702 c/o Mr. Cecil V. Hagen

City Houston, Texas 77005

Description of farm or lease:

Name of Lease Garth Co.

Number of Acres 960 Well No. 3

Number of wells on lease 1

Elevation 25 (Ft. above sea level) Section No. 62 Block No.

Survey R. A. Thornton, Abstract 611

Zone or Reservoir Anahuac, East Frio B-15

To be Located in Anahuac East Area /W/C Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 3870' from west line of lease and 1000' from north line or 1200' from west line and 1000' from north line of survey, Chambers County

6 Miles West-Southwest direction from Winnie, Texas nearest post office or town.

Rotary or Cable Tools rotary

Date work will start drilling March 1, 1970

Depth to which you propose to drill 9250 feet.

Date work will start deepening

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name

Address

RECEIVED
R.R.C. OF TEXAS
FEB 6 - 1970
O. G.
HOUSTON, TEXAS

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

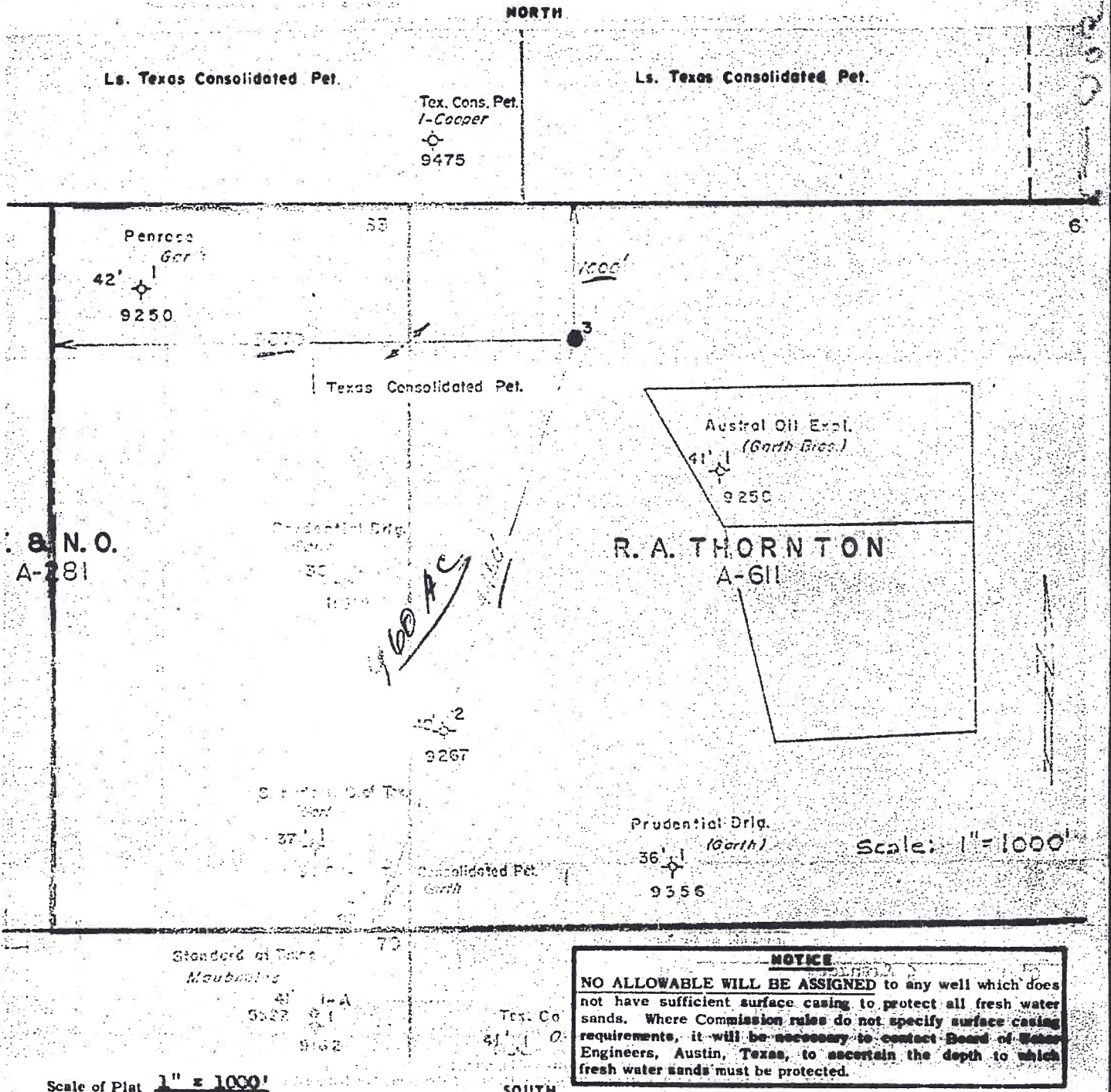
DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

071 30073

779

5-09523

DRAW SKETCH IN SPACE BELOW OR FILE CERTIFIED LEASE PLAT
(Be sure that all required locations, footages, distances, and scales are given in clearly legible print. Black printing preferable.)



NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Board of Water Engineers, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

Scale of Plat 1" = 1000'

I, Cecil V. Hagen, being first duly sworn on oath, state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Name Cecil V. Hagen, Title President

Subscribed and sworn to before me this 5 day of February, 19 70

W. L. McCarter

Notary Public Harris County, Texas

Correspondence regarding this well should be addressed to:

Name Cecil V. Hagen Address P. O. Box 6702, Houston, Texas 77005

0041 0545

Plugging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-3
Rev. 9/1/67

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

1. RRC District: 3
4. RRC Lease or Id. Number: 09523
2. FIELD NAME (as per RRC Records): Anahuac E. (Frio 15)
3. LEASE NAME: Garth Co.
5. Well Number: 3
6. OPERATOR: Texas Consolidated Pet. Corp.
10. County: Chambers
7. ADDRESS: P. O. Box 6702, Houston Texas, 77005
11. Date Drilling Permit Issued: 2/9/70
8. SURFACE LOCATION: 1200 FEET FROM West LINE, AND 1000 FEET FROM North LINE
12. Date Drilling Commenced: 2/16/70
9. SECTION, BLOCK, AND SURVEY: 62 R. A. Thornton survey Abstract 611
13. Date Drilling Completed: 2/26/70
15. Type of Well (Oil, Gas, Dry)*: Dry
16. Type of Completion (Single, Dual, Etc.):
17. Total Depth: 9265
14. Date Well Plugged: 2/26/70
18. FORM W-1 (Intention to Drill) Filed in Name of: TExas Consolidated Pet. Corp.

19. Manner of Placement

PLUG #1	100	SACKS	TOP 1074	BOTTOM 1274	TYPE Common
PLUG #2	10	SACKS	TOP Surface	BOTTOM 10	TYPE
PLUG #3		SACKS	TOP	BOTTOM	TYPE
PLUG #4		SACKS	TOP	BOTTOM	TYPE

20. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission: YES ☐ NO ☒
21. How was Mud applied? Through Drill Pipe
22. Mud Weight: 10.5 LBS/GAL
23. Depth of Deepest Fresh Water: 350 FEET
24. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? YES ☒ NO ☐
25. If NO, Explain:
26. Name and Address of Party Plugging Well: Halliburton, Beaumont

27. Casing and Tubing Record after Plugging

SIZE	PUT IN WELL FEET	PUT IN WELL INCHES	LEFT IN WELL FEET	LEFT IN WELL INCHES
10-3/4	1208		1208	

28. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases: Standard Of Texas, Houston

RECEIVED
R.R.C. OF TEXAS
MAR 3 - 1970
D. O.
HOUSTON, TEXAS

29. Was Notice given before Plugging to each of the above and RRC District Office? YES ☒ NO ☐

CERTIFICATE:

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete to the best of my knowledge.

Rodrigo Bastidas Monge — REPRESENTATIVE OF COMPANY
Agent — TITLE
3/2/70 — DATE

Signature: REPRESENTATIVE OF RAILROAD COMMISSION

*All Dry Holes, Fill in Reverse Side.

071 90073

0041 0546

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

Form W-15
(Rev. 11-1-69)

CEMENTING REPORT

*1. Field Name (as per RRC Records or Wildcat) Anahuac East (Frio 15)	*2. RRC District 3
*3. Operator Texas Consolidated Petroleum Corp.	*4. County Chambers
*5. Lease Name(s) and RRC Lease Number(s) or I. D. Number(s) Garth Co. xxxxxx 0953	*6. Well Number 3
*7. Location (Section, Block, and Survey) 1200' FWL and 1000' FNL of R.A.Thornton Survey, Section 62, Abstract 611	

CASING CEMENTING DATA:	SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
			Single String	Multiple Parallel Strings	Tool	Shoe
8. Cementing Date						
*9. (a) Size of Drill Bit (inches)						
(b) Estimated % Wash or Hole Enlargement Used in Calculations.						
*10. Size of Casing (inches O.D.)						
*11. Top of Liner (if liner used) (ft.)						
*12. Setting Depth of Casing (ft.)						
13. Type API Class Cement & Amount of Additives Used: (a) In First (Lead) or Only Slurry *(If additional space is needed, use "REMARKS" on reverse side.)*						
(b) In Second Slurry						
(c) In Third Slurry						
14. Sacks of Cement Used: (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Sacks of Cement Used						
15. Slurry Volume per Sack of Cement (cu.ft./sack): (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
16. Volume of Slurry Pumped: (cu. ft.) (Item 14 x Item 15) (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Slurry Volume Pumped (cu.ft.)						
17. Calculated Annular Height of Cement Slurry behind Pipe (ft.)						
18. Was cement circulated to ground surface (or bottom of cellar) outside casing? (Yes or No)						

CEMENTING TO PLUG AND ABANDON DATA:	PLUG NO. 1	PLUG NO. 2	PLUG NO. 3	PLUG NO. 4	PLUG NO. 5	PLUG NO. 6
19. Cementing Date	2-26-70					
*20. Size of Hole or Pipe in which Plug Placed (inches)	9-7/8					
*21. Depth to Bottom of Tubing or Drill Pipe (ft.)	1274					
22. Sacks of Cement Used (each plug)	100					
23. Slurry Volume Pumped (cu. ft.)	1.18					
24. Calculated Top of Plug (ft.)	1074					
*25. Measured Top of Plug (if tagged) (ft.)						

RECEIVED
RRC OF TEXAS
MAR 2 - 1970
HOUSTON, TEXAS

5-095823

(CEMENTING COMPANY AND OPERATOR MUST COMPLY WITH THE INSTRUCTIONS ON REVERSE SIDE HEREOF.)

– OVER –

* Designates Items to be completed by Operator. Items not so designated shall be completed by Cementing Company.

26. Remarks:

*27. Remarks:

CEMENTING COMPANY

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers cementing data only.

B. R. Sanders

Signature of Cementer or Authorized Representative

B. R. Sanders - Cementer

Name of Person and Title (type or print)

Halliburton Services

Cementing Company

P. O. Box 5527

Street Address or P.O. Box

Beaumont, Texas 77706

City, State Zip Code

Telephone 713 892-7131
Area Code

2-26-70

Date

***OPERATOR**

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all well data and information presented herein.

*Signature of Operator or Authorized Representative

Rodrigo Bastidas Monge - Agent

*Name of Person and Title (type or print)

Texas Consolidated Pet. Corp.

*Operator

P.O. Box 6702 Houston Texas, 77005

*Street Address or P.O. Box

*City, State Zip Code

*Telephone 713 6663555
Area Code

3/2/70

*Date

INSTRUCTIONS

1. A. This form shall be filed by the operator in the RRC District Office with:
   (1) Each copy of an initial Form G-1 or W-2 if a cementing report is required by Statewide or Special Rules, or if exception is needed to cementing requirements in Statewide or Special Rules;
   (2) Each copy of Form W-3;
   (3) Each copy of Form W-4 if a multiple parallel casing completion.
   B. At least an original and one copy of this form shall be filed for each cementing company used on a well.
   C. The cementing of different casing strings on a well by one cementing company may be consolidated on one form (to be filed in duplicate).
2. Cementing Company and Operator shall comply with the applicable portions of Statewide Rules 8, 13, and 14. For offshore operations, Cementing Company and Operator shall comply with Statewide Rule 13(E).
3. If setting FULL AMOUNT OF SURFACE CASING:
   A. Depth to protect fresh water determined by:
   (1) Field Rule
   (2) Texas Water Development Board, if no Field Rule
   B. Set surface casing below depth to be protected and cement from casing shoe to ground surface.
4. IF SETTING ANYTHING OTHER THAN THE FULL AMOUNT OF SURFACE CASING, PERMISSION SHALL BE OBTAINED FROM THE RAILROAD COMMISSION.
5. If setting NO SURFACE CASING (See Item 4 above.):
   A. If no multi-stage tool is used, the next deeper casing string shall be cemented from the casing shoe to the surface.
   B. If using the multi-stage tool on the next deeper string, cement from the depth that protects fresh water sands to the surface.
6. If setting SHORT SURFACE CASING (See Item 4 above.):
   A. Cement short surface casing from the shoe to the surface.
   B. Whether the multi-stage tool is or is not used on the next deeper casing string, cement from the depth that protects fresh water sands to:
   (1) the surface, or
   (2) a point midway between shoe of surface string and the surface. Compliance will be considered if a temperature survey shows that the top of the cement is at least one-third of the distance from the shoe of the surface string to the surface.
7. Setting PRODUCTION STRING of Casing: (Statewide Rules; Special Rules may vary.)
   A. Cement to a point at least 600 feet above the casing shoe.
   B. When 3,000 feet or more of pipe is set for the production or protecting string, a minimum of 30 feet of cement shall be left inside the pipe.
8. PLUGGING and ABANDONING:
   A. Cement plugs shall be placed in the well bore as required by Rules and Regulations of the Commission plus any additional plugs as may be specified by the RRC District Director.
   B. The minimum amount of cement normally used in each plug shall be a slurry volume equal to the amount necessary to fill the calculated volume of 100 feet of the hole in which the plug is placed.
   C. A 10 foot cement plug is required to be placed in the top of the well.

0041 0547

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-15
(Rev. 8-27-69)

CEMENTING REPORT

(To be filed with each Form G-1, W-2, W-3, or, if tubingless completions, W-4)

*1. Field Name (as per RRC Records or Wildcat) Anahuac East (Frio 15)	*2. RRC District 3
*3. Operator Texas Consolidated Petroleum Corp.	*4. County Chambers
*5. Lease Name(s) and RRC Lease Number(s) or I. D. Number(s) Garth Co. 0953	*6. Well Number 3
*7. Location (Section, Block, and Survey) 1200' FWL and 1000' FNL of R.A. Thornton Survey, Section 62, Abstract 611	

CASING CEMENTING DATA:	SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
			Single String	Multiple Parallel Strings	Tool	Shoe
8. Cementing Date	2-15-70					
*9. (a) Size of Drill Bit (inches)	15					
(b) Estimated % Wash or Hole Enlargement Used in Calculations.						
*10. Size of Casing (inches O.D.)	10-3/4					
*11. Top of Liner (if liner used) (ft.)						
*12. Setting Depth of Casing (ft.)	1208					
13. Type API Class Cement & Amount of Additives Used: (a) In First (Lead) or Only Slurry *(If additional space is needed, use "REMARKS" on reverse side.)*	Hallib. Lt.Cmt.					
(b) In Second Slurry	Comm.H					
(c) In Third Slurry						
14. Sacks of Cement Used: (a) In First (Lead) or Only Slurry	500					
(b) In Second Slurry	150					
(c) In Third Slurry						
(d) Total Sacks of Cement Used	650					
15. Slurry Volume per Sack of Cement (cu.ft./sack): (a) In First (Lead) or Only Slurry	1.97					
(b) In Second Slurry	1.18					
(c) In Third Slurry						
16. Volume of Slurry Pumped: (cu. ft.) (Item 14 x Item 15) (a) In First (Lead) or Only Slurry	985					
(b) In Second Slurry	177					
(c) In Third Slurry						
(d) Total Slurry Volume Pumped (cu.ft.)	1162					
17. Calculated Annular Height of Cement Slurry behind Pipe (ft.)	1208					
18. Was cement circulated to ground surface (or bottom of cellar) outside casing? (Yes or No)	Yes					

CEMENTING TO PLUG AND ABANDON DATA:	PLUG NO. 1	PLUG NO. 2	PLUG NO. 3	PLUG NO. 4	PLUG NO. 5	PLUG NO. 6
19. Cementing Date						
*20. Size of Hole or Pipe in which Plug Placed (inches)						
*21. Depth to Bottom of Tubing or Drill Pipe (ft.)						
22. Sacks of Cement Used (each plug)						
23. Slurry Volume Pumped (cu. ft.)						
24. Calculated Top of Plug (ft.)						
*25. Measured Top of Plug (if tagged) (ft.)						

RECEIVED
R.R.C. OF TEXAS
MAR 2 - 1970
HOUSTON, TEXAS

(CEMENTING COMPANY AND OPERATOR MUST COMPLY WITH THE INSTRUCTIONS ON REVERSE SIDE HEREOF.)

—OVER—

* Designates items to be completed by Operator. Items not so designated shall be completed by Cementing Company.

26. Remarks:

*27. Remarks:

CEMENTING COMPANY

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers cementing data only.

K. D Taylor

Signature of Cementer or Authorized Representative

K. D. Taylor - Cementer

Name of Person and Title (type or print)

Halliburton Services

Cementing Company

P. O. Box 5527

Street Address or P.O. Box

Beaumont, Texas 7770[illegible]

City, State Zip Code

Telephone 713 892-71[illegible]

Area Code

2-15-70

Date

***OPERATOR**

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all well data and information presented herein.

E. Bastidas

*Signature of Operator or Authorized Representative

Rodrigo Bastidas Monge Agent

*Name of Person and Title (type or print)

Texas Consolidated Pet. Corp.

*Operator

P.O. 6702

*Street Address or P.O. Box

Houston, Texas, 77005

*City, State Zip Code

*Telephone 713 6663555

Area Code

3/2/70

*Date

– INSTRUCTIONS –

1. A. The completed original and one copy of this form shall be filed by the operator in the RRC District Office with the required two copies of Form G-1, Gas Well Back Pressure Test, Completion or Recompletion Report and Log; Form W-2, Oil Well Potential Test, Completion, or Recompletion Report and Log; Form W-3, Plugging Record; or if tubingless completions, Form W-4, Application for Multiple Completion.
   B. At least an original and one copy of this form shall be filed for each cementing company used on a well.
   C. The cementing of different casing strings on a well by one cementing company may be consolidated on one form (to be filed in duplicate).
2. Cementing Company and Operator shall comply with the applicable portions of Statewide Rules 8, 13, and 14. For offshore operations, Cementing Company and Operator shall comply with Statewide Rule 13(E).
3. If setting FULL AMOUNT OF SURFACE CASING:
   A. Depth to protect fresh water determined by:
      (1) Field Rule
      (2) Texas Water Development Board, if no Field Rule
   B. Set surface casing below depth to be protected and cement from casing shoe to ground surface.
4. IF SETTING ANYTHING OTHER THAN THE FULL AMOUNT OF SURFACE CASING, PERMISSION SHALL BE OBTAINED FROM THE RAILROAD COMMISSION.
5. If setting NO SURFACE CASING (See Item 4 above.):
   A. If no multi-stage tool is used, the next deeper casing string shall be cemented from the casing shoe to the surface.
   B. If using the multi-stage tool on the next deeper string, cement from the depth that protects fresh water sands to the surface.
6. If setting SHORT SURFACE CASING (See Item 4 above.):
   A. Cement short surface casing from the shoe to the surface.
   B. Whether the multi-stage tool is or is not used on the next deeper casing string, cement from the depth that protects fresh water sands to:
      (1) the surface, or
      (2) a point midway between shoe of surface string and the surface. Compliance will be considered if a temperature survey shows that the top of the cement is at least one-third of the distance from the shoe of the surface string to the surface.
7. Setting PRODUCTION STRING of Casing:
   A. Cement to a point at least 600 feet above the casing shoe.
   B. When 3,000 feet or more of pipe is set for the production or protecting string, a minimum of 30 feet of cement shall be left inside the pipe.
8. PLUGGING and ABANDONING:
   A. Cement plugs shall be placed in the well bore as required by Rules and Regulations of the Commission plus any additional plugs as may be specified by the RRC District Director.
   B. The minimum amount of cement normally used in each plug shall be a slurry volume equal to the amount necessary to fill the calculated volume of 100 feet of the hole in which the plug is placed.
   C. A 10 foot cement plug is required to be placed in the top of the well.

FORM 925145

DresserAtlas

Induction Electrolog®

FILE NO

COMPANY TEXAS CONSOLIDATED PET. CO.

WELL GARTH # 3

FIELD WILDCAT

COUNTY CHAMBERS STATE TEXAS

LOCATION: *

42-071-30073

SEC * TWP * RGE *

Other Services

SWC

Permanent Datum RKB Elev. 41.0

Log Measured from RKB, 0 Ft. Above Permanent Datum

Drilling Measured from RKB

Elevations

KB 41.0

DF 40.0

GL 25.0

Date	2-25-70			
Run No	ONE			
Depth—Driller	9265			
Depth—Logger	9256			
Bottom Logged Interval	9250			
Top Logged Interval	1200			
Casing—Driller	10 3/4 @ 1208	@	@	@
Casing—Logger	1200			
Bit Size	8 3/4			
Type Fluid in Hole	CHEM. GEL. 3 % OIL			
Density and Viscosity	10.5 | 43			
pH and Fluid Loss	9.5 | 4.8 cc	cc	cc	cc
Source of Sample	PIT			
Rm @ Meas. Temp.	1.75 @ 61 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp	1.44 @ 61 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	2.03 @ 61 °F	@ °F	@ °F	@ °F
Source of Rmf and Rmc	M | M			
Rm @ BHT	0.56 @ 192 °F	@ °F	@ °F	@ °F
Time Since Circ	4 HRS			
Max Rec. Temp Deg. F.	192 °F	°F	°F	°F
Equip No. and Location	6029 | BMT			
Recorded By	BLACKBURN-ALLEN			
Witnessed By	MR. HAGAN-MR. BASTIDAS			

FOLD HERE

ARTIFICIAL PENETRATION NO. 23

OPERATOR: TEXAS CONSOLIDATED
WELL NAME: EARL COOPER NO. 1

API NO: 42-071-30032

Geostock Sandia

4320436

16

Application to Drill,
Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1
Rev. 4/60

STATE WHETHER THIS IS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK Drill

SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE.

ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION.

(Black Ink or Black Typewriter Ribbon Preferable)

CHAMBERS DIST. 3
API NO. 42 071 30032

READ CAREFULLY AND COMPLY FULLY

SPS

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 467 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease _____ feet.

IS THE ACREAGE ON WHICH THIS WELL IS TO BE LOCATED, PRESENTLY ASSIGNED TO ANOTHER WELL IN ANY RESERVOIR FOR WHICH THIS PERMIT IS REQUESTED? No

Date July 10, 19 69

Name of company or operator

Name Texas Consol. Petr. Corp.

Address P. O. Box 6702

City Houston, Texas 77005

Description of farm or lease:

Name of Lease Earl Cooper, et al

Number of Acres 640 Well No. 1

Number of wells on lease None

Elevation 26 (Ft. above sea level) Section No. 64 Block No. _____

Survey Frank Hillebrant A 261

Zone or Reservoir F-16 Sand

To be Located in Wildcat Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 660' FEL and 467' FSL

Frank Hillebrant Survey, Chambers County

15 Miles west direction from

Winnie nearest post office or town.

Rotary or Cable Tools Rotary

Date work will start drilling August 15, 1969

Depth to which you propose to drill 9600 feet.

Date work will start deepening _____

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name _____

Address _____

RECEIVED
O.G. HOUSTON, TEXAS
JUL 11 1969

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

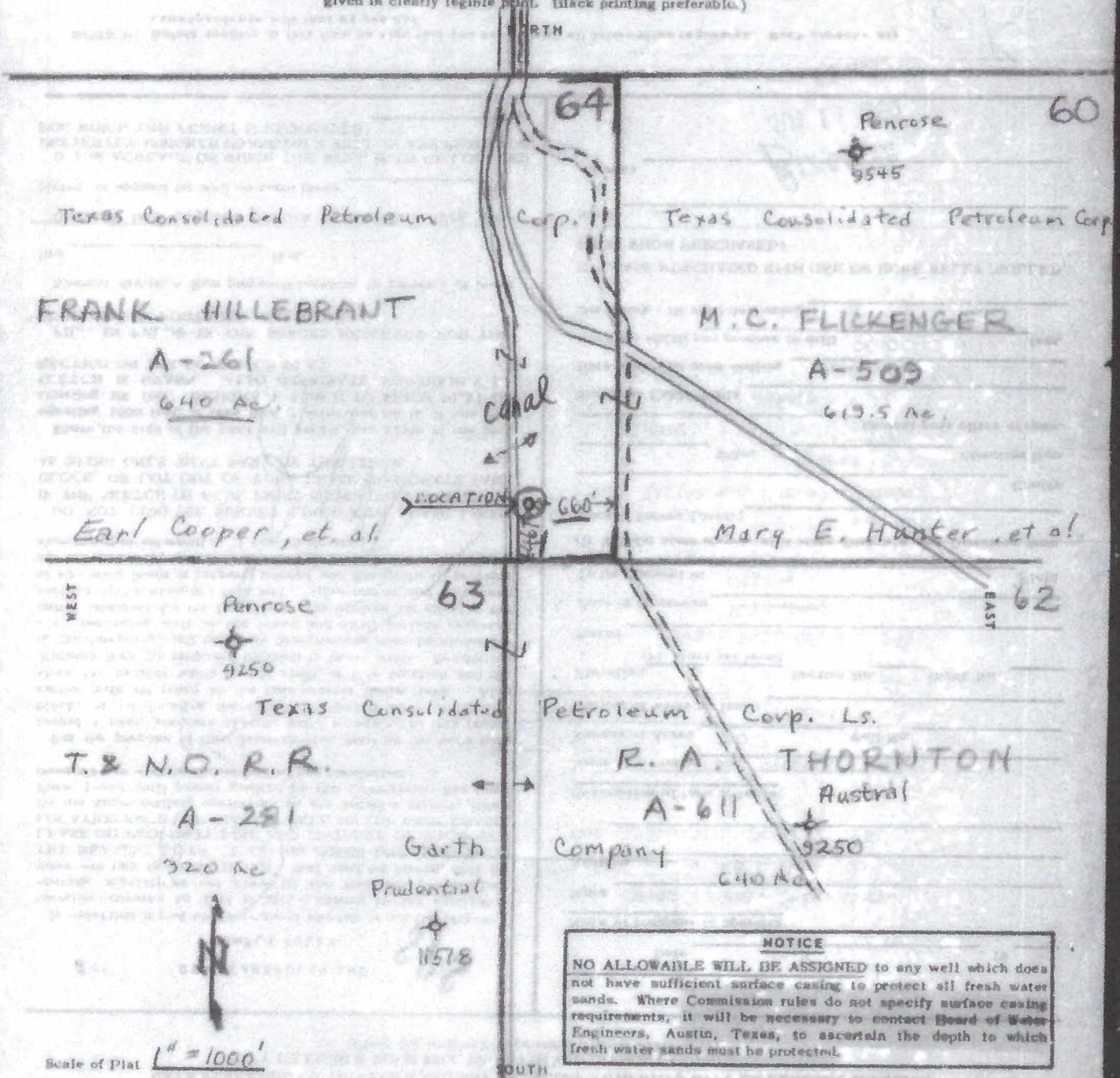
DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

OK

011-30032

To this a highway?

DRAW SKETCH IN SPACE BELOW OR FILE CERTIFIED LEASE PLAT
(Be sure that all required locations, footages, distances, and scales are given in clearly legible print. Black printing preferable.)



NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Board of Water Engineers, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

Scale of Plat 1" = 1000'

I, Fred Gonyear, being first duly sworn on oath, state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Name [signature], Title Geologist

Subscribed and sworn to before me this 10 day of July 1960

Florynne T. Brandon

Notary Public Harris County, Texas

Correspondence regarding this well should be addressed to:

Name Texas Consolidated Petroleum Corp. Address P. O. Box 6202, Houston, Texas 77005

Plugging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-3
Rev. 9/1/67

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

1. RRC District: 3
4. RRC Lease or Id. Number:
2. FIELD NAME (as per RRC Records): Wildcat
3. LEASE NAME: Earl Cooper, et al
5. Well Number: 1
6. OPERATOR: Texas Consolidated Petroleum Corp
10. County: Chambers
7. ADDRESS: P. O. Box 6702, Houston, Texas 77005
11. Date Drilling Permit Issued: 7-15-69
8. SURFACE LOCATION: 660 FEET FROM east LINE, AND 467' FEET FROM south LINE
12. Date Drilling Commenced: 9-13-69
9. SECTION, BLOCK, AND SURVEY: 64, Frank Hillebrant Survey, A-515, Chambers County, Texas
13. Date Drilling Completed: 9-28-69
15. Type of Well (Oil, Gas, Dry)*: dry
16. Type of Completion (Single, Dual, Etc.):
17. Total Depth: 9475'
14. Date Well Plugged: 9-28-69
18. FORM W-1 (Application to Drill) Filed in Name of: Texas Consol. Petr. Corp

19. Manner of Placement

PLUG #1	50	SACKS	TOP	1115	BOTTOM	1215	TYPE	Common H cement 2% calcium Chloride
PLUG #2	10	SACKS	TOP	0	BOTTOM	20	TYPE	
PLUG #3		SACKS	TOP		BOTTOM		TYPE	
PLUG #4		SACKS	TOP		BOTTOM		TYPE	

20. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission: YES [X] NO [ ]
21. How was Mud applied?
22. Mud Weight: 10.5 LBS/GAL
23. Depth of Deepest Fresh Water: 400 FEET
24. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? YES [X] NO [ ]
25. If NO, Explain
26. Name and Address of Party Plugging Well

27. Casing and Tubing Record after Plugging

SIZE	PUT IN WELL FEET	PUT IN WELL INCHES	LEFT IN WELL FEET	LEFT IN WELL INCHES
10-3/4	1167		1167	

28. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases

Earl Cooper
7926 Thornhill
San Antonio, Texas

071 — 30032

RECEIVED R.R.C. OF TEXAS OCT 21 1969 O.G. HOUSTON, TEXAS

29. Was Notice given before Plugging to each of the above and RRC District Office? YES [X] NO [ ]

CERTIFICATE:

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

[signature] President 10-20-69
REPRESENTATIVE OF COMPANY TITLE DATE

Signature: REPRESENTATIVE OF RAILROAD COMMISSION

*All Dry Holes, Fill in Reverse Side.

R-29

071 — 30032

30. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

☒ Log attached ☐ Log released to _____ Date _____

See below

Type Logs:

☒ Driller's (See below) ☐ Electric ☐ Radioactivity ☐ Acoustical/Sonic

REMARKS _____

*

FORMATIONS	TOP	BOTTOM
Clay and Sand	0	1100'
Shale	1100'	3030'
Shale	3030'	4125'
Shale and Sand	4125'	6170'
Shale, hard sand with lime streaks	6170'	6828'
Shale	6828'	7300'
Shale	7300'	7922'
Hard sand and shale	7922'	8785'
Shale and hard sand	8785'	9096'
Shale and sand	9096'	9251'
Shale	9251'	9478'

AFFIDAVIT ON PLUG TO ABANDON WELL

STATE OF TEXAS
COUNTY OF Harris } SS

I, H. Beeson, being of lawful age and having full knowledge of the facts hereinbelow set out, do state:

That I am an employee of Halliburton Company, of Duncan, Oklahoma employed as a Cementer, and as such employee am engaged in the operation of the Halliburton Company's equipment employed in the cementing of wells being drilled for oil and/or gas;

That on the 28th day of September, 19 69, I operated the aforesaid cementing equipment at the request of

Texas Consolidated Petroleum Company
(customer)

in the pumping of cement into said Well Number 1 situated on the Cooper Lease in Chambers County, Texas, which, according to the customer was for the purpose of plugging and abandoning said well;

That according to the information furnished me by the customer, his agent or representative, a cement plug was placed in said well from

1215 depth to the 111 depth
w/ 50 sacks common H cement, 2% Calcium Chloride.
depth to the depth
depth to the depth

RECEIVED R.R.C. OF TEXAS OCT 21 1969 HOUSTON, TEXAS

AFFIANT: H. Beeson
HALLIBURTON SERVICES Employee

071 — 30032

AFFIDAVIT ON CEMENTING

STATE OF TEXAS
COUNTY OF JEFFERSON } SS

I, R. E. Nolen, being of lawful age, do state that I am employed by Halliburton Company in the capacity of cementer, and that on the 11th day of September, 19 69, Halliburton Company performed a cementing service for the purpose of cementing the surface (production, protection, surface) string of casing in Well Number 1, Cooper Lease, located in Chambers County, Texas for TEXAS CONSOLIDATED PET. COMPANY (customer).

Information provided me by the customer, his agent or representative, states that the above string of casing was size 10-3/4" O. D., set in 15 inch drilled hole, and that casing depth set was _____ feet.

Cement and admixes used were: 475 sacks of Halliburton Light, 150 sacks of Class A Common, Calcium Chl mixed 2% w/150 sacks.

RECEIVED H.O.G. OF TEXAS
OCT 21 1969
O.G. HOUSTON, TEXAS

Based upon the above information, according to my cement tables, I have calculated that the above volume of cement will fill up an annular height of 1803 (size) feet between 10-3/4" (size) casing and 15" hole.

CEMENT RETURNED TO SURFACE.

AFFIANT: R. E. Nolen
Halliburton Company Employee

071 — 30032

Dresser Atlas

Induction Electrolog

FILE NO

COMPANY TEXAS CONSOLIDATED PET CO

WELL COPPER 1

FIELD W LOCAL

COUNTY CHAMBERS **STATE** TEXAS

LOCATION
660' FEL & 1980' FSL OF
ELDERBRANT SUR A-15
SEC 64

SEC _____ **TWP** _____ **RGE** _____

Other Services

Permanent Datum	GL	Elev.	Elevations
Log Measured from	KB	12 Ft Above Permanent Datum	KB
Drilling Measured from	SAME AS ABV		DF
			GL

Date	3-25-69			3-27-69							
Run No	ONE			TWO							
Depth—Driller	9425			9472							
Depth—Logger	9408			9472							
Bottom Logged Interval	9402			9466							
Top Logged Interval	1167			9300							
Casing—Driller	10 3/4 @ 1167			10 3/4 @ 1167			@			@	
Casing—Logger	1167			1167							
Bit Size	6 3/4			6 3/4							
Type Fluid in Hole	CHEM GEL			CHEM GEL							
Density and Viscosity	10.5	60		10.5	56						
pH and Fluid Loss	9.5	4.0	cc	9.0	4.0	cc		cc			cc
Source of Sample	MUD PIT			MUD PIT							
Rm @ Meas Temp	1.0	@ 90	F	1.1	@ 85	F	@	F	@		F
Rmf @ Meas Temp	.64	@ 90	F	.62	@ 85	F	@	F	@		F
Rmc @ Meas Temp	1.3	@ 90	F	1.4	@ 85	F	@	F	@		F
Source of Rmf and Rmc	MEAS	MEAS		MEAS	MEAS						
Rm @ BHT	.48	@ 190	F	.49	@ 190	F	@	F	@		F
Time Since Circ	6 HRS			3 HRS							
Max Rec Temp Deg F	190		F	190		F		F			F
Equip No and Location	6029	BHT		6030	BHT						
Recorded By	ALLEN			BAKER							
Witnessed By	BASTIAS			HAGAN							

ARTIFICIAL PENETRATION NO. 24

OPERATOR: NEVILLE G. PENROSE INC
WELL NAME: FRED R. STERETT ESTATE NO. 1

API NO: 42-071-01958

Geostock Sandia

4318486

28530

Application to Drill, Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1
Rev. 4/20/59

STATE WHETHER THIS IS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK Drill

SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED
DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE,
ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION.
(Black Ink or Black Typewriter Ribbon Preferable)

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 660 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease — feet.

No other wells on lease

Date July 28, 1959

Name of company or operator

Name Neville G. Penrose, Inc.

Address 1003 Fair Bldg.

City Fort Worth 2, Texas

Description of farm or lease:

Name of Lease Fred R. Sterrett Est.

Number of Acres 619 Well No. 1

Number of wells on lease 0

Elevation (above sea level) Section No. 60 Block No. —

Survey M. C. Flickinger, Abst. 509

Zone or Reservoir

To be Located in Wildcat Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 1830' EWL 660' SNL

Chambers County

5 Miles West direction from

Winnie nearest post office or town.

Rotary or Cable Tools Rotary

Date work will start drilling August 1, 1959

Depth to which you propose to drill 9500 feet.

Date work will start deepening

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

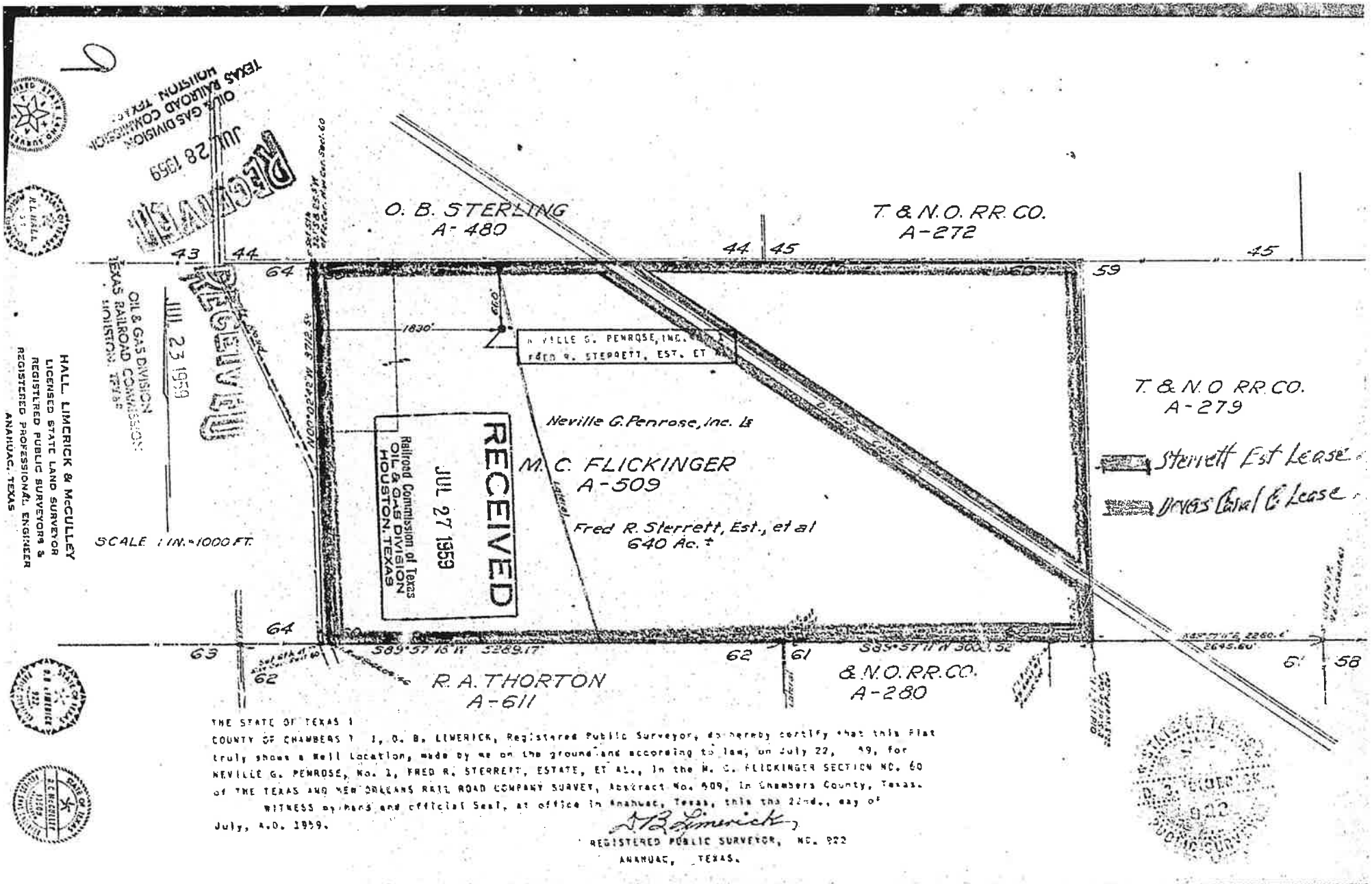
Name No wells

Address

RECEIVED
JUL 28 1959
OIL & GAS DIVISION
TEXAS RAILROAD COMMISSION
HOUSTON, TEXAS

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE



HALL, LIMERICK & McCULLEY
LICENSED STATE LAND SURVEYOR
REGISTERED PUBLIC SURVEYORS &
REGISTERED PROFESSIONAL ENGINEER
ANAHUAC, TEXAS

THE STATE OF TEXAS }
COUNTY OF CHAMBERS }

I, O. B. LIMERICK, Registered Public Surveyor, do hereby certify that this Plat truly shows a Well Location, made by me on the ground and according to law, on July 22, 49, for NEVILLE G. PENROSE, No. 1, FRED R. STERRETT, ESTATE, ET AL., in the M. C. FLICKINGER SECTION NO. 60 of THE TEXAS AND NEW ORLEANS RAIL ROAD COMPANY SURVEY, Abstract No. 509, in Chambers County, Texas.

WITNESS my hand and official Seal, at office in Anahuac, Texas, this the 22nd., day of July, A.D. 1959.

O B Limerick

REGISTERED PUBLIC SURVEYOR, NO. 922
ANAHUAC, TEXAS.

2 85 30

Please Refer to File No.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 2A
Application To Plug and Well Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Company Neville G. Penrose, Inc. Address 1813 Fair Bldg., Fort Worth 2, Tex

Sec. No. 60 ~~Block~~ Abst. 509 Survey McFlickinger County Chambers

Well No. 1 Name of Lease Fred R. Sterrett Est No. of Acres 619 Elev. 43 D.F.

Name of Field in which well is located Wildcat

Located 7 Miles West Direction from Winnie (Nearest P. O. or Town)

Form 1, "Notice of Intention to Drill," was filed in name of Neville G. Penrose, Inc.

Drilling Commenced August 9, 19 59. Drilling Completed August 25, 19 59

Has this well ever produced Oil? No or Gas? No

Character of Well (Oil, Gas or Dry) Dry Total Depth 9545'

Date you wish to Plug August 25, 19 59.

Name of Party Plugging Well Dowell Inc. Address Beaumont, Texas

Correspondence regarding this well should be sent to: Name John P. McNaughton

Address c/o Neville G. Penrose, Inc., 1813 Fair Bldg., Fort Worth 2, Texas

Initial Production of Gas: Volume (MCF) 0 24 hrs. Pressure 0 lbs. per square inch

Initial Production of Oil: Barrels 0

Give notice before Plugging to all available Lease Owners, as required by Rule (10).

When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information that can be obtained to as total depth, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks:

RECEIVED
AUG 31 1959
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

(14)

DR

LEASE: Sherrod Estate
WELL NO.: 1
LOCATION: 1820' from West Lines & 660' from North Lines - Sec. 60, M. C. Flickenberger Survey - Chambers County, Texas

DRILLED FOR: Neville G. Penrose, Inc.
DRILLED BY: Goldrus Drilling Company

DATE SPUDDED: August 9, 1959

DATE COMPLETED: August 25, 1959

TOTAL DEPTH 9519.50' Ground

CASING RECORD: 1261.26' - 9-5/8" 32.30 lbs. H40 Smls. cemented with 265 Sax Posmix - 4% gel, and 100 Sax Common Cement.

PLUGGING RECORD: 50 Sack plug. 7536' - 7636', and 50 Sack plug - 1212' - 1312' and 10' plug in top.

DRILLERS' LOG:

0' to	1,270	Sand and Clay
1,270	6,466	Sand and Shale
6,466	6,709	Shale and sandy shale
6,709	6,802	Sandy shale and shale
6,802	7,150	Shale and Lime
7,150	7,420	Shale
7,420	7,541	Sand and Shale
7,541	7,679	Shale
7,679	8,502	Shale and Sand
8,502	8,536	Shale
8,536	8,697	Shale and Sandy Shale
8,697	8,805	Shale and Sand Streaks
8,805	9,194	Shale
9,194	9,307	Shale and Sand
9,307	9,434	Shale
9,434	9,514	Sand and Shale
9,514	9,536	Shale

I certify that the preceding is a true and accurate record of the Drillers' Log as shown by drilling reports on the above named well.

GOLDRUS DRILLING COMPANY

BY Geo. D. Platt
Geo. D. Platt
Vice-President

(17)

Subscribed and sworn to before me this 26th day of August, 1959.

JEAN KARDEL
Notary Public in and for Harris County Texas
My Commission Expires June 1, 1961

Jean Kardel
Notary Public, Harris County, Texas

RECEIVED
AUG 31 1959
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

28530

Please Refer to File No. _____

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 4
Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company Neville G. Penrose Inc. Address 1813 Fair Bldg., Fort Worth 2, Texas

Sec. No. 60 ~~Block~~ Abst. 509 Survey McFlickinger County Chambers

Well No. 1 Name of Lease Fred R. Sterrett Est. No. of Acres 619

Name of Field in which well is located Wildcat Date well was plugged Aug. 25, 1959

Form 1 (*Notice of Intention to Drill*) Was Filed in Name of Neville G. Penrose, Inc.

Character of Well at the time of completion: Oil 0 bbls; Gas 0 Cu. Ft.; Dry Dry

Amount well producing when plugged: Oil 0 (Initial Production) bbls; Gas 0 (Initial Production) Cu. Ft.; Water 0 bbls.

Has this well ever produced oil or gas? No

Total Depth 9545 KB feet. Top of each producing sand None feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? Yes

How was mud applied? Pumped in

Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depth placed. Also amount of cement and rock. Was well shot? No

50 sks cement plug 7536' to 7636', 50 sks cement plug 1212' to 1312', 10' cement plug in top 9-5/8" cs.

SIZE PIPE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOTS
	Ft.	In.	Ft.	In.	Ft.	In.	
9-5/8"	1261	3	0	0	1261	3	Set with 365 sks cement

Show depth found and thickness of all water, oil and gas formations None

Have all abandoned wells on this lease been plugged according to Commissions rules? No other wells

Manner of confining all oil, gas or water to strata: _____

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:
Neville G. Penrose, Inc. owns all offset leases. Offset royalty owners L. G. Ogden et al of Winnie, Texas, notified.

Was notice given before plugging to all available adjacent lease owners as required by Rule 10? Yes

I, L. G. Welsh, being first duly sworn on oath, state that I have knowledge of the facts and the matters herein set forth and that the same are true and correct.

RECEIVED
AUG 31 1959
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

Name L G Welsh Title Geologist

Subscribed and sworn to before me this 27th day of August, 1959

Sarah Shannon

Notary Public Harris County, Texas

(14)

Correspondence regarding this well should be addressed to:

Name John P. McNaughton Address c/o Neville G. Penrose, Inc.
1813 Fair Bldg., Fort Worth 2, Texas

SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS

Induction Electrical Log

COUNTY CHAMBERS
FIELD or LOCATION WILDCAT
WELL #1 FRED STERRETT EST.
COMPANY NEVILLE G. PENROSE INC.

COMPANY NEVILLE G. PENROSE, INC.
WELL #1 FRED STERRETT EST.
FIELD WILDCAT
LOCATION 071-01958
COUNTY CHAMBERS
STATE TEXAS

Other Surveys
ST-CDM

Location of Well
7mi W/Winnie, 619 ac lse, M.C. Flickinger Sur #60, A-509, (A-501 on Zingery Base) 660' FNL & 1830 FWL Sur; C/Goldrus Drlg Co.
Elevation: D.F.: 42.0'
K.B.: --
or G.L.: 27.0'

FILING No. SG-71

RUN No.	ONE	TWO	THREE	FOUR	FIVE
Date	8-24-59				
First Reading	9544				
Last Reading	1262				
Feet Measured	8282				
Csg. Schlum.	262				
Csg. Driller	267				
Depth Reached	9550				
Bottom Driller	9536				
Depth Datum	KB-16.50' ABV. GL OR BH				
Mud Nat.	PHOSPHATE				
Dens. | Visc.	13.1 | 54				
Mud Resist.	.40@110 °F	@ °F	@ °F	@ °F	@ °F
" Res. BHT	.81@182 °F	@ °F	@ °F	@ °F	@ °F
Rmf	1.70@ 75 °F	@ °F	@ °F	@ °F	@ °F
Rmc	2.00@ 75 °F	@ °F	@ °F	@ °F	@ °F
" pH	9.5 @ °F	@ °F	@ °F	@ °F	@ °F
" Wtr. Loss	6.1 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Bit Size	8 1/2"				
Spcgs.—AM	16"	16"	16"	16"	16"
IND.	40"	40"	40"	40"	40"
MN	27 1/2"				
Opr. Rig Time	3 HOURS				
Truck No.	1530-BHT.				
Recorded By	CONRAD				
Witness	HOOPER-KRANDEL-WELSH				

CAMBE LOG LIBRARY

U of H

35298

ARTIFICIAL PENETRATION NO. 25

OPERATOR: GULF OIL CORPORATION
WELL NAME: M.E. HUNTER NO. 1

API NO: 42-071-30564

Geostock Sandia

API Well No. 42 Instruction (7a & b) CHAMBERS API. NO. DIST. 3 42 071 30564

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FORM W-1
(12-22-75)

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

Check one: XX DRILL [ ] DEEPEN (Below Casing) [ ] DEEPEN (Within Casing) [ ] PLUG BACK [ ] OTHER (Specify)

If Amended Application, explain fully in Remarks or Attach Separate Page.

1. Operator
Gulf Oil Corporation

2. Address (Including City and Zip Code)
P. O. Box 72
Kilgore, TX 75662

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed?
YES XX NO [ ] (Instruction (2) on back side.)

4. Lease Name
M. E. Hunter

5. Location (Sec., Blk., Survey)
M. C. Flickenger A-509

6. This well is to be located 8 miles West Direction from Winnie, TX
Nearest Post Office or Town.

7. RRC District
3

8. County
Chambers

9. Well Number
1

10. Number of Acres in Lease
619

11. Distance from Proposed Location to Nearest Property or Lease Line (ft.)
467 feet

12. Total Depth
10,950'

EACH PROPOSED COMPLETION

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R. R. C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below.	14. Completion Depth	15. All Prior Rule 37 Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. (acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same field? (Yes or No. If yes explain in remarks.)	20. Distance from proposed location to nearest drilling completed or applied for well in same reservoir on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of Wells on Permitted locations on this Lease in same Reservoir for which this Permit is Requested? OIL	GAS
Devillier (Vicksburg)	10,950'	None	467-1200	40	619	NO	NA	Regular 1 XX Rule 37 2 [ ]	GAS	0	0
								Regular 1 [ ] Rule 37 2 [ ]			
								Regular 1 [ ] Rule 37 2 [ ]			
								Regular 1 [ ] Rule 37 2 [ ]			

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED LEASE LINES AND SURVEY LINES AND DISTANCE AND DIRECTION TO NEAREST WELL IN SAME FIELD
467' N of S line and 467' W of E line of the M. C. Flickenger A-509 Survey. 467' N of S line and 467' [redacted] line of the M. E. Hunter Lease. The Earl Cooper #1 is S87° 56' 44" W. 5786.31 feet.

NOTICE
NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

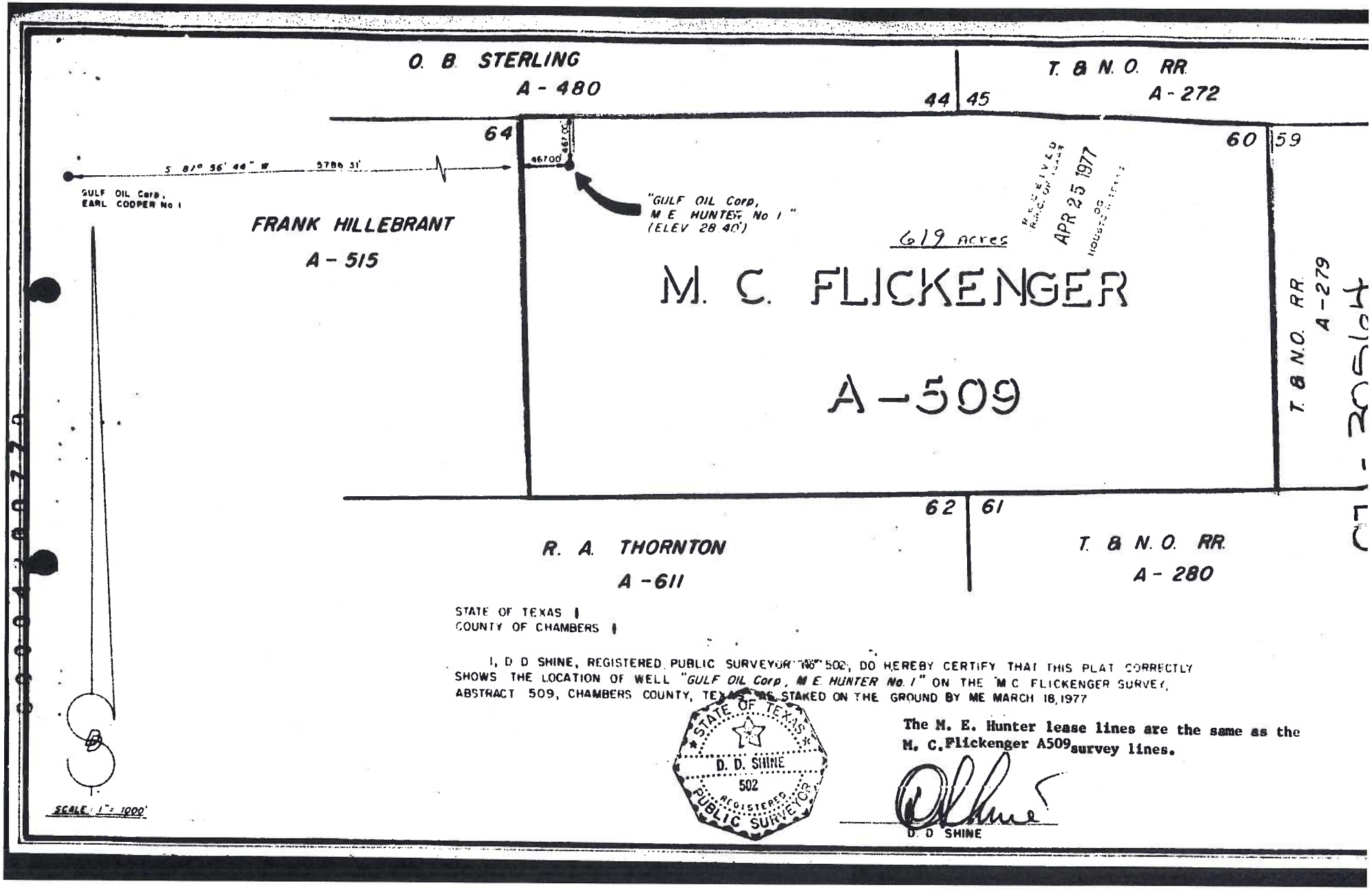
REMARKS: The M. E. Hunter lease lines are the same as the M. C. Flickenger A-509 Survey.

CERTIFICATE
I declare under penalties prescribed in Article 6033e, R. C. S., that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature For W. L. Merrill
Title Area Production Manager
Date 4-7-77
Telephone: Area Code 214 984-3541

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071 30564



STATE OF TEXAS |
COUNTY OF CHAMBERS |

I, D D SHINE, REGISTERED PUBLIC SURVEYOR No. 502, DO HEREBY CERTIFY THAT THIS PLAT CORRECTLY SHOWS THE LOCATION OF WELL "GULF OIL Corp., M E. HUNTER No. 1" ON THE M C FLICKENGER SURVEY, ABSTRACT 509, CHAMBERS COUNTY, TEXAS, AS STAKED ON THE GROUND BY ME MARCH 18, 1977

STATE OF TEXAS
D. D. SHINE
502
REGISTERED PUBLIC SURVEYOR

The M. E. Hunter lease lines are the same as the M. C. Flickenger A509 survey lines.

D. D SHINE

CL - 20504

FORM W-1
(6-8-77)

9

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

#003426

API Well No. 42 07130564
Instruction (7a & b) on back side.

☐ Directional Well ☒ Amended or Corrected Permit

RRC Permit Number, if previously assigned.

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

Amended

Check one: XXX DRILL ☐ DEEPEN (Below Casing) ☐ DEEPEN (Within Casing) ☐ PLUG BACK ☐ OTHER (Specify)

If Amended Application, explain fully in Remarks or Attach Separate Page.

1. Operator
Gulf Oil Corporation

2. Address (Including City and Zip Code)
P. O. Box 72
Kilgore, Texas 75662

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed?
YES XX NO ☐ (Instruction (2) on back side.)

4. Lease Name and RRC Lease or ID No. (If Assigned)
M. E. Hunter

5. Location (Sec., Blk., Survey)
M. C. Flickenger A-509

6. This well is to be located 8 miles West
Direction from Winnie, Texas
Nearest Post Office or Town.

7. RRC District
3

8. County
Chambers

9. Well Number
1

10. Number of Acres in Lease
619

11. Distance from Proposed Location to Nearest Property or Lease Line (ft.) 467

12. Total Depth
12,500'

EACH PROPOSED COMPLETION

SPS

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R.R.C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below.	14. Completion Depth	15. All Prior Rule 37 Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. (acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same field? (Yes or No. If yes explain in remarks.)	20. Distance from proposed location to nearest drilling completed or applied for well in same reservoir on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of Wells or Permitted locations on this Lease in same Reservoir for which this Permit is Requested? OIL	GAS
Devillier (Vicksburg)	12,500'	None	467-1200	40	619	No	NA	Regular 1 XX Rule 37 2 ☐	Gas	0	0
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			
								Regular 1 ☐ Rule 37 2 ☐			

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED:
A. Lease Lines 467' S of N line & 467' E of W line the M.E. Hunter Lease
B. Survey Lines 467' S of N line & 467' E of W line of the M.C. Flickenger A-509 Survey

25. DISTANCE AND DIRECTION TO NEAREST WELL IN THE SAME FIELD ON THIS LEASE.
The Earl Cooper #1 is S87°56'44"W 5786.31'

NOTICE
NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

REMARKS: Well was drilled to 10,968' and logged. It was determined that well should be drilled to 12,500' to further exploit possible sands. Verbal approval per Mr. R. Taylor w/ RRC 7-15-77. Original permit dated 4-7-77.

CERTIFICATE
I declare under penalties prescribed in Article 4[illegible] C.R.C., that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete to the best of my knowledge.

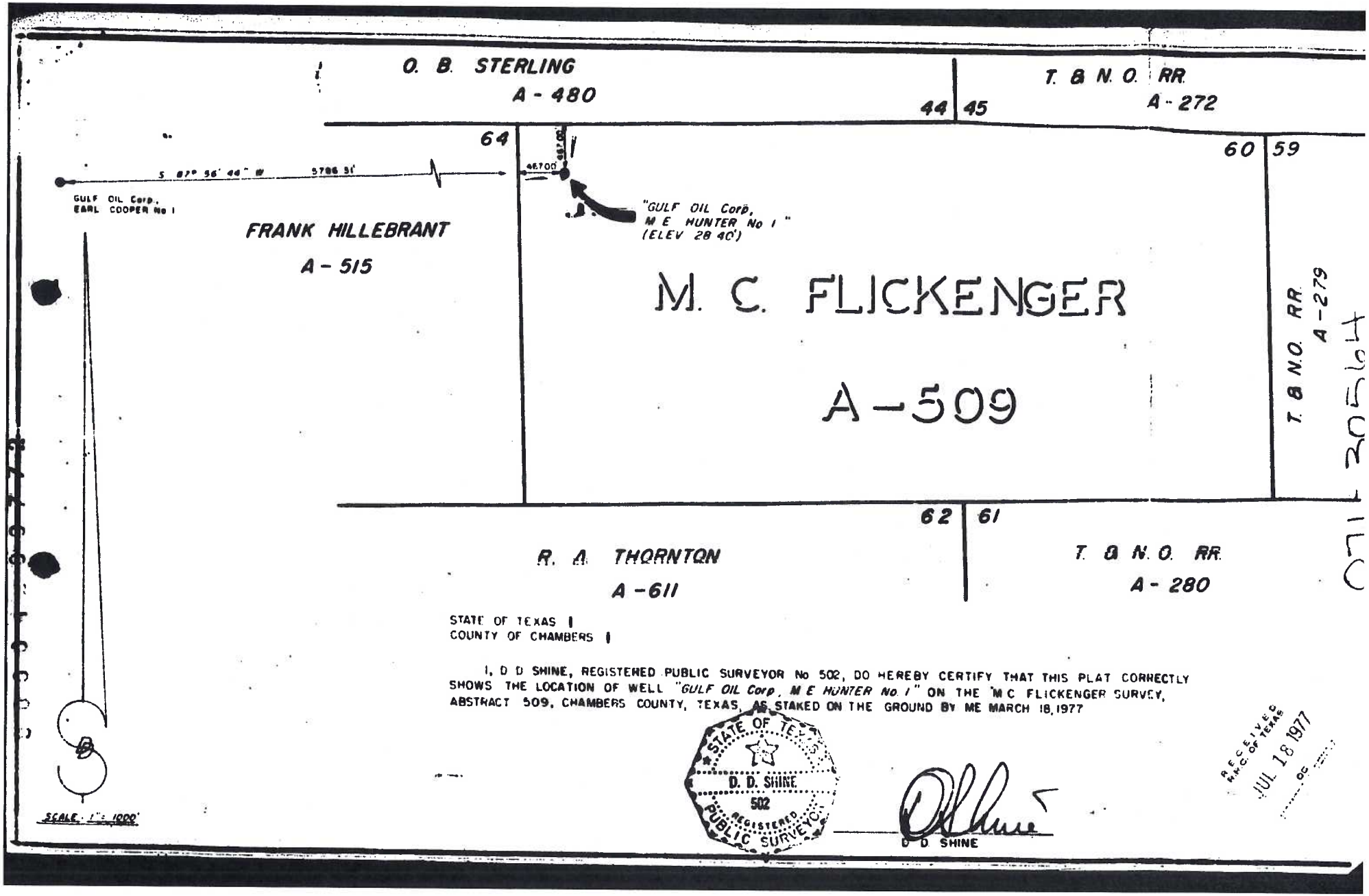
JUL 18 1977

Signature
Area Engineer
Title
July 15, 1977
Date
Telephone Area Code 214 984-3541

D. R. Dunn

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071 30564



STATE OF TEXAS
COUNTY OF CHAMBERS

I, D D SHINE, REGISTERED PUBLIC SURVEYOR No 502, DO HEREBY CERTIFY THAT THIS PLAT CORRECTLY SHOWS THE LOCATION OF WELL "GULF OIL Corp, M E HUNTER No 1" ON THE M C FLICKENGER SURVEY, ABSTRACT 509, CHAMBERS COUNTY, TEXAS, AS STAKED ON THE GROUND BY ME MARCH 18, 1977

STATE OF TEXAS
D. D. SHINE
502
REGISTERED
PUBLIC SURVEYOR

D D SHINE

RECEIVED
R.R.C. OF TEXAS
JUL 18 1977
OG

071-30564

FORM W-1
(6-8-77)

9

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

#003426 28

API Well No. 42 07130564
Instruction (7a & b) on back side.

Directional Well % Amended or Corrected Permit

RRC Permit Number, if previously assigned: 003426

Revised Amended APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

Check one: [X] DRILL | DEEPEN (Below Casing) | DEEPEN (Within Casing) | PLUG BACK | OTHER (Specify)

If Amended Application, explain fully in Remarks or Attach Separate Page

1. Operator
Gulf Oil Corporation

2. Address (Including City and Zip Code)
P. O. Box 72
Kilgore, TX 75662

238130

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed?
YES [X] NO | (Instruction (2) on back side.)

4. Lease Name and RRC Lease or ID No. if Assigned
M. E. Hunter

5. Location (Sec., Blk., Survey)
M. C. Flickenger, A-509

6. This well is to be located 8 miles West
Direction from Winnie, Texas
Nearest Post Office or Town.

7. RRC District
3

8. County
Chambers

9. Well Number
1

10. Number of Acres in Lease
619

11. Distance from Proposed Location to Nearest Property or Lease Line (ft.) 467

12. Total Depth
12,800'

EACH PROPOSED COMPLETION

SPS REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R.R.C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below.	14. Completion Depth	15. All Prior Rule 37 Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200 (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40 (acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same field? (Yes or No. If yes explain in remarks.)	20. Distance from proposed location to nearest drilling completed or applied for well in same reservoir on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of Wells or Permitted locations on this Lease in same Reservoir for which this Permit is Requested? OIL	GAS
24433500 Devillier (Vicksburg)	12,800'	None	467-1200	40	619	No	NA	Regular 1 Rule 37 2 X	NA		
								Regular 1 Rule 37 2			
								Regular 1 Rule 37 2			
								Regular 1 Rule 37 2			

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED:
A. Lease Lines 467' S of N line & 467' E of W line of the M. E. Hunter Lease
B. Survey Lines 467' S of N line & 467' E of W line of the M. C. Flickenger, A-509 Survey

25. DISTANCE AND DIRECTION TO NEAREST WELL IN THE SAME FIELD ON THIS LEASE.
The Earl Cooper #1 is S87°56'44" W 5786.31'

NOTICE
NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas to ascertain the depth to which fresh water sands must be protected.

REMARKS: Well was drilled to 10,968' and logged. It was determined that the well would be deepened to 12,500' but this has been revised to 12,800' in order to exploit possible productive intervals. Original permit dated 4-7-77. Amended permit dated 7-15-77.

CERTIFICATE
I declare under penalties prescribed in Article 6040, R. C. S., that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct and complete to the best of my knowledge.

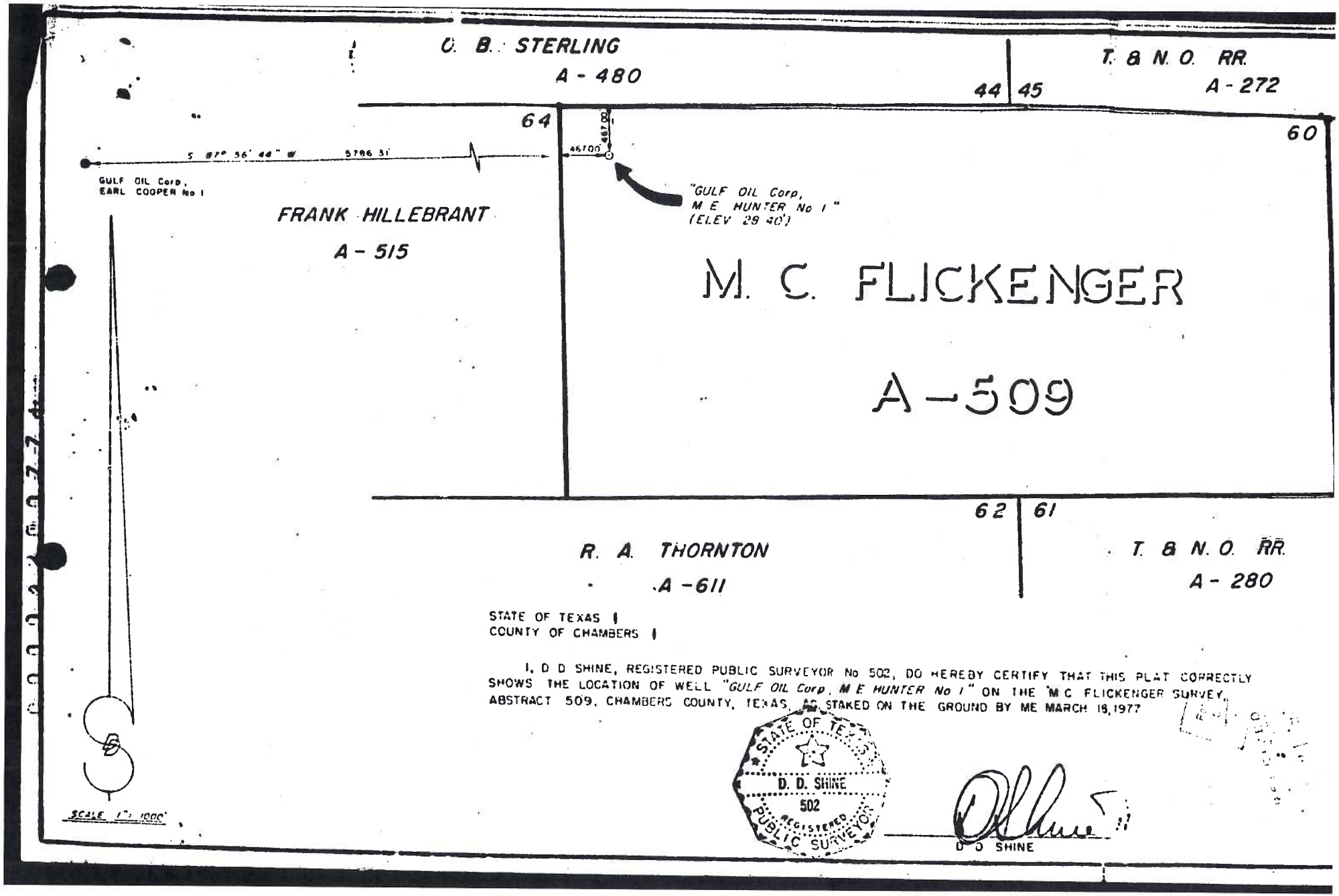
Signature
D. R. Dunn

Area Engineer
Title
July 19, 1977
Date
Telephone Area Code 214 984-3541

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071 30564

0 0 0 9 4 2 3 0 7 7 3



STATE OF TEXAS |
COUNTY OF CHAMBERS |

I, D D SHINE, REGISTERED PUBLIC SURVEYOR No 502, DO HEREBY CERTIFY THAT THIS PLAT CORRECTLY SHOWS THE LOCATION OF WELL "GULF OIL Corp, M E HUNTER No 1" ON THE M C FLICKENGER SURVEY, ABSTRACT 509, CHAMBERS COUNTY, TEXAS, AS STAKED ON THE GROUND BY ME MARCH 18, 1977

STATE OF TEXAS
D. D. SHINE
502
REGISTERED
PUBLIC SURVEYOR

D D SHINE

0 0 0 0 4 2 0 0 7 7 5

...ging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-3
Rev. 2/1/73

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

1 RRC District: 3

4 RRC Lease or Id. Number:

2. FIELD NAME (as per RRC Records): Devillier (Vicksburg)

3. LEASE NAME: M. E. Hunter

5. Well Number: 1

6. OPERATOR: Gulf Oil Corporation

10 County: Chambers

7. ADDRESS: P. O. Box 72, Kilgore, Tx 75662

11. Date Drilling Permit Issued: 4-26-77

8. SURFACE LOCATION: 467 FEET FROM North LINE, AND 467 FEET FROM West LINE

12. Date Drilling Commenced: 6-19-77

9a. SECTION, BLOCK, AND SURVEY: M. C. Flickinger, A-509

9b. Distance and Direction to nearest town in this county: 8 miles West of Winnie, Texas

13. Date Drilling Completed: 7-22-77

15. Type of Well (Oil, Gas, Dry)*: Dry

16. Type of Completion (Single, Dual, Etc.): Single

17. Total Depth: 12665'

14. Date Well Plugged: 7-25-77

18. FORM W-1 (Intention to Drill) Filed in Name of: Gulf Oil Corporation

19. Manner of Placement

PLUG #1	80	SACKS	TOP	9616'	BOTTOM	9916'	TYPE Cl.H Cement
PLUG #2	325	SACKS	TOP	1800'	BOTTOM	2250'	TYPE Cl.C Cement
PLUG #3	20	SACKS	TOP	-6'	BOTTOM	30'	TYPE Cl.A Cement
PLUG #4		SACKS	TOP		BOTTOM		TYPE

20. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission: YES XX NO ☐

21. How was Mud applied? Pump

22. Mud Weight: 12.8 LBS/GAL

23. Depth of Deepest Fresh Water: 450 FEET

24. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? YES XX NO ☐

25. If NO, Explain: ----

26. Name and Address of Party Plugging Well: The Western Company, Box 841, Liberty, Tx 77575

27. Casing and Tubing Record after Plugging

SIZE	PUT IN WELL FEET	PUT IN WELL INCHES	LEFT IN WELL FEET	LEFT IN WELL INCHES
10-3/4"	2068'	-	2068'	-
7-5/8"	9816'	-	7616'	-

28. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases

Mr. Gene Phillips w/RRC witnessed plugging of well.

29. Was Notice given before Plugging to each of the above and RRC District Office?
YES X NO ☐

CERTIFICATE:

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Fred Nash Jr. — REPRESENTATIVE OF COMPANY

Area Drilling Supt. — TITLE

RECEIVED 8-5-77 — R.R.C. OF TEXAS DATE

AUG 8 1977

OG
HOUSTON, TEXAS

Signature: REPRESENTATIVE OF RAILROAD COMMISSION

*All Dry Holes, Fill in Reverse Side.

071 30564

0 0 0 0 4 2 0 0 7 7 6

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-15
(Rev 11-1-69)

CEMENTING REPORT

*1. Field Name (as per RRC Records or Wildcat) Devillier (Vicksburg)	*2. RRC District 3
*3. Operator Gulf Oil Corporation	*4. County 1
*5. Lease Name(s) and RRC Lease Number(s) or I. D. Number(s) M. E. Hunter	*6. Well Number Chambers
*7. Location (Section, Block, and Survey) M. C. Flickenger, A-509	

CASING CEMENTING DATA:	SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
			Single String	Multiple Parallel Strings	Tool	Shoe
8. Cementing Date						
*9. (a) Size of Drill Bit (inches)						
(b) Estimated % Wash or Hole Enlargement Used in Calculations.						
*10. Size of Casing (inches O.D.)						
*11. Top of Liner (if liner used) (ft.)						
*12. Setting Depth of Casing (ft.)						
13. Type API Class Cement & Amount of Additives Used: (a) In First (Lead) or Only Slurry *(If additional space is needed, use "REMARKS" on reverse side.)*						
(b) In Second Slurry						
(c) In Third Slurry						
14. Sacks of Cement Used: (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Sacks of Cement Used						
15. Slurry Volume per Sack of Cement (cu.ft./sack): (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
16. Volume of Slurry Pumped: (cu.ft.) (Item 14 x Item 15) (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Slurry Volume Pumped (cu.ft.)						
17. Calculated Annular Height of Cement Slurry behind Pipe (ft.)						
18. Was cement circulated to ground surface (or bottom of cellar) outside casing? (Yes or No)						

CEMENTING TO PLUG AND ABANDON DATA:	PLUG NO. 1	PLUG NO. 2	PLUG NO. 3	PLUG NO. 4	PLUG NO. 5	PLUG NO. 6
19. Cementing Date	7-22-77	7-24-77	7-25-77			
*20. Size of Hole or Pipe in which Plug Placed (inches)	7-5/8 Csg	9-7/8 H 10-3/4 C	10-3/4 C			
*21. Depth to Bottom of Tubing or Drill Pipe (ft.)	9916	2250	30			
22. Sacks of Cement Used (each plug)	80	325	20			
23. Slurry Volume Pumped (cu. ft.)	102.4	383.5	23.6			
24. Calculated Top of Plug (ft.)	9616	1918	Surface			
*25. Measured Top of Plug (if tagged) (ft.)		1800	-6			

RECEIVED
R.R.C. OF TEXAS
AUG 8 1977
08
HOUSTON, TEXAS

(CEMENTING COMPANY AND OPERATOR MUST COMPLY WITH THE INSTRUCTIONS ON REVERSE SIDE HEREOF.)

– OVER –

** Designates items to be completed by Operator. Items not so designated shall be completed by Cementing Company

071-20564

26. Remarks:	*27. Remarks:

CEMENTING COMPANY

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers cementing data only.

Norris Askew

Signature of Cementer or Authorized Representative

Norris Askew-Service Supervisor

Name of Person and Title (type or print)

The Western Company

Cementing Company

Box 841

Street Address or P.O. Box

Liberty, Texas 77575

City, State Zip Code

Telephone 713 336-7218

Area Code

8-2-77

Date

***OPERATOR**

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all well data and information presented herein.

Fred Nash Jr

*Signature of Operator or Authorized Representative

Fred Nash, Jr. - Area Drilling Supt.

*Name of Person and Title (type or print)

Gulf Oil Corporation

*Operator

P. O. Box 72

*Street Address or P.O. Box

Kilgore, Texas 75662

*City, State Zip Code

*Telephone 214 984-3541

Area Code

8-5-77

*Date

INSTRUCTIONS

1. A. This form shall be filed by the operator in the RRC District Office with:
   (1) Each copy of an initial Form G-1 or W-2 if a cementing report is required by Statewide or Special Rules, or if exception is needed to cementing requirements in Statewide or Special Rules;
   (2) Each copy of Form W-3;
   (3) Each copy of Form W-4 if a multiple parallel casing completion.
   B. At least an original and one copy of this form shall be filed for each cementing company used on a well.
   C. The cementing of different casing strings on a well by one cementing company may be consolidated on one form (to be filed in duplicate).
2. Cementing Company and Operator shall comply with the applicable portions of Statewide Rules 8, 13, and 14. For offshore operations, Cementing Company and Operator shall comply with Statewide Rule 13(E).
3. If setting FULL AMOUNT OF SURFACE CASING:
   A. Depth to protect fresh water determined by:
   (1) Field Rule
   (2) Texas Water Development Board, if no Field Rule
   B. Set surface casing below depth to be protected and cement from casing shoe to ground surface.
4. IF SETTING ANYTHING OTHER THAN THE FULL AMOUNT OF SURFACE CASING, PERMISSION SHALL BE OBTAINED FROM THE RAILROAD COMMISSION.
5. If setting NO SURFACE CASING (See Item 4 above.):
   A. If no multi-stage tool is used, the next deeper casing string shall be cemented from the casing shoe to the surface.
   B. If using the multi-stage tool on the next deeper string, cement from the depth that protects fresh water sands to the surface.
6. If setting SHORT SURFACE CASING (See Item 4 above.):
   A. Cement short surface casing from the shoe to the surface.
   B. Whether the multi-stage tool is or is not used on the next deeper casing string, cement from the depth that protects fresh water sands to:
   (1) the surface, or
   (2) a point midway between shoe of surface string and the surface. Compliance will be considered if a temperature survey shows that the top of the cement is at least one-third of the distance from the shoe of the surface string to the surface.
7. Setting PRODUCTION STRING of Casing: (Statewide Rules; Special Rules may vary.)
   A. Cement to a point at least 600 feet above the casing shoe.
   B. When 5,000 feet or more of pipe is set for the production or protecting string, a minimum of 30 feet of cement shall be left inside the pipe.
8. PLUGGING and ABANDONING:
   A. Cement plugs shall be placed in the well bore as required by Rules and Regulations of the Commission plus any additional plugs as may be specified by the RRC District Director.
   B. The minimum amount of cement normally used in each plug shall be a slurry volume equal to the amount necessary to fill the calculated volume of 100 feet of the hole in which the plug is placed.
   C. A 10 foot cement plug is required to be placed in the top of the well.

079-30564

Schlumberger

ISF/SONIC

COMPANY GULF ENERGY & MINERALS CO. USA

WELL M.E. HUNTER #1

FIELD DEVILLIER

COUNTY CHAMBERS STATE TEXAS

COUNTY MRLPS. FIELD VILLIER LOCATION M.E. HUNTER #1 WELL COMPANY GULF ENERGY AND MINERALS U.S.A.

LOCATION 467' FNL, 467' FWL OF M.L.
FLINCKENGER SURV A-509

API SERIAL NO	SEC	TWP	RANGE
-			

Other Services:
CST

Permanent Datum: G.L. ; Elev.: N.A.
Log Measured From K.B. 21 Ft. Above Perm. Datum
Drilling Measured From K.B.

Elev.: K.B. N.A.
D.F. N.A.
G.L. N.A.

Date	7-5-77	7-14-77	7-22-77	
Run No.	ONE	TWO	THREE	
Depth—Driller	9817	10,968	12,665	
Depth—Logger	9813	10,973	12,663	
Btm. Log Interval	9812	10,972	12,662	
Top Log Interval	2063	9813	9816	
Casing—Driller	10-3/4@2068	7-5/8@	9-5/8@ 9814	@
Casing—Logger	2062	9812	9816	
Bit Size	9-7/8	6-3/4	6-3/4	
Type Fluid in Hole	LNS	LNS	LNS	
Dens. / Visc.	11.6 / 45	16.8 / 53	16.8 / 50.0	
pH / Fluid Loss	10.0 / 4.0 ml	10.0 / 1.8ml	10.3 / 1.8ml	mf
Source of Sample	PIT	PIT	CIR. PIT	
Rm @ Meas. Temp.	1.76 @ 91 °F	.825 @ 92 °F	.93 @ 75 °F	@ °F
Rmf @ Meas. Temp.	1.32 @ 90 °F	.632 @ 91 °F	.75 @ 75 °F	@ °F
Rmc @ Meas. Temp.	2.64 @ 91 °F	.632 @ 92 °F	1.40 @ 75 °F	@ °F
Source: Rmf / Rmc	M / C	M / C	M / C	
Rm @ BHT	.843 @ 188 °F	.318 @ 238 °F	.28 @ 252F	@ °F
TIME Circulation Stopped	900	10 HRS.	--	
TIME Logger on Bottom	1330	--	--	
Max. Rec. Temp.	188 °F	238 °F	252 °F	°F
Equip. / Location	7736 DAYTON	7736 DAYTON	7736 DAYTON	
Recorded By	LAWSON	LAWSON	CHENAULT	DUNCAN
Witnessed By	MESSRS: WILLIAMS, FILES, FRANK, WELLS, KRYSTINIK,			

ARTIFICIAL PENETRATION NO. 26

OPERATOR: SOUTHERN NATURAL GAS
WELL NAME: O.C. DEVILLIER NO. 1

API NO: 42-071-03394

Geostock Sandia

4320275

Application to Drill, Deepen or Plug Back.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1
Rev. 4/65

STATE WHETHER THIS IS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK Drill
SHALL BE FILED IN DUPLICATE (IN TRIPLICATE IF RULE 37) WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED.
DATA FURNISHED ON THIS FORM AND ANY ATTACHMENT HERETO MUST BE CLEARLY LEGIBLE.
ANY ILLEGIBLE FORM WILL BE RETURNED WITHOUT COMMISSION ACTION
(Black Ink or Black Typewriter Ribbon Preferable)

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown, that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, fo this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and addresses of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 800 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease none feet.

IS THE ACREAGE ON WHICH THIS WELL IS TO BE LOCATED, PRESENTLY ASSIGNED TO ANOTHER WELL IN ANY RESERVOIR FOR WHICH THIS PERMIT IS REQUESTED? No

SPS

Date March 28, 19 67

Name of company or operator

Name Southern Natural Gas Company

Address P. O. Box 1513

City Houston, Texas

Description of farm or lease

Name of Lease G. C. Devillier, Jr.

Number of Acres 619 Well No. 1

Number of wells on lease This is first one

Elevation 25.0 (Ft. above sea level) Section No. 43 Block No.

Survey T & NO RR A-271

Zone or Reservoir Wildcat

To be Located in Wildcat Field

(If Wildcat state above, also state Distance and Direction from nearest Survey Lines.) 800' from S and 2,600' from E - Chambers County

6 Miles West direction from Winnie nearest post office or town.

Rotary or Cable Tools Rotary

Date work will start drilling Upon approval

Depth to which you propose to drill 9,300 feet.

Date work will start deepening

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name Not Applicable

Address

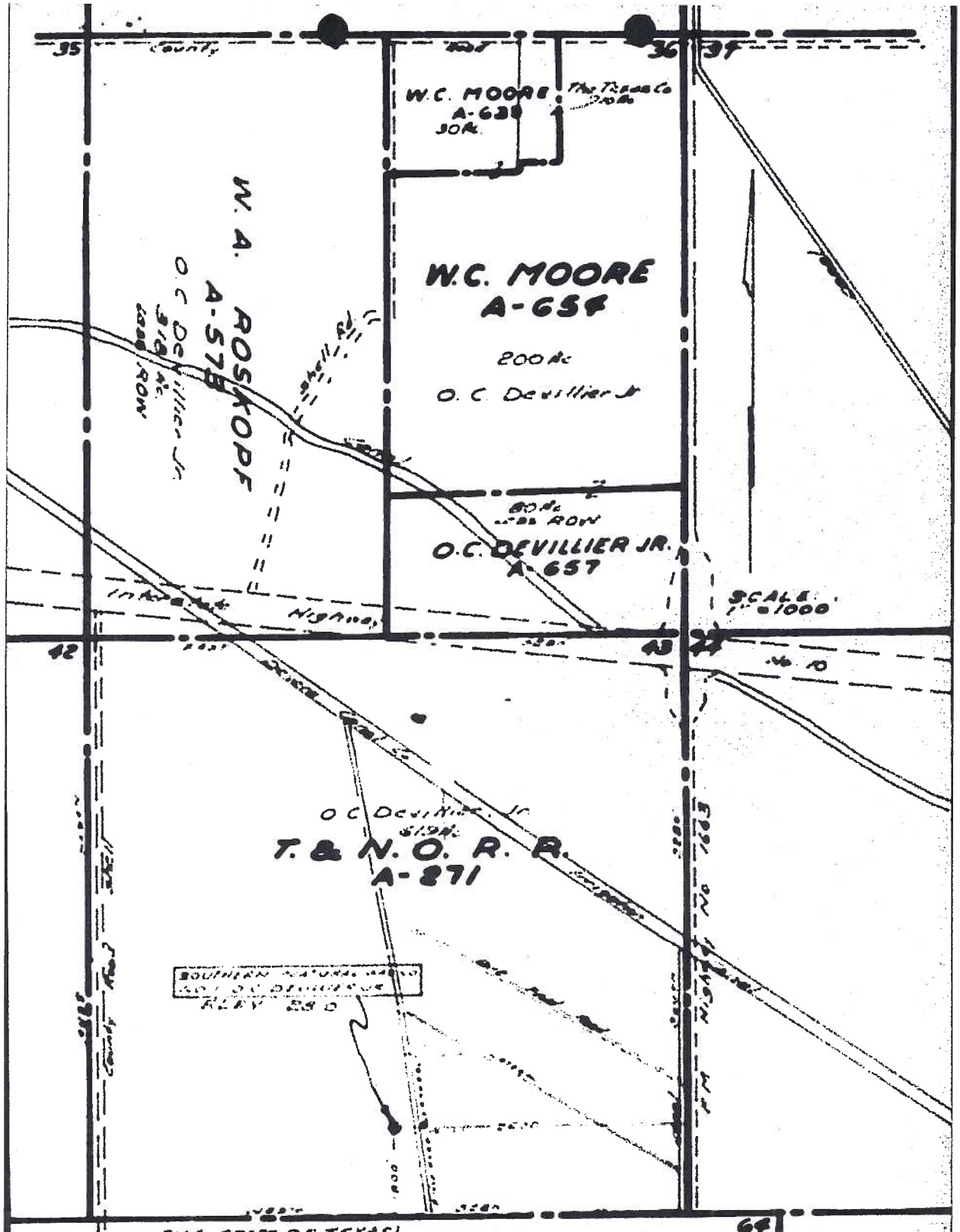
RECEIVED
[redacted]
MAR 30 1967

NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

071 [redacted]

CK
Dr

DRAW SKETC[redacted]AFFIDAVIT ON REVERSE SIDE

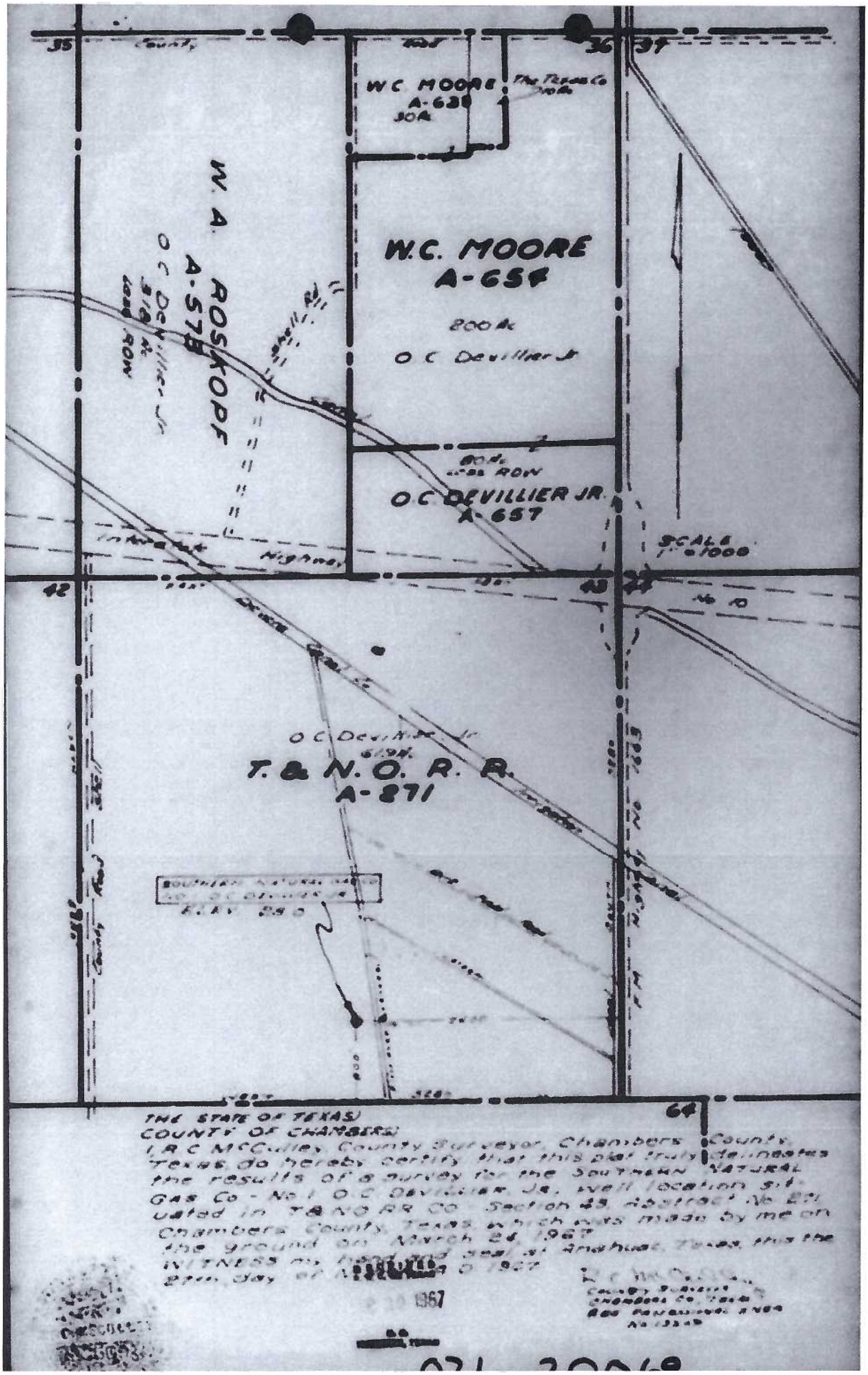


THE STATE OF TEXAS)
COUNTY OF CHAMBERS)
I, R.C. McCulley, County Surveyor, Chambers County, Texas, do hereby certify that this plat truly delineates the results of a survey for the SOUTHERN NATURAL GAS Co - No 1 O.C. DEVILLIER, JR., well location situated in T&NO RR CO - Section 43, Abstract No 271, Chambers County, Texas, which was made by me on the ground on March 24, 1967.
WITNESS my hand and seal, at Anahuac, Texas, this the 27th day of [illegible] 1967

[illegible] 1967

R.C. McCulley
County Surveyor
Chambers Co., Texas
Reg. Professional Engr.
No 13303

071 20068


W C MOORE
A-634
30A
W. A. ROSKOPF
A-578
W.C. MOORE
A-654
200 Ac
O C DeVillier Jr
O C DEVILLIER JR.
A-657
SCALE
1" = 1000
T. & N. O. R. R.
A-271
THE STATE OF TEXAS
COUNTY OF CHAMBERS
I, R C McCullar County Surveyor, Chambers County,
Texas do hereby certify that this plat truly delineates
the results of a survey for the SOUTHERN NATURAL
GAS Co - No 1 O C DeVillier Jr. well location sit-
uated in T&NO RR CO Section 45 Abstract No 271
Chambers County, Texas which was made by me on
the ground on March 24, 1967
WITNESS my hand and seal at Anahuac, Texas, this the
29th day of March A.D. 1967

Please Refer
to File No.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 34
Application
To Plug and
Well Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Company Southern Natural Gas Company Address P. O. Box 1513, Houston, Texas

Sec. No. 43 Block No. _____ Survey T&NO RR A 271 County Chambers

Well No. 1 Name of Lease O. C. Devillier, Jr. No. of Acres 619 Elev. 29.0

Name of Field in which Well is located Wildcat

Located 4 Miles West Direction from Winnie (Nearest P. O. or Town)

Form 1, "Notice of Intention to Drill," was filed in name of Southern Natural Gas Company

Drilling Commenced April 4, 19 67 Drilling Completed April 15, 19 67

Has this Well ever produced Oil? No or Gas? No

Character of Well (Oil, Gas or Dry) Dry Total Depth 9317

Date you wish to Plug April 16, 19 67

Name of Party Plugging Well Sou. Nat. Gas Company Address See Above

Correspondence regarding this Well should be sent to: Name J. R. Cobb, c/o SNG

Address P. O. Box 1513, Houston, Texas

Initial Production of Gas: Volume (MCF) None 24 hrs. Pressure _____ lbs. per square inch

Initial Production of Oil: Barrels None

Give notice before Plugging to all available Lease Owners, as required by Rule (10).

When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which Well is located.

NOTE: If no log available, we state and give all information that can be obtained to as total depth, whether or not cemented, producing formation, sales equals, and as near as possible date well was drilled.

General Remarks: R. R. Commission permission given by phone 4-15-67 & operations witnessed by Mr. Pudge. This form is to confirm our phone conversation 4-15-67.

RECEIVED
R. R. C. OF TEXAS

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

APR 19 1967

R. R.
HOUSTON, TEXAS

071 20069

Please Refer to
File No. _____

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 3
Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company Southern Natural Gas Company Address P. O. Box 1513, Houston, Texas
Sec. No. 43 Block No. _____ Survey T&NO RR A-271 County Chambers
Well No. 1 Name of Lease O. C. Devillier, Jr. No. of Acres 619
Name of Field in which well is located Wildcat Date well was plugged April 16, 1967
Form 1 (Notice of Intention to Drill) was Filed in Name of Southern Natural Gas Company
Character of Well at the time of completion: Oil _____ bbls; Gas _____ (Initial Production) (Initial Production) Cu. Ft.; Dry X
Amount well producing when plugged: Oil 0 bbls; Gas 0 Cu. Ft.; Water 0 bbls.
Was this well ever produced oil or gas? No
Total Depth 9,317 feet. Top of each producing sand None feet.
Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? Yes
What was mud applied? Left in the hole after drilling to T. D.
What plugs used? Cement If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depth placed. Also amount of cement and mud. How will chat?
70 sack plug from 1,139' to 930'
20 sack plug from 60' to 0', Welded plate across top of casing.

SIZE PIPE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOES
	Ft.	In.	Ft.	In.	Ft.	In.	
9-5/8	1,081	-	0		1,081		

Show depth found and thickness of all water, oil and gas formations None

Have all abandoned wells on this lease been plugged according to Commission rules? This is only one
Manner of confining all oil, gas or water to strata: Cement plug & 12#/gal. mud

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:
Union Texas Petroleum P. O. Box 2120, Houston, Texas

Was notice given before plugging to all available adjacent lease owners as required by Rule 38? Yes

I, J. B. Cobb, being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth and that the same are true and correct.

Name J. B. Cobb, Title Drilling Supt.

Subscribed and sworn to before me this 17th day of April, 19 67

PEGGY J. HODGES
Notary Public in and for Harris County, Texas
My Commission Expires [illegible] 1967

Notary Public Peggy J. Hodges, Texas

RECEIVED
APR 19 1967

Correspondence regarding this well should be addressed to:
Name J. B. Cobb, c/o SNG Address P. O. Box 1513, Houston, Texas

221 20069

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS
Base of Miocene			[illegible]
Top of Marg			[illegible]
Top of Frio			[illegible]
Top of 1st Nodosaria			[illegible]
Top of Lower Nodosaria			[illegible]

Method of shutting off water 100 mud & cement plug Is water completely shut off? Ice

Amount of water with oil Dry Hole per cent

I, J. B. Cobb

being first duly sworn on oath state that I have knowledge of the facts and matters herein set forth and that the same are true and correct.

J. B. Cobb
Representative of Company

Subscribed and sworn to before me this 17th day of April, 19 67

Peggy J. Hodges
Notary Public
Harris County, Texas

PEGGY J. HODGES
Notary Public in and for Harris County, Texas
My Commission Expires June 1, 1967

071 20069

Please Refer to File No. _____

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 4
Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company Southern Natural Gas Company Address P. O. Box 1513, Houston, Texas

Sec. No. 43 Block No. _____ Survey T&NO RR A-271 County Chambers

Well No. 1 Name of Lease O. C. Devillier, Jr. No. of Acres 619

Name of Field in which well is located Mildred Date well was plugged April 16, 1967

Form 1 (Notice of Intention to Drill) Was Filed in Name of Southern Natural Gas Company

Character of Well at the time of completion: Oil _____ bbls. Gas _____ Cu. Ft. Dry X
(Initial Production) (Initial Production)

Amount well producing when plugged: Oil 0 bbls. Gas 0 Cu. Ft. Water 0 bbls.

Has this well ever produced oil or gas? No

Total Depth 2,317 Feet. Top of each producing sand None Feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? Yes

How was mud applied? Left in the hole after drilling to T. D.

Were plugs used? Cement If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depth placed. Also amount of cement and rock. How was shot?

70 sack plug from 1,130' to 930'
20 sack plug from 60' to 0'. Welded plate across top of casing.

SIZE PIPE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOES
	Ft.	In.	Ft.	In.	Ft.	In.	
9-5/8	1,081	-	0		1,081		

Show depth found and thickness of all water, oil and gas formations None

Have all abandoned wells on this lease been plugged according to Commission rules? This is only one

Manner of confining all oil, gas or water to strata Cement plug & 12#/gal. mud

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:

Union Texas Petroleum P. O. Box 2120, Houston, Texas

Was notice given before plugging to all available adjacent lease owners as required by Rule 38? Yes

I, J. B. Cobb, being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth and that the same are true and correct.

Name J. B. Cobb, Title Drilling Supt.

Subscribed and sworn to before me this 17th day of April, 19 67

PEGGY A. HODGES
Notary Public in and for Harris County, Texas
My Commission Expires 6-1-67

Notary Public Peggy A. Hodges, Texas

RECEIVED
APR 19 1967

Correspondence regarding this well should be addressed to:

Name J. B. Cobb, c/o SNG Address P. O. Box 1513, Houston, Texas

221 20069

Welex

INDUCTION • ELECTRIC LOG

SOUTHERN NATURAL GAS COMPANY
WELL O. C. DEVILLIER, JR. #1
FIELD WILDCAT (WEST WINNIE)
County CHAMBERS State TEXAS

COMPANY SOUTHERN NATURAL GAS COMPANY

WELL O. C. DEVILLIER, JR. #1

FIELD WILDCAT (WEST WINNIE)

COUNTY CHAMBERS STATE TEXAS

Location

6 mi W Winnie, 619-ac lse, Sec. 43, T&NO RR Co. Sur, A-271, 300' FSL & 2600' FEL lse & Sur, approx 2 mi N= NW one-well E. Anahuac Fld. (WHICO Coord: B-7)

Sec. Twp Rge

Other Services:

Permanent Datum BRADEN HEAD FLANGE Elev.
Log Measured from T.K.B. 17.00 Ft. Above Perm. Datum
Drilling Measured from TOP KELLY BUSHING

Elev.: K.B. –
D.F. –
G.L. –

Date	4-15-67			
Run No.	ONE			
Depth—Driller	9317'			
Depth—Welex	9319'			
Btm. Log Inter.	9312'			
Top Log Inter.	1074'			
Casing—Driller	9-5/8" @ 1071'	@	@	@
Casing—Welex	1074'			
Bit Size	8-1/2"			
Type Fluid in Hole	WATER BASE MUD			
Dens. | Visc.	12.0 | 49	|	|	|
pH | Fluid Loss	9.5 | 4.6ml	ml	ml	ml
Source of Sample	PIT			
R_m @ Meas. Temp.	1.30 @ 74 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	1.04 @ 74 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	1.75 @ 74 °F	@ °F	@ °F	@ °F
Source R_{mf} R_{mc}	FANN MUD KIT	|	|	|
R_m @ BHT	0.55 @ 174 °F	@ °F	@ °F	@ °F
Time Since Circ.	4 HOURS			
Max. Rec. Temp.	174 °F @ T.D.	°F @	°F @	°F @
Equip. | Location	7422 | BEAUMONT	|	|	|
Recorded By	BARTLETT			
Witnessed By	MR. ADULIS	MR. MOUTON, AND	MR. HOPPER	

#17356

Fold Here

Drillinginfo, Inc. - C12b0fd5a9da4a3819276da4c2550534

ARTIFICIAL PENETRATION NO. 31

OPERATOR: GULF OIL CORPORATION
WELL NAME: O.C. DEVILLIER ET AL NO. 7

API NO: 42-071-30967

Geostock Sandia

FORM W-1
(6/78)

API Well No. 42 071 30967
Instruction (7a & b) on back side.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

☐ Directional Well ☐ Amended or Corrected Permit

RRC Permit Number, if previously assigned. 055885

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

Check one: [X] DRILL [ ] DEEPEN (Below Casing) [ ] DEEPEN (Within Casing) [ ] PLUG BACK [ ] OTHER (Specify)

If Amended Application, explain fully in Remarks or Attach Separate Page.

RECEIVED TEXAS AUG 13 1979

1. Operator
Gulf Oil Corporation

2. Address (Including City and Zip Code)
P. O. Box 72
Kilgore, TX 75662

3. Is Form P-5 (Organization Report) in Exact Operator Name Filed?
YES [X] NO [ ] (Instruction (2) on back side.)

4. Lease Name and RRC Lease or ID No. (If Assigned)
O. C. Devillier

5. Location (Sec., Blk., Survey)
T & N. O. RR A-271

6. This well is to be located 7.5 miles West
Direction from Winnie, TX
Nearest Post Office or Town.

7. RRC District
3

8. County
Chambers

9. Well Number
7

10. Number of Acres in Lease
3136.31

11. Distance from Proposed Location to Nearest Property or Lease Line (ft.)
1800

12. Total Depth
10750

GPS

EACH PROPOSED COMPLETION

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R. R. C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below.	14. Completion Depth	15. All Prior Rule 37 Exc. Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. (Acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same field? (Yes or No. If yes explain in remarks.)	20. Distance and Direction from proposed location to nearest drilling completed or applied for well in same res. on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Exc. Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of Wells or Permitted locations on this Lease in same Reservoir for which this Permit is Requested? OIL	GAS
24133 500											
Devillier (Vicksburg)	10,750	None	660-1320	320	320	No	5000'	Regular 1 [X] Rule 37 2 [ ]	Gas	0	1
								Regular 1 [ ] Rule 37 2 [ ]			
								Regular 1 [ ] Rule 37 2 [ ]			
								Regular 1 [ ] Rule 37 2 [ ]			

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED:
A. Lease Lines 1800 FEL & 2450 FSL
B. Survey Lines 1800 FEL & 2450 FSL

25. (a) Is this wellbore subject to SWR 36? Yes [ ] No [X]
(b) If subject to SWR 36, has Form H-9 been filed? (If no, attach explanation.) [ ] [ ]

NOTICE
NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

REMARKS: This well is needed to effectively and efficiently recover reserves from this reservoir. There is no other well producing from this formation within this new proration unit.

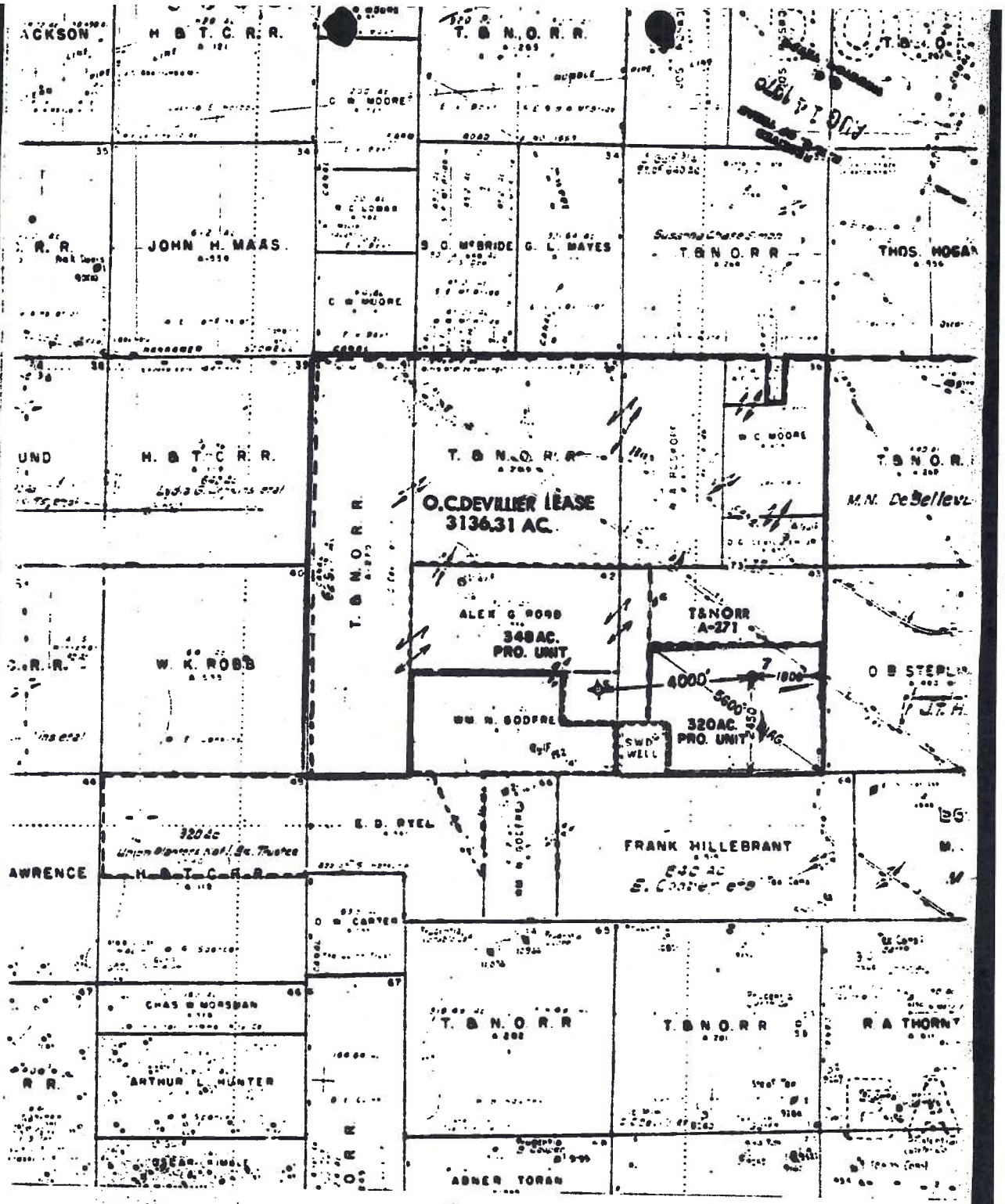
CERTIFICATE
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature J. D. Crawford
J. D. Crawford
Title Petroleum Engineer
Date 8-7-79
Telephone: Area Code 214 984-3541

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071-30967

C0004300 0 0 0



STATE OF TEXAS

COUNTY OF RUSK

I, W. D. Beach, Registered Professional Engineer, do hereby certify that the above plat is true and correct to the best of my knowledge.

Date: 8-7-79 Kilgore, Texas

W. D. Beach

Registered Professional Engineer

State of Texas No. 6319

O. C. DEVILLIER. WELL NO. 7
DEVILLIER (WICKS) FIELD
T & N. O. RR. SURVEY A-271
CHAMBERS COUNTY TEXAS

Scale 1" = 3000' AUGUST 7,1979

GULF OIL CORPORATION
LOCATION & ACREAGE ALLOCATION PLAT

C 0 0 0 4 3 0 0 3 6 0

Plugging Record

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FORM W-3
Rev. 10/78

API NO. (If available) 42 071 30967

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

1. RRC District: 3
4. RRC Lease or Id. Number: -
2. FIELD NAME (as per RRC Records): Devillier (Vicksburg)
3. Lease Name: O. C. Devillier
5. Well Number: 7
6. OPERATOR: Gulf Oil Corporation
6a. Original Form W-1 Filed in Name of: Gulf Oil Corporation
10. County: Chambers
7. ADDRESS: P.O. Box 72, Kilgore, TX 75662
6b. Any Subsequent W-1's Filed in Name of: Gulf Oil Corporation
11. Date Drilling Permit Issued: 8-17-79
8. Location of Well, Relative to Nearest Lease Boundaries of Lease on which this Well is Located: 1800 Feet From East Line and 2450 Feet From South Line of the O. C. Devillier Lease
12. Permit Number: 055885
9a. SECTION, BLOCK, AND SURVEY: T & NO RR Survey, A-271
9b. Distance and Direction From Nearest Town in this County: 8 miles West of Winnie, Texas
13. Date Drilling Commenced: 10-12-79
16. Type Well (Oil, Gas, Dry): DRY
Total Depth: 11270
17. If Multiple Completion List All Field Names and Oil Lease or Gas ID No.'s

GAS ID or OIL LEASE #	Oil - O Gas - G	WELL #
-	-	-
-	-	-

14. Date Drilling Completed: 11-23-79
18. If Gas, Amt. of Cond. on Hand at time of Plugging: - / -
15. Date Well Plugged: 11-28-79

CEMENTING TO PLUG AND ABANDON DATA:	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7	PLUG #8
*19. Cementing Date	11-24	11-27	11-27	11-28	11-28-79			
20. Size of Hole or Pipe in which Plug Placed (inches)	5-3/4	9-7/8	10-3/4	10-3/4	10-3/4			
21. Depth to Bottom of Tubing or Drill Pipe (ft.)	9798	2550	2140	500	20			
*22. Sacks of Cement Used (each plug)	75	110	125	50	10			
*23. Slurry Volume Pumped (cu. ft.)	96	128.8	147.5	59	11.8			
*24. Calculated Top of Plug (ft.)	9422	2350	1908	391	-4			
25. Measured Top of Plug (if tagged) (ft.)	9475	-	1900	391	-4			
*26. Slurry Wt. #/Gal.	17.1	15.6	15.6	15.6	15.6			
*27. Type Cement	See remarks	Conv. A	Conv. A	Conv. A	Conv. A			

28. CASING AND TUBING RECORD AFTER PLUGGING

SIZE	WT. #/FT.	PUT IN WELL (ft.)	LEFT IN WELL (ft.)	HOLE SIZE (in.)
10-3/4	45.50	2045	2045	15
7-5/8	29.70	9696	7203	9-7/8

29. Was any Non-Drillable Material (Other than Casing) Left in the Well? Yes [ ] No [X]

29a. If answer to above is "Yes" state depth to top of "junk" left in hole and briefly describe non-drillable material. (Use Reverse Side of Form if more space is needed.)

--

30. LIST ALL OPEN HOLE AND/OR PERFORATED INTERVALS

FROM	9716 OH	TO	11270 OH		
FROM		TO		FROM	TO
FROM		TO		FROM	TO
FROM		TO		FROM	TO
FROM		TO		FROM	TO

WATER BOARD LETTER DATED Depth Exception Hearing 1300 Surface Casing

RECEIVED
RAILROAD COMMISSION OF TEXAS
DEC 11 1979
O. & G.

I have knowledge that the cementing operations, as reflected by the information found on this form, were performed as indicated by such information.
* Designates items to be completed by Cementing Company. Items not so designated shall be completed by Operator.

T W Henson
Signature of Cementer or Authorized Representative

HALLIBURTON SERVICES
Name of Cementing Company

CERTIFICATE:
I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

J. D. Crawford
REPRESENTATIVE OF COMPANY

Petroleum Engineer — TITLE
12-7-79 — DATE
Phone 214 984-3541 — A/C NUMBER

SIGNATURE: REPRESENTATIVE OF RAILROAD COMMISSION

071-30927 DH 60

31. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission [X] Yes [ ] No	32. How was Mud Applied? Pump	33. Mud Weight 16.8 LBS/GAL
34. Total Depth 11270	Other Fresh Water Zones by T.D.W.R. TOP / BOTTOM	35. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? [X] Yes [ ] No
Depth of Deepest Fresh Water 450		36. If NO, Explain --

37. Name and Address of Cementing or Service company who mixed and pumped cement plugs in this well
Halliburton Services, P.O. Box 7126, Beaumont, Texas 77706

Date RRC District Office notified of plugging See remarks

38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases

-

39. Was Notice Given Before Plugging to Each of the Above?

-

FILL IN BELOW FOR DRY HOLES ONLY

40. For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

[ ] Log Attached [ ] Log released to _____ Date _____

Type Logs:

[ ] Driller's [X] Electric [ ] Radioactivity [ ] Acoustical/Sonic

41. Date FORM P-8 (Special Clearance) Filed?
None

42. Amount of Oil produced prior to Plugging None bbls*

* File FORM P-1 (Oil Production Report) for month this oil was produced

RRC USE ONLY

Nearest Field _____

REMARKS Plug #1: Cem. H + 35% Calc. #1 + .75% CFR-2 + .2% HR-4.
Notified Mr. Ken Peterson @ 11:35 AM, 11-24-79 - #1 Plug
John Williams talked w/Operator 11 @ 1: PM 11-27-79 concerning - #2 & #3 Plugs
John Williams talked w/Roy Cant w/RRC concerning - #4 & #5 Plugs

071-30967

X

Welex

COMPOSITE

INDUCTION LOG

COMPANY GULF OIL EXPLO-
RATION & PRODUCTION CO.
WELL DEVILLIER #7
FIELD DEVILLIER
County CHAMBERS State TEXAS

COMPANY GULF OIL EXPLORATION & PRODUCTION CO.

WELL DEVILLIER #7 ~~COMPLETION CARD ATTACHED~~

FIELD DEVILLIER G7231A

COUNTY CHAMBERS STATE TEXAS

Location

PROPERTY OF
BALLARD EXPLORATION
COMPANY

Sec. Twp. Rge.

Other Services:

DIP CAL.
SWC

Permanent Datum GROUND LEVEL Elev.
Log Measured From T.K.B. 25 Ft. Above Perm. Datum
Drilling Measured From T.K.B.

Elev.: K.B.
D.F.
G.L.

Date	11-7-79	11-19-79	11-22-79		
Run No.	ONE	TWO	THREE		
Depth—Driller	9725'	10770'	11270'		
Depth—Welex	9721'	10782'	11287'		
Btm. Log Inter.	9719'	10780'	11285'		
Top Log Inter.	2071'	9716'	9713'		
Casing—Driller	10-3/4" @2065'	7-5/8"@9716'	7-5/8"@9716'	@	
Casing—Welex	2071'	9716'	9713'		
Bit Size	9-7/8"	6-3/4"	6-3/4"		
Type Fluid in Hole	LIGNOSULFONATE				
Dens. / Visc.	11.8 / 50	16.8 / 47	16.8 / 48	/	
pH / Fluid Loss	11.0 / 4.2 ml	3.0 / 10.5 ml	11.0 / 4.0 ml	/	ml
Source of Sample	PIT	FLOW LINE	PIT		
R_m @ Meas. Temp.	1.49 @ 75°F	1.68 @ 75°F	2.54 @ 75°F	@	°F
R_{mf} @ Meas. Temp.	0.97 @ 75°F	0.88 @ 75°F	0.75 @ 75°F	@	°F
R_{mc} @ Meas. Temp.	1.26 @ 75°F	1.34 @ 75°F	1.32 @ 75°F	@	°F
Source R_{mf} R_{mc}	MEAS. / MEAS.	MEAS. / MEAS.	MEAS. / MEAS.	/	
R_m @ BHT	0.64 @ 176°F	0.57 @ 220°F	0.83 @ 229°F	@	°F
Time Since Circ.	7 HOURS	12 HOURS	5 HOURS		
Max. Rec. Temp.	176°F @ T.D.	220°F @ T.D.	229°F @ T.D.	@	
Equip. / Location	1906 / BMT.	1906 / BMT.	1906 / BMT.	/	
Recorded By	SWEENEY, HAWTHORNE & DAVIS				
Witnessed By	MR. FILES & MR. SMYLIE				

GEOLOGICAL INFORMATION CENTER

Fold Here

L-N-ST-0101

ARTIFICIAL PENETRATION NO. 32

OPERATOR: CONTINENTAL OIL COMPANY
WELL NAME: L.G. OGDEN ET AL NO. 1

API NO: 42-071-01961

Geostock Sandia

Please refer to File No. 52004

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form 1

APPLICATION TO DRILL, DEEPEN OR PLUG BACK

IS THIS AN APPLICATION TO DRILL, DEEPEN OR PLUG BACK Drill ?

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

READ CAREFULLY AND COMPLY FULLY

In order that it may be ascertained whether or not the proposed location covered by this notice conforms to the applicable spacing regulations set down by the Railroad Commission, there are two important footages that must be shown; that is, THE NEAREST DISTANCE OF PROPOSED LOCATION FROM LEASE OR PROPERTY LINE AND DISTANCE OF PROPOSED LOCATION FROM THE NEAREST WELL ON THE SAME LEASE. Do not begin drilling operations on any location prior to filing Form 1 and until permit granted by the Commission has been received and waiting clause period has terminated.

For the purpose of this determination draw on the back side hereof a neat, accurate sketch, made to scale, of this lease, block, or lot locating thereon the proposed site for this location with reference to the two nearest lease lines. Also show the nearest wells on all sides of this location and the distance from the proposed location to those wells. In addition to the foregoing, unit boundary designations must be shown for each producing well on the lease and shall include proposed unit boundaries for the location herein applied for showing the acreage to be assigned this well. Give names and address of adjoining lease or property owners, and designate all property by lease and company name. You may attach a blue print showing this information if you so desire.

DO NOT CONFUSE SURVEY LINES WITH LEASE LINES. IF THE SKETCH OR BLUE PRINT SHOWS ONLY A SECTION, BLOCK, OR LOT OUT OF YOUR LEASE, DESIGNATE SAME AS BEING ONLY THAT PART OF THE LEASE.

Where the size of the tract will permit, use scale of one inch equaling 1000 feet; if less than 2 acres use scale of one inch equaling 100 feet. DESIGNATE SCALE TO WHICH PLAT OR SKETCH IS DRAWN. ALSO DESIGNATE NORTHERLY DIRECTION ON THE SKETCH OR PLAT.

FILL IN BELOW IN THE SPACES RESERVED FOR THIS PURPOSE THE FOOTAGES ASKED FOR:

Nearest distance from proposed location to property or lease line 660 feet.

Distance from proposed location to nearest drilling, completed, or applied for well on same lease - feet.

Date March 10 19 58

Name of company or operator

Name Continental Oil Company

Address P. O. Drawer 7

City Galena Park, Texas

Description of farm or lease:

Name of Lease I. G. Ogden et al

Number of Acres 619 Well No. 1

Number of wells on lease -

Survey O.B.B. Sterling A-480

Elevation - Feet (ABOVE SEA LEVEL)

Section No. 44 Block No. -

Located in Wildcat Field (If Wildcat state above)

Chambers County

5 Miles West direction from Winnie, Texas nearest postoffice or town.

Rotary or Cable Tools Rotary

Date work will start drilling Soon

Depth to which you propose to drill 9600 feet.

Date work will start deepening -

IF LEASE PURCHASED WITH ONE OR MORE WELLS DRILLED, FROM WHOM PURCHASED?

Name

Address

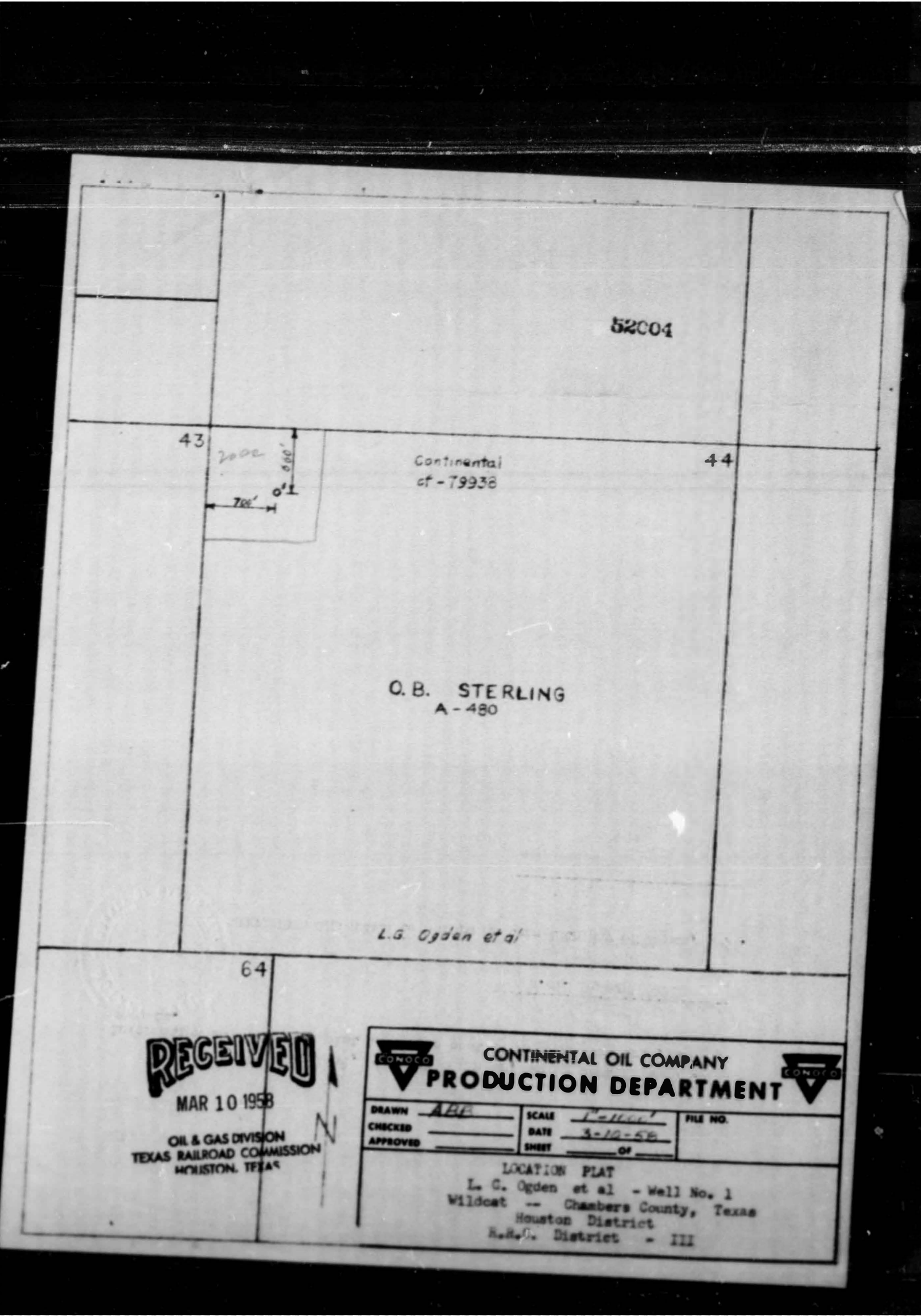
NOTICE: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

DRAW SKETCH AND MAKE AFFIDAVIT ON REVERSE SIDE

RECEIVED
MAR 10 1958
OIL & GAS DIVISION
TEXAS RAILROAD COMMISSION
HOUSTON, TEXAS

RRC(2)-EAA-CAM-File

320 ac.



RECEIVED
MAR 10 1958
OIL & GAS DIVISION
TEXAS RAILROAD COMMISSION
HOUSTON, TEXAS

CONOCO

CONTINENTAL OIL COMPANY
PRODUCTION DEPARTMENT

CONOCO

DRAWN AEE	SCALE 1" = 1000'	FILE NO.
CHECKED	DATE 3-10-58	
APPROVED	SHEET ____ OF ____	

LOCATION PLAT
L. C. Ogden et al - Well No. 1
Wildcat -- Chambers County, Texas
Houston District
R.R.C. District - III

Please Refer to File No.

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

52004

Form 2A
Application To Plug and Well Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED FIVE FULL DAYS PRIOR TO PLUGGING

Company Continental Oil Company Address P. O. Drawer 7, Galena Park, Texas

Sec. No. 44 Block No. - Survey O.B.Sterling A-480 County Chambers

Well No. 1 Name of Lease L. G. Ogden et al No. of Acres 619 Elev. 42 DF

Name of Field in which well is located Wildcat

Located 5 Miles West Direction from Winnie, Texas (Nearest P. O. or Town)

Form 1, "Notice of Intention to Drill," was filed in name of Continental Oil Company

Drilling Commenced March 23, 1958. Drilling Completed April 20, 1958

Has this well ever produced Oil? No or Gas? No

Character of Well (Oil, Gas or Dry) Dry Total Depth 9617'

Date you wish to Plug April 21, 1958.

Name of Party Plugging Well Halliburton Oil Well Cement Address Beaumont, Texas

Correspondence regarding this well should be sent to: Name Clem Christesson

Address P. O. Drawer 7, Galena Park, Texas

Initial Production of Gas: Volume (MCF) None 24 hrs. Pressure _____ lbs. per square inch

Initial Production of Oil: Barrels None

Give notice before Plugging to all available Lease Owners, as required by Rule (10).

When Plugging completed, file final Plugging Report, duly signed and sworn to. All necessary forms will be furnished by the Deputy Supervisor of district in which well is located.

NOTE: If no log available, so state and give all information that can be obtained as to total depth, whether or not cemented, producing formation, water sands, and as near as possible date well was drilled.

General Remarks:

RECEIVED
APR 25 1958
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

FILL OUT FORMATION AND AFFIDAVIT ON REVERSE SIDE

ASJ/4-23-58
RRC(2)-EAA-CAM-File

FORMATION RECORD

Show All Formations, Especially All Sands and Character and Contents Thereof

FORMATIONS	TOP	BOTTOM	REMARKS
KDB to Ground	0	16.62	
Surface sand and clay	16.62	75	Set 24" conductor Pipe
Sand and shale	75	2300	Set 9-5/8" Surface casing
Shaley Sand	2300	3050	
Sandy shale	3050	3570	
Shale w/sand streaks	3570	5080	
Sandy Shale	5080	5300	
Shaley Sand	5380	6320	
Shale	6320	6530	
Sand	6530	6555	
Shale w/sand streaks	6555	6900	
Shale	6900	7360	
Shaley Sand	7360	7396	
Shale	7396	7575	
Shaley Sand	7575	8175	
Shale	8175	8325	
Sandy Shale	8325	8692	
Shale	8692	9406	
Sand	9406	9452	
Shale w/sand streaks	9452	9617	Total depth

RECEIVED
APR 28 1958
Railroad Commission of Texas
OIL & GAS DIVISION
AUSTIN, TEXAS

Method of shutting off water Mud, cement, casing — Is water completely shut off? Yes

Amount of water with oil — per cent

I, Clem Christesson

being first duly sworn on oath state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Clem Christesson
Representative of Company.

Subscribed and sworn to before me this 23rd day of April, 1958.

Jesse E. Garner
Notary Public
Harris County, Texas.

52CC1 Form 4

Please Refer to File No. _____

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Plugging Record

FILE IN DUPLICATE WITH DEPUTY SUPERVISOR OF DISTRICT IN WHICH WELL IS LOCATED

Company Continental Oil Address P. O. Drawer 7, Galena Park, Texas

Sec. No. 44 Block No. - Survey O.B.Sterling A-480 County Chambers

Well No. 1 Name of Lease L. G. Ogden et al No. of Acres 619

Name of Field in which well is located Wildcat Date well was plugged 4-22, 1958

Form 1 (*Notice of Intention to Drill*) Was Filed in Name of Continental Oil Company

Character of Well at the time of completion: Oil - bbls; Gas - Cu. Ft.; D[illegible] Yes
(Initial Production) (Initial Production)

Amount well producing when plugged: Oil None bbls; Gas None Cu. Ft.; Water None bbls.

Has this well ever produced oil or gas? No

Total Depth 9617' feet. Top of each producing sand None feet.

Was the well filled with mud-laden fluid, according to regulations of the Railroad Commission? Yes

How was mud applied? Pump

Were plugs used? Yes If so, show all shoulders left for casing, depth of each, and size of casing, size and kind of plugs used, and depth placed. Also amount of cement and rock. Was well shot? No

40 sx cement plug set from 2327 to 2222 feet; 10 sx cement plug set from 43 feet to 17 feet (GL)

SIZE PIPE	PUT IN WELL		PULLED OUT		LEFT IN WELL		PACKERS AND SHOES
	Ft.	In.	Ft.	In.	Ft.	In.	
24"	69	1	0	0	69	1	Set with 84 sx cement
9-5/8"	2264	11	0	0	2264	11	Set with 811 sx cement

Show depth found and thickness of all water, oil and gas formations Several saltwater sands encountered from 2282' to 9617'

Have all abandoned wells on this lease been plugged according to Commissions rules? Yes

Manner of confining all oil, gas or water to strata: Mud, cement plugs and casing

The names of adjacent lease, royalty and landowners with their addresses in each instance as follows:
Continental Oil Company - P. O. Drawer 7, Galena Park, Texas

Was notice given before plugging to all available adjacent lease owners as required by Rule 10? Yes

I, Clem Christesson, being first duly sworn on oath, state that I have knowledge of the facts and the matter herein set forth and that the same are true and correct.

Name Clem Christesson Title Dist. Suptl

Subscribed and sworn to before me this 24th day of April, 1958

Jesse E. Sarver
Notary Public Harris County, Texas

JESSE E. SARVER, NOTARY PUBLIC, HARRIS COUNTY, TEXAS.

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APR 25 1958
Railroad Commission of Texas
OIL & GAS DIVISION
HOUSTON, TEXAS

ASJ/4-24-58
RRC(2)
EAA
CAW
File

Correspondence regarding this well should be addressed to:
Name Clem Christesson Address P. O. Drawer 7, Galena Park, Texas

OR

WELEX

ELECTRIC LOG

COMPANY CONTINENTAL OIL COMPANY
WELL OGDEN #1
FIELD WILDCAT (W. WINNIE AREA)
County CHAMBERS
State TEXAS
File

COMPANY CONTINENTAL OIL COMPANY
WELL L. G. OGDEN # 1
FIELD WILDCAT (W. WINNIE AREA)
COUNTY CHAMBERS STATE TEXAS

Location

Sec. Twp Rge

Other Logs
INDUCTION & CONTACT - CALIPER

Elevation
KB. 42 27
DF.
GL.

Permanent Datum B.H. 16.95' BELOW T.K.B. Elev.
Log Measured From TOP KELLY BUSHING
Drilling Measured From TOP KELLY BUSHING

Run No.	ONE	TWO		
Date	4-5-58	4-20-58		
Total Depth Driller	7500'	9616'		
Total Depth Welex	7508'	9617'		
Csg. Shoe Driller	2285'	2285'		
Csg. Shoe Welex	2282'	2282'		
Survey Begins	7507'	9616'		
Survey Ends	2282'	7507'		
Csg. Size	9-5/8"	9-5/8"		
Bit Size	8-3/4"	8-3/4"		
Mud Data — Type	WATERBASE QUEBRACHO, LIME & DRISCOSE	WATERBASE CAUSTIC,		
Weight	10.6	13.1		
Viscosity	45	45		
Ph.	12.0 @ - °F	12.0 @ - °F	@ °F	@ °F
Wtr. Loss cc/ 30 min.	6.1 @ - °F	4.2 @ - °F	@ °F	@ °F
Res. @ Surface Temp.	.64 @ 95 °F	.65 @ 90 °F	@ °F	@ °F
Res. @ Max. Hole Temp.	.38 @ 158 °F	.32 @ 182 °F	@ °F	@ °F
Rmf.	.22 @ 158 °F	.195 @ 182 °F	@ °F	@ °F
Rmc.	.85 @ 158 °F	.71 @ 182 °F	@ °F	@ °F
Source Mud Sample	PIT	CIRCULATED		
Recorded By	ENGELKE	FAUCETT		
Witnessed By	D.A. FREE	D.A. FREE		
Logging Tool No.	6041	6045		

REMARKS:

Resistivity Curves Recorded

Normal	18"
Normal	9'
Lateral	16'
Lateral	

ARTIFICIAL PENETRATION NO. 33

OPERATOR: GULF OIL CORPORATION
WELL NAME: O.C. DEVILLIER ET AL NO. 4

API NO: 42-071-30451

Geostock Sandia

API Well No. CHAMBERS DIST. 3
Instructions API NO. 42 071 30451

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

FORM W-1
(12-22-75)

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

Check one: [XX] DRILL [ ] DEEPEN (Below Casing) [ ] DEEPEN (Within Casing) [ ] PLUG BACK [ ] OTHER (Specify)

If Amended Application, explain fully in Remarks or Attach Separate Page.

1. Operator: Gulf Oil Corporation
2. Address (Including City and Zip Code): P. O. Box 72, Kilgore, TX 75662
3. Is Form P-5 (Organization Report) in Exact Operator Name Filed? YES [X] NO [ ] (Instruction (2) on back side.)
4. Lease Name: O. C. Devillier
5. Location (Sec., Blk., Survey): O. C. Devillier Jr. A-657
6. This well is to be located 7 miles West Direction from Winnie, Texas Nearest Post Office or Town.
7. RRC District: 3
8. County: Chambers
9. Well Number: 4
10. Number of Acres in Lease: 80
11. Distance from Proposed Location to Nearest Property or Lease Line (ft.): 700
12. Total Depth: 12,200

EACH PROPOSED COMPLETION

REFER TO INSTRUCTIONS ON BACK SIDE. READ CAREFULLY AND FURNISH COMPLETE DATA.

13. FIELD NAME (Exactly as shown on R.R.C. Proration Schedule including Reservoir if applicable.) If Wildcat, so state below.	14. Completion Depth	15. All Prior Rule 37 Case Numbers for this wellbore. If none, State None.	16. Applicable Field Rules Spacing Pattern. If no Rules, State 467-1200. (ft.)	17. Applicable Field Rules Density Pattern. If no Rules, State 40. (acres)	18. Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	19. Is this acreage presently assigned to another well in same field? (Yes or No. If yes explain in remarks.)	20. Distance from proposed location to nearest drilling completed or applied for well in same reservoir on same lease (ft.)	21. Is this a 1. Regular or 2. Rule 37 Location? Check the appropriate box.	22. Oil, Gas, or other Type Well (Specify)	23. Number of Wells or Permitted locations on this Lease in same Reservoir for which this Permit is Requested? OIL	GAS
Wildcat ABOVE 12200	12,200	None	467-1200	40	80	No,	[illegible]	Regular 1 [X] Rule 37 2 [ ]	Gas	0	0
								Regular 1 [ ] Rule 37 2 [ ]			
								Regular 1 [ ] Rule 37 2 [ ]			
								Regular 1 [ ] Rule 37 2 [ ]			

24. PERPENDICULAR LOCATION FROM TWO DESIGNATED LEASE LINES AND SURVEY LINES AND DISTANCE AND DIRECTION TO NEAREST WELL IN SAME FIELD.

1000' WEL & 700' NSL & 5947.85' ~~N32°37'E of O. C. Devillier #2~~ of survey

NOTICE

NO ALLOWABLE WILL BE ASSIGNED to any well which does not have sufficient surface casing to protect all fresh water sands. Where Commission rules do not specify surface casing requirements, it will be necessary to contact Texas Water Development Board, Austin, Texas, to ascertain the depth to which fresh water sands must be protected.

REMARKS:

CERTIFICATE

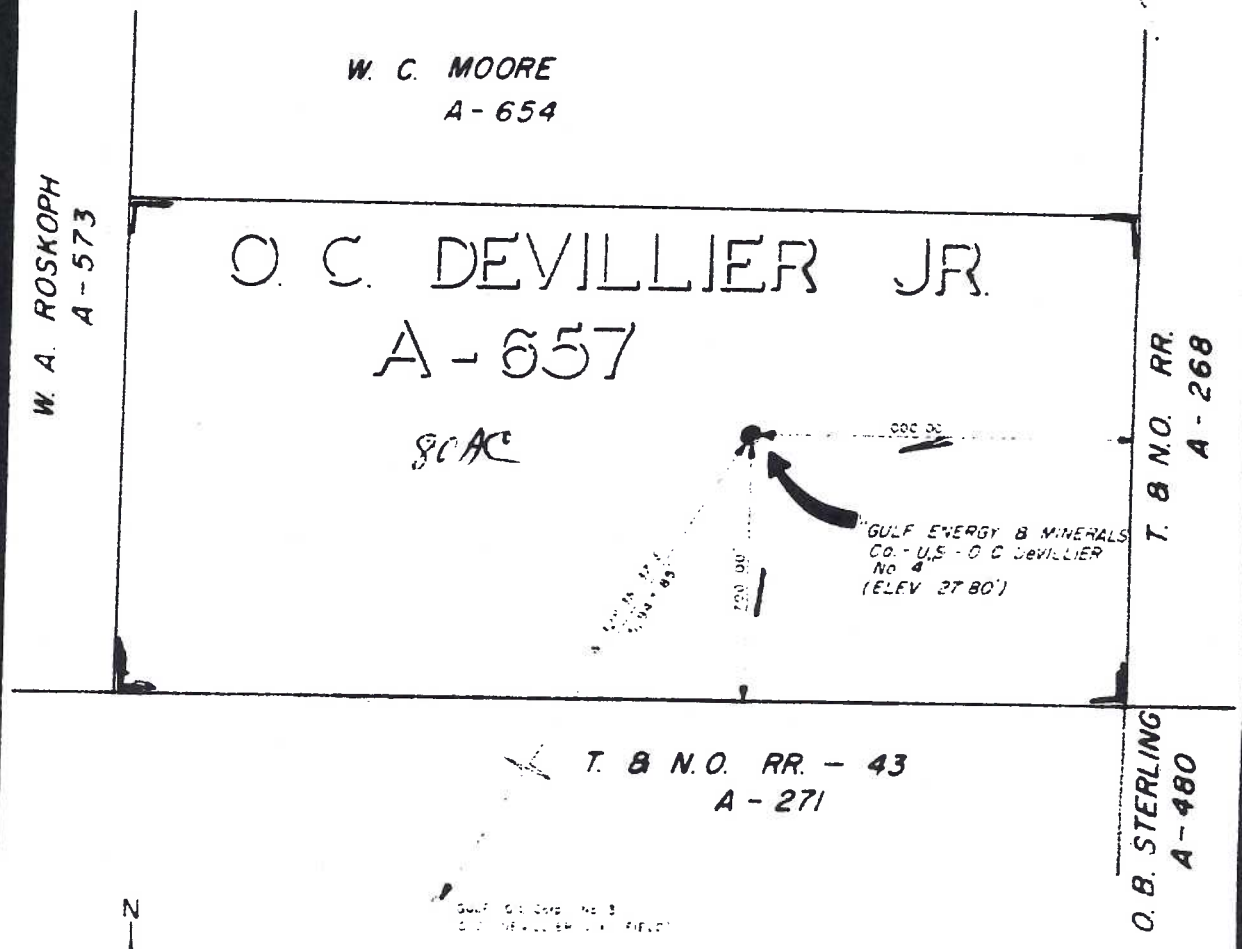
I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Signature: Don M. Harrist
Title: Petroleum Engineer
Date: 3-8-76
Telephone: Area Code 214 984-3541

READ INSTRUCTIONS ON BACK SIDE AND FURNISH COMPLETE DATA.

071 30451

432 0841



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OIL & GAS DIV.
HOUSTON, TEXAS
MAR 10 1976

STATE OF TEXAS :
COUNTY OF CHAMBERS :

I, D. D. SHINE, REGISTERED PUBLIC SURVEYOR No. 502, DO HEREBY CERTIFY THAT THIS PLAT CORRECTLY SHOWS THE LOCATION OF WELL "GULF ENERGY & MINERALS Co.-U.S.-O.C. DeVILLIER, No. 4" ON THE O.C. DEVILLIER JR. SURVEY, ABSTRACT 657, CHAMBERS COUNTY, TEXAS, AS STAKED ON THE GROUND BY ME FEBRUARY 26, 1976

STATE OF TEXAS
D. D. SHINE
502
REGISTERED

D. D. SHINE

071-30451

C 0 0 0 4 2 0 0 0 0 9

Plugging Record P/

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-3
Rev. 7/7/75

FILE IN DUPLICATE WITH DISTRICT OFFICE OF DISTRICT IN WHICH WELL IS LOCATED WITHIN THIRTY DAYS AFTER PLUGGING

1. RRC District: 3
4. RRC Lease or Id. Number: -
5. Well Number: 4
10. County: Chambers
11. Date Drilling Permit Issued: 3-11-76
12. Date Drilling Commenced: 5-14-76
13. Date Drilling Completed: 6-22-76
14. Date Well Plugged: 7-20-76

2. FIELD NAME (as per RRC Records): Wildcat
3. LEASE NAME: O. C. Devillier et al
6. OPERATOR: Gulf Oil Corporation
7. ADDRESS: P. O. Box 72, Kilgore, Texas 75662
8. SURFACE LOCATION: 1000 FEET FROM East LINE, AND 700 FEET FROM South LINE
9a. SECTION, BLOCK, AND SURVEY: O. C. Devillier, Jr. Survey, A-657
9b. Distance and Direction to nearest town in this county: 7 miles W of Winnie, Texas
15. Type of Well (Oil, Gas, Dry)*: Dry
16. Type of Completion (Single, Dual, Etc.): Single
17. Total Depth: 12,215
18. FORM W-1 (Intention to Drill) Filed in Name of: Gulf Oil Corporation
19. Manner of Placement

PLUG #1	100	SACKS	TOP	9400'	BOTTOM	9733'	TYPE Cl. H Cement
PLUG #2	270	SACKS	TOP	1833'	BOTTOM	2133'	TYPE Cl. A Cement
PLUG #3	15	SACKS	TOP	4'	BOTTOM	24'	TYPE Cl. A Cement
PLUG #4		SACKS	TOP		BOTTOM		TYPE

20. Was Well filled with Mud-Laden Fluid, according to the regulations of the Railroad Commission: YES XX NO
21. How was Mud applied? Pump
22. Mud Weight: 16.8 LBS/GAL
23. Depth of Deepest Fresh Water: 500 FEET
24. Have all Abandoned Wells on this Lease been Plugged according to RRC Rules? YES XX NO
25. If NO, Explain: --
26. Name and Address of Party Plugging Well: Halliburton Services, Box 7126, Beaumont, Texas 77706
27. Casing and Tubing Record after Plugging

SIZE	PUT IN WELL FEET	PUT IN WELL INCHES	LEFT IN WELL FEET	LEFT IN WELL INCHES
13-3/8"	2026'	0"	2026'	0"
9-5/8"	9616'	0"	7484'	0"

28. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leases
Mr. Jim Hudgens w/RRC witnessed plug set on 6-22-76
Notified Mr. Paul Staggs w/RRC @ 8: AM, 7-19-76

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OG
HOUSTON, TEXAS

29. Was Notice given before Plugging to each of the above and RRC District Office? YES X NO

CERTIFICATE:

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this report, that this report was prepared by me or under my supervision and direction, and that data and facts stated therein are true, correct, and complete, to the best of my knowledge.

Don M. Hurst — REPRESENTATIVE OF COMPANY
Petroleum Engineer — TITLE
8-10-76 — DATE

Signature: Gene Phillips — REPRESENTATIVE OF RAILROAD COMMISSION

*All Dry Holes, Fill in Reverse Side.

071 30451

#

30 For Dry Holes, this Form must be accompanied by either a Driller's, Electric, Radioactivity or Acoustical/Sonic Log or such Log must be released to a Commercial Log Service.

☒ Log attached ☐ Log released to _____ Date _____

Type Logs:

☐ Driller's ☒ Electric ☐ Radioactivity ☐ Acoustical/Sonic

REMARKS Hold this well confidential for a period of six months.

071-30451

00004 00310

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-15
(Rev. 11-1-69)

CEMENTING REPORT

*1. Field Name (as per RRC Records or Wildcat): Wildcat	*2. RRC District: 3
*3. Operator: Gulf Oil Corporation	*4. County: Chambers
*5. Lease Name(s) and RRC Lease Number(s) or I. D. Number(s): O. C. Devillier etal	*6. Well Number: 4
*7. Location (Section, Block, and Survey): O. C. Devillier, Jr. Survey, A-657	

CASING CEMENTING DATA:	SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
			Single String	Multiple Parallel Strings	Tool	Shoe
8 Cementing Date						
*9. (a) Size of Drill Bit (inches)						
(b) Estimated % Wash or Hole Enlargement Used in Calculations						
*10. Size of Casing (inches O.D.)						
*11. Top of Liner (if liner used) (ft.)						
*12. Setting Depth of Casing (ft.)						
13. Type API Class Cement & Amount of Additives Used: (a) In First (Lead) or Only Slurry (If additional space is needed, use "REMARKS" on reverse side.)						
(b) In Second Slurry						
(c) In Third Slurry						
14. Sacks of Cement Used: (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Sacks of Cement Used						
15. Slurry Volume per Sack of Cement (cu. ft./sack): (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
16. Volume of Slurry Pumped (cu. ft.) (Item 14 x Item 15): (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Slurry Volume Pumped (cu ft.)						
17. Calculated Annular Height of Cement Slurry behind Pipe (ft.)						
18. Was cement circulated to ground surface (or bottom of cellar) outside casing? (Yes or No)						

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AUG 12 1976
[illegible]
HOUSTON, TEXAS

CEMENTING TO PLUG AND ABANDON DATA:	PLUG NO. 1	PLUG NO. 2	PLUG NO. 3	PLUG NO. 4	PLUG NO. 5	PLUG NO. 6
19. Cementing Date	6-22-76					
*20. Size of Hole or Pipe in which Plug Placed (inches)	9-5/8"Csg.&8-1/2"Hole					
*21. Depth to Bottom of Tubing or Drill Pipe (ft.)	9733'					
22. Sacks of Cement Used (each plug)	100					
23. Slurry Volume Pumped (cu. ft.)	135					
24. Calculated Top of Plug (ft.)	9400					
*25. Measured Top of Plug (if tagged) (ft.)						

CEMENTING COMPANY AND OPERATOR MUST COMPLY WITH THE INSTRUCTIONS ON REVERSE SIDE HEREOF.)

= OVER =

* Designates Items to be completed by Operator. Items not so designated shall be completed by Cementing Company

011-30421

26. Remarks:

Cement Used: 100 sks.
(1.35 cu. ft./sk.)

Return to Central Records

*27. Remarks:

CEMENTING COMPANY

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers cementing data only.

H R Wyatt
Signature of Cementer or Authorized Representative

H. R. Wyatt - Cementer
Name of Person and Title (type or print)

HALLIBURTON SERVICES
Cementing Company

P. O. Box 7126
Street Address or P.O. Box

Beaumont, Texas 77706
City, State Zip Code

Telephone 713 892-7131
Area Code

6-22-76
Date

***OPERATOR**

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all well data and information presented herein.

Fred Nash Jr.
*Signature of Operator or Authorized Representative

Fred Nash, Jr. - Area Drilling Supt.
*Name of Person and Title (type or print)

Gulf Oil Corporation
*Operator

P. O. Box 72
*Street Address or P.O. Box

Kilgore, Texas 75662
*City, State Zip Code

*Telephone 214 984-3541
Area Code

7-23-76
*Date

INSTRUCTIONS

1. A. This form shall be filed by the operator in the RRC District Office with:
   (1) Each copy of an initial Form G-1 or W-2 if a cementing report is required by Statewide or Special Rules, or if exception is needed to cementing requirements in Statewide or Special Rules;
   (2) Each copy of Form W-3;
   (3) Each copy of Form W-4 if a multiple parallel casing completion.
   B. At least an original and one copy of this form shall be filed for each cementing company used on a well.
   C. The cementing of different casing strings on a well by one cementing company may be consolidated on one form (to be filed in duplicate).
2. Cementing Company and Operator shall comply with the applicable portions of Statewide Rules 8, 13, and 14. For offshore operations, Cementing Company and Operator shall comply with Statewide Rule 13(E).
3. If setting FULL AMOUNT OF SURFACE CASING:
   A. Depth to protect fresh water determined by:
   (1) Field Rule
   (2) Texas Water Development Board, if no Field Rule
   B. Set surface casing below depth to be protected and cement from casing shoe to ground surface.
4. IF SETTING ANYTHING OTHER THAN THE FULL AMOUNT OF SURFACE CASING, PERMISSION SHALL BE OBTAINED FROM THE RAILROAD COMMISSION.
5. If setting NO SURFACE CASING (See Item 4 above.):
   A. If no multi-stage tool is used, the next deeper casing string shall be cemented from the casing shoe to the surface.
   B. If using the multi-stage tool on the next deeper string, cement from the depth that protects fresh water sands to the surface.
6. If setting SHORT SURFACE CASING (See Item 4 above.):
   A. Cement short surface casing from the shoe to the surface.
   B. Whether the multi-stage tool is or is not used on the next deeper casing string, cement from the depth that protects fresh water sands to:
   (1) the surface, or
   (2) a point midway between shoe of surface string and the surface. Compliance will be considered if a temperature survey shows that the top of the cement is at least one-third of the distance from the shoe of the surface string to the surface.
7. Setting PRODUCTION STRING of Casing: (Statewide Rules; Special Rules may vary.)
   A. Cement to a point at least 600 feet above the casing shoe.
   B. When 3,000 feet or more of pipe is set for the production or protecting string, a minimum of 30 feet of cement shall be left inside the pipe.
8. PLUGGING and ABANDONING:
   A. Cement plugs shall be placed in the well bore as required by Rules and Regulations of the Commission plus any additional plugs as may be specified by the RRC District Director.
   B. The minimum amount of cement normally used in each plug shall be a slurry volume equal to the amount necessary to fill the calculated volume of 100 feet of the hole in which the plug is placed.
   C. A 10 foot cement plug is required to be placed in the top of the well.

071-30451

00004 0011

RAILROAD COMMISSION OF TEXAS
OIL AND GAS DIVISION

Form W-15
(Rev. 11-1-69)

CEMENTING REPORT

*1. Field Name (as per RRC Records or Wildcat): Wildcat	*2. RRC District: 3
*3. Operator: Gulf Oil Corporation	*4. County: Chambers
*5. Lease Name(s) and RRC Lease Number(s) or I. D. Number(s): O. C. Devillier et al	*6. Well Number: 4
*7. Location (Section, Block, and Survey): O. C. Devillier, Jr. Survey, A-657	

CASING CEMENTING DATA:	SURFACE CASING	INTER-MEDIATE CASING	PRODUCTION CASING		MULTI-STAGE CEMENTING PROCESS	
			Single String	Multiple Parallel Strings	Tool	Shoe
8 Cementing Date						
*9. (a) Size of Drill Bit (inches)						
(b) Estimated % Wash or Hole Enlargement Used in Calculations.						
*10. Size of Casing (inches O.D.)						
*11. Top of Liner (if liner used) (ft.)						
*12. Setting Depth of Casing (ft.)						
13. Type API Class Cement & Amount of Additives Used: (a) In First (Lead) or Only Slurry (If additional space is needed, use "All Wells" on reverse side.)						
(b) In Second Slurry						
(c) In Third Slurry						
14. Sacks of Cement Used: (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Sacks of Cement Used						
15. Slurry Volume per Sack of Cement (cu.ft./sack): (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
16. Volume of Slurry Pumped: (cu.ft.) (Item 14 x Item 15) (a) In First (Lead) or Only Slurry						
(b) In Second Slurry						
(c) In Third Slurry						
(d) Total Slurry Volume Pumped (cu.ft.)						
17. Calculated Annular Height of Cement Slurry behind Pipe (ft.)						
18. Was cement circulated to ground surface (or bottom of cellar) outside casing? (Yes or No)						

CEMENTING TO PLUG AND ABANDON DATA:	PLUG NO. 1	PLUG NO. 2	PLUG NO. 3	PLUG NO. 4	PLUG NO. 5	PLUG NO. 6
19. Cementing Date	7-18-76	7-20-76				
*20. Size of Hole or Pipe in which Plug Placed (inches)	13-3/8"Csg	& 12-1/4"Hole				
*21. Depth to Bottom of Tubing or Drill Pipe (ft.)	2132'	24'				
22. Sacks of Cement Used (each plug)	270	15				
23. Slurry Volume Pumped (cu. ft.)	318.6	17.7				
24. Calculated Top of Plug (ft.)	1833'	24 to 4'				
*25. Measured Top of Plug (if tagged) (ft.)						

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RRC OF TEXAS
AUG 12 1976
OIL & GAS
HOUSTON

(CEMENTING COMPANY AND OPERATOR MUST COMPLY WITH THE INSTRUCTIONS ON REVERSE SIDE HEREOF.)

– OVER –

* Designates items to be completed by Operator. Items not so designated shall be completed by Cementing Company.

071-30451

26. Remarks:

*27. Remarks:

Recovered 2132' of 9-5/8"OD Casing.

CEMENTING COMPANY

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers cementing data only.

Danny Moody

Signature of Cementer or Authorized Representative

Danny Moody - Cementer

Name of Person and Title (type or print)

HALLIBURTON SERVICES

Cementing Company

P. O. Box 7126

Street Address or P.O. Box

Beaumont, Tx. 77706

City, State Zip Code

Telephone 713 892-7131

Area Code

[redacted]7-20-76

Date

***OPERATOR**

I declare under penalties prescribed in Article 6036c, R. C. S., that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete to the best of my knowledge. This certification covers all well data and information presented herein.

Fred Nash Jr

*Signature of Operator or Authorized Representative

Fred Nash, Jr. - Area Drilling Supt.

*Name of Person and Title (type or print)

Gulf Oil Corporation

*Operator

P. O. Box 72

*Street Address or P.O. Box

Kilgore, Texas 75662

*City, State Zip Code

*Telephone 214 984-3541

Area Code

July 23, 1976

*Date

INSTRUCTIONS

1. A. This form shall be filed by the operator in the RRC District Office with:
   (1) Each copy of an initial Form G-1 or W-2 if a cementing report is required by Statewide or Special Rules, or if exception is needed to cementing requirements in Statewide or Special Rules;
   (2) Each copy of Form W-3;
   (3) Each copy of Form W-4 if a multiple parallel casing completion.
   B. At least an original and one copy of this form shall be filed for each cementing company used on a well.
   C. The cementing of different casing strings on a well by one cementing company may be consolidated on one form (to be filed in duplicate).
2. Cementing Company and Operator shall comply with the applicable portions of Statewide Rules 8, 13, and 14. For offshore operations, Cementing Company and Operator shall comply with Statewide Rule 13(E).
3. If setting FULL AMOUNT OF SURFACE CASING:
   A. Depth to protect fresh water determined by:
   (1) Field Rule
   (2) Texas Water Development Board, if no Field Rule
   B. Set surface casing below depth to be protected and cement from casing shoe to ground surface.
4. IF SETTING ANYTHING OTHER THAN THE FULL AMOUNT OF SURFACE CASING, PERMISSION SHALL BE OBTAINED FROM THE RAILROAD COMMISSION.
5. If setting NO SURFACE CASING (See Item 4 above.):
   A. If no multi-stage tool is used, the next deeper casing string shall be cemented from the casing shoe to the surface.
   B. If using the multi-stage tool on the next deeper string, cement from the depth that protects fresh water sands to the surface.
6. If setting SHORT SURFACE CASING (See Item 4 above.):
   A. Cement short surface casing from the shoe to the surface.
   B. Whether the multi-stage tool is or is not used on the next deeper casing string, cement from the depth that protects fresh water sands to:
   (1) the surface, or
   (2) a point midway between shoe of surface string and the surface. Compliance will be considered if a temperature survey shows that the top of the cement is at least one-third of the distance from the shoe of the surface string to the surface.
7. Setting PRODUCTION STRING of Casing: (Statewide Rules; Special Rules may vary.)
   A. Cement to a point at least 600 feet above the casing shoe.
   B. When 3,000 feet or more of pipe is set for the production or protecting string, a minimum of 30 feet of cement shall be left inside the pipe.
8. PLUGGING and ABANDONING:
   A. Cement plugs shall be placed in the well bore as required by Rules and Regulations of the Commission plus any additional plugs as may be specified by the NRC District Director.
   B. The minimum amount of cement normally used in each plug shall be a slurry volume equal to the amount necessary to fill the calculated volume of 100 feet of the hole in which the plug is placed.
   C. A 10 foot cement plug is required to be placed in the top of the well.

071-30451

REFERENCE NO. G

DresserAtlas

Combination Induction Electrolog BHC Acoustilog

FILE NO.

API 42-071-30451

RECEIVED R.R. COMMISSION OF TEXAS AUG 12 1976 OIL & GAS DIVISION OF TEXAS

COMPANY GULF ENERGY & MINERALS CO. - U.S.

WELL O.C. DEVILLIER #4

FIELD DEVILLIER G-2983

COUNTY CHAMBERS STATE TEXAS

LOCATION: 80-AC LSE, O.C. DEVILLIER JR SUR, A-657; 700' FSL & 1000' FEL LSE & SUR

SEC ____ TWP ____ RGE ____

Other Services: C-D/L-N

Permanent Datum GROUND LEVEL Elev. 28'

Log Measured from KELLY BUSHING 20 Ft. Above Permanent Datum

Drilling Measured from KELLY BUSHING

Elevations: KB 48' DF 47' GL 28'

Date	5-31-76	6-18-76	6-21-76
Run No.	1	3*	4
Depth—Driller	9640	11715	12215
Depth—Logger	9647	11729	12216
Bottom Logged Interval	9642	11724	12211
Top Logged Interval	2050	9655	11600**
Casing—Driller	13-3/8@2052	9-5/8 @ 9640	9-5/8@ 9640
Casing—Logger	2050	9655	9655
Bit Size	12.5"	8-3/4"	8-3/4"
Type Fluid in Hole	LIGNO	LIGNO	LIGNO
Density and Viscosity	11.9 | 43	16.8 | 47	16.8 | 47
pH and Fluid Loss	10.5 | 5.6 cc	10.0 | 5 cc	10.0 | 5 cc
Source of Sample	PIT	PIT	FLOWLINE
Rm @ Meas. Temp.	1.4 @ 82 °F	1.36@ 73 °F	1.36@ 73 °F
Rmf @ Meas. Temp.	1.1 @ 82 °F	1.10@ 73 °F	1.10@ 73 °F
Rmc @ Meas. Temp.	1.75@ 82 °F	1.70@ 73 °F	1.7 @ 73 °F
Source of Rmf and Rmc	MEAS | MEAS	MEAS | CALC	MEAS | MEAS
Rm @ BHT	0.62@ 184 °F	0.44@ 224 °F	0.43@ 228 °F
Time Since Circ.	4.5 HOURS	4 HOURS	4.5 HOURS
Max. Rec. Temp. Deg. F.	184 °F	224 °F	228 °F
Equip. No. and Location	6082 | PEAR	6068 | PEAR	6082 | PEAR
Recorded By	SCHLUETER	MURAN-HOWARD	SCHLUETER
Witnessed By	BESSON-GREEN	BESSON-GREEN	BESSON-GREEN

THIS HEADING AND LOG CONFORMS TO API RECOMMENDED STANDARD PRACTICE RP-31

FOLD HERE

Equipment Used: 1603 Series No. 1809

REMARKS * ON 6-15-76 ATTEMPTED TO LOG FROM 10547 TO 9-5/8" CSG. UNABLE TO GET LOG. THIS SECTION

Reproduction Prohibited Property of Dresser Atlas Inc

APPENDIX VIII-2

WELL SCHEMATICS FOR AP'S IN COI

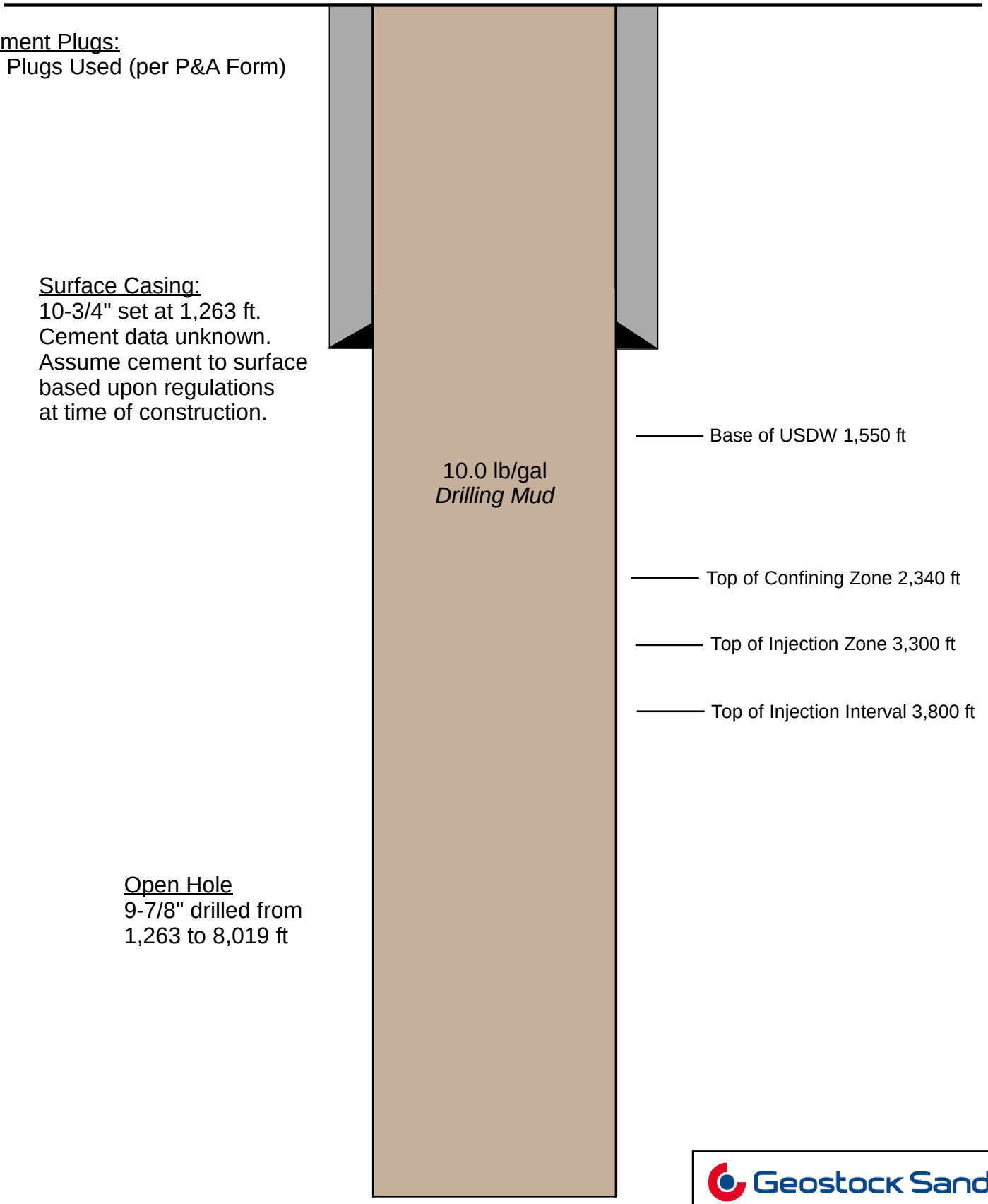
Geostock Sandia

Artificial Penetration No. 10

API Number: 42-071-01960
Operator: H.E. Williams & Crown Central Petroleum
Well Name: Trinity Rice Disposal No. 1
Status: Dry & Abandoned

Spud Date: June 11, 1941
Date Plugged: July 4, 1941
KB: Unknown
Total Depth: 8,091 ft

Ground Level: 25 ft est



Geostock Sandia

Date: December 2024 *Not to Scale*
Schematic based upon Texas State Records

Artificial Penetration No. 11

API Number: 42-071-32233
Operator: Goldston Oil Corporation
Well Name: Doornbos No. 1
Status: Dry & Abandoned

Spud Date: October 11, 2002
Date Plugged: December 10, 2002
KB: 56 ft
Total Depth: 10,800 ft

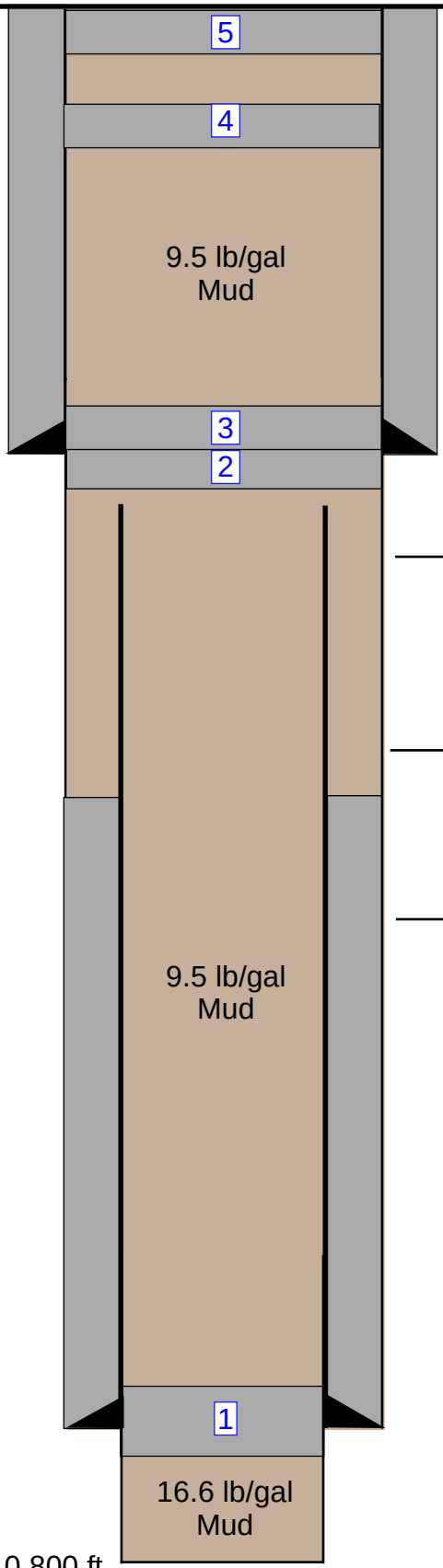
Ground Level: 25 ft

<u>Cement Plugs:</u>
Plug 1 - 9,510 to 9,798 ft (75 sx)
Plug 2 - 2,100 to 2,150 ft (25 sx)
Plug 3 - 2,050 to 2,100 ft (75 sx)
Plug 4 - 385 to 500 ft (50 sx)
Plug 5 - 5 to 55 ft (25 sx)

<u>Surface Casing:</u>
10-3/4" set at 2,100 ft
in a 14-3/4" hole.
Cement to surface
with 1,305 sx.

<u>Protection Casing:</u>
7-5/8" set at 9,719 ft
in a 9-5/8" hole.
Cement to 3,676 ft
with 980 sx.
Casing Cut at 2,190

<u>Open Hole</u>
6-1/2" drilled from 9,719 to 10,800 ft



Base of USDW ~1,500 ft

Top of Confining Zone 2,370 ft

Top of Injection Zone 3,350 ft

Top of Injection Interval 3,820 ft

<u>Total Depth</u>
10,800 ft.

Geostock Sandia

Date: December 2024 *Not to Scale*
Schematic based upon Texas State Records

Artificial Penetration No. 12

API Number: 42-071-01959
Operator: P.H. Welder
Well Name: William Doornbos et al No. 1
Status: Dry & Abandoned

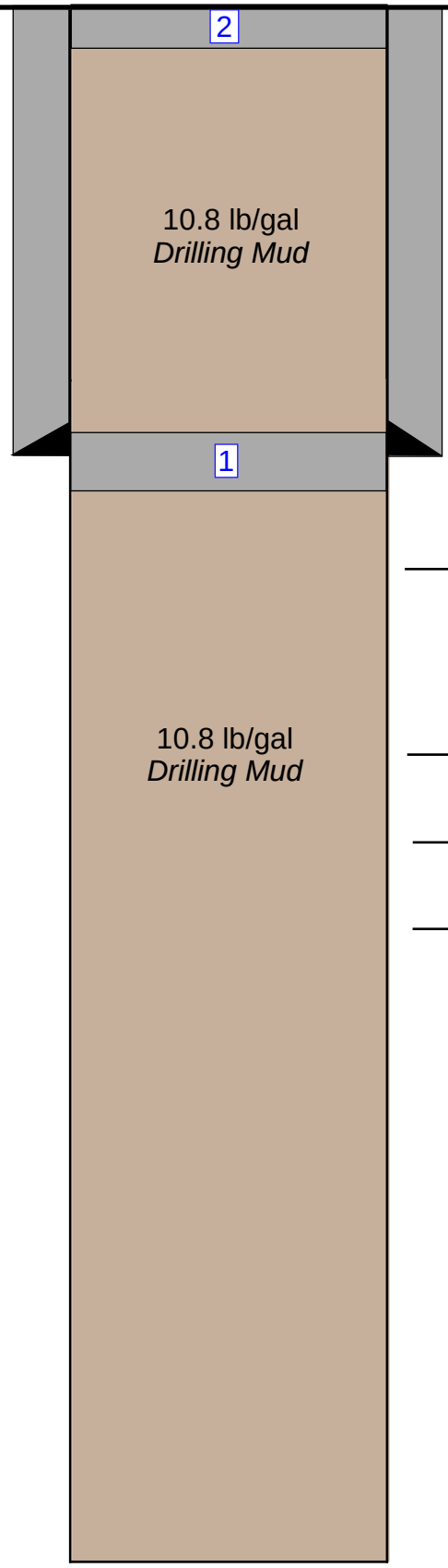
Spud Date: March 30, 1956
Date Plugged: April 24, 1956
KB: 43 ft
Total Depth: 9,024 ft

Ground Level: 30 ft est

<u>Cement Plugs:</u>
Plug 1 - 1,142 to 1,242 ft
Plug 2 - Surface (25 sx)

<u>Surface Casing:</u>
10-3/4" set at 1,192 ft.
Cement to surface with unknown sacks.

<u>Open Hole</u>
8-3/4" drilled from 1,192 to 9,024 ft



Base of USDW ~1,420 ft

Top of Confining Zone 2,400 ft

Top of Injection Zone 3,420 ft

Top of Injection Interval 3,880 ft

<u>Total Depth</u>
9,024 ft.

Geostock Sandia

Date: December 2024 *Not to Scale*
Schematic based upon Texas State Records

Artificial Penetration No. 16

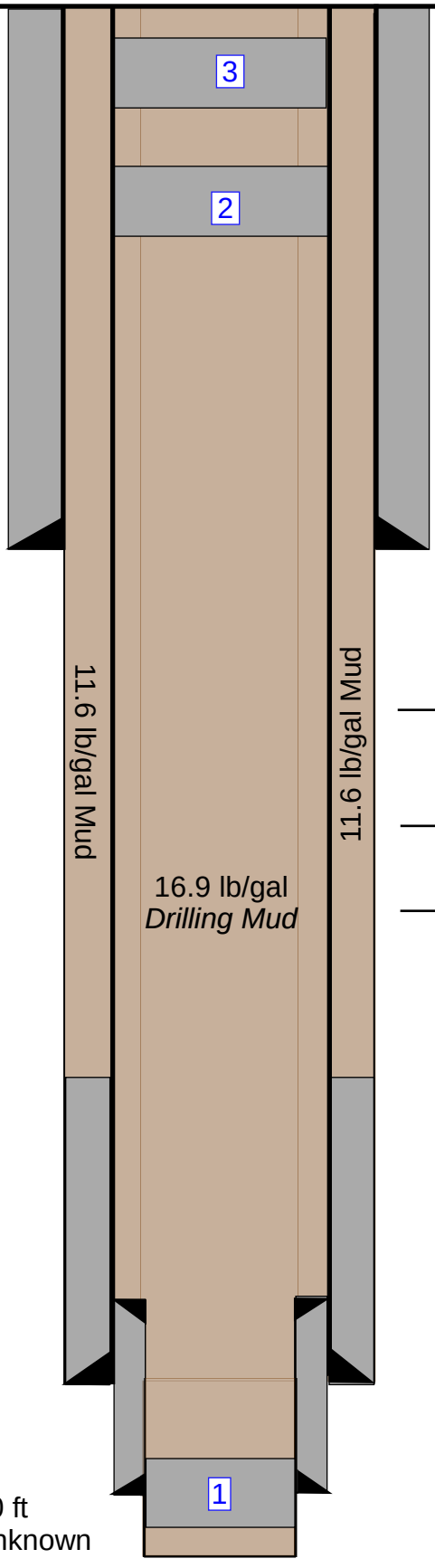
API Number: 42-071-31164
Operator: Hunt Energy
Well Name: Garth No. 1
Status: Dry & Abandoned

Spud Date: February 26,1981
Date Plugged: June 4, 1981
KB: 51 ft
Total Depth: 16,000 ft

Ground Level: 25 ft

Cement Plugs:
Plug 1 - 13,200 to 14,273 ft (150 sx)
Plug 2 - 350 to 450 ft (35 sx)
Plug 3 - 100 to 200 ft (35 sx)

Surface Casing:
13-3/8" set at 2,341 ft
in a 17-inch hole.
No Cement data.
Assume cement to surface
due to state regulations
at time of Construction



Base of USDW ~1,400 ft

Top of Confining Zone 2,430 ft

Top of Injection Zone 3,340 ft

Top of Injection Interval 3,890 ft

Protection Casing:
9-5/8" set to 9,808 ft
in a 12-1/4 hole.
No Cement data.
Top of cement unknown.

Liner:
7" from
9,562 to 13,300 ft
Cement data unknown

Total Depth
16,000 ft.

Geostock Sandia

Date: December 2024 Not to Scale
Schematic based upon Texas State Records

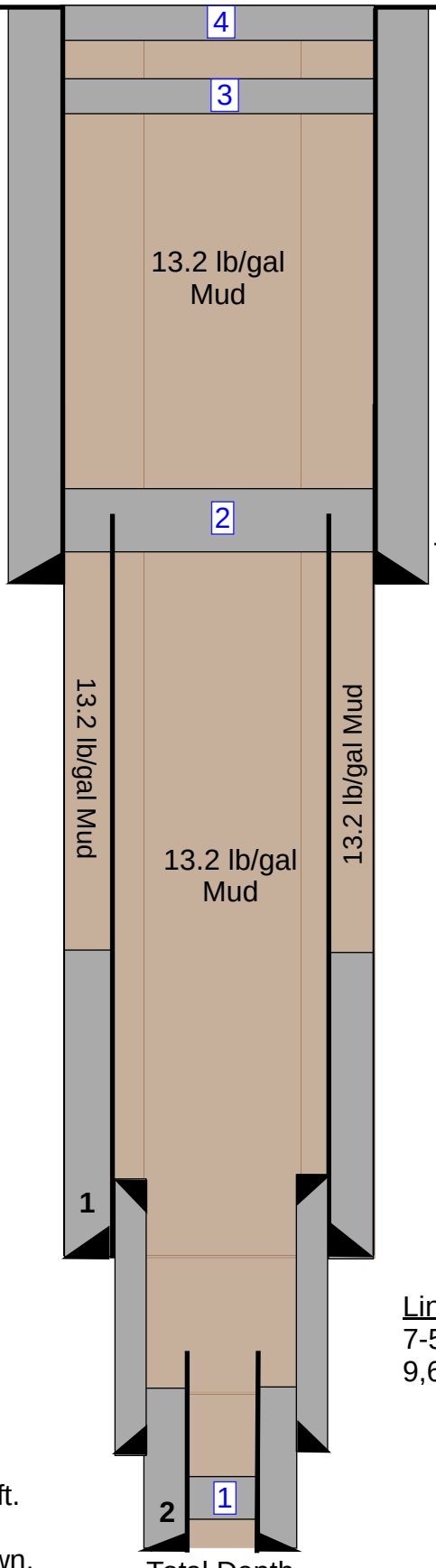
Artificial Penetration No. 17

API Number: 42-071-31267
Operator: The DOW Chemical Company
Well Name: William Doornbos No. 1
Status: Dry & Abandoned

Spud Date: October 15, 1981
Date Plugged: August 5, 1982
KB: 52 ft
Total Depth: 18,950 ft

Ground Level: 26 ft

Cement Plugs:
Plug 1 - 17,023 to 17,323 ft (22 sx)
Plug 2 - 3,742 to 3,900 ft (80 sx)
Plug 3 - 303 to 450 ft (110 sx)
Plug 4 - 0 to 30 ft (20 sx)



Base of USDW ~1,550 ft

Top of Confining Zone ~2,450 ft

Top of Injection Zone ~3,350 ft

Top of Injection Interval ~3,900 ft

Surface Casing:
13-3/8" set at 4,009 ft
in a 17-1/2-inch hole.
Cement to surface
with 3,250 sx

Protection Casing (1):
9-5/8" set to 9,934 ft
in an 8-1/2" hole.
Casing Cut at 3,847 ft.
No Cement data.
Top of cement unknown.

Liner:
7-5/8" set from
9,632 to 15,552 ft.

Protection Casing (2):
5-1/2" set to 18,950 ft
in an 6-1/2" hole.
Casing Cut at 11,000 ft.
No Cement data.
Top of cement unknown.

Total Depth
18,950 ft.

Geostock Sandia

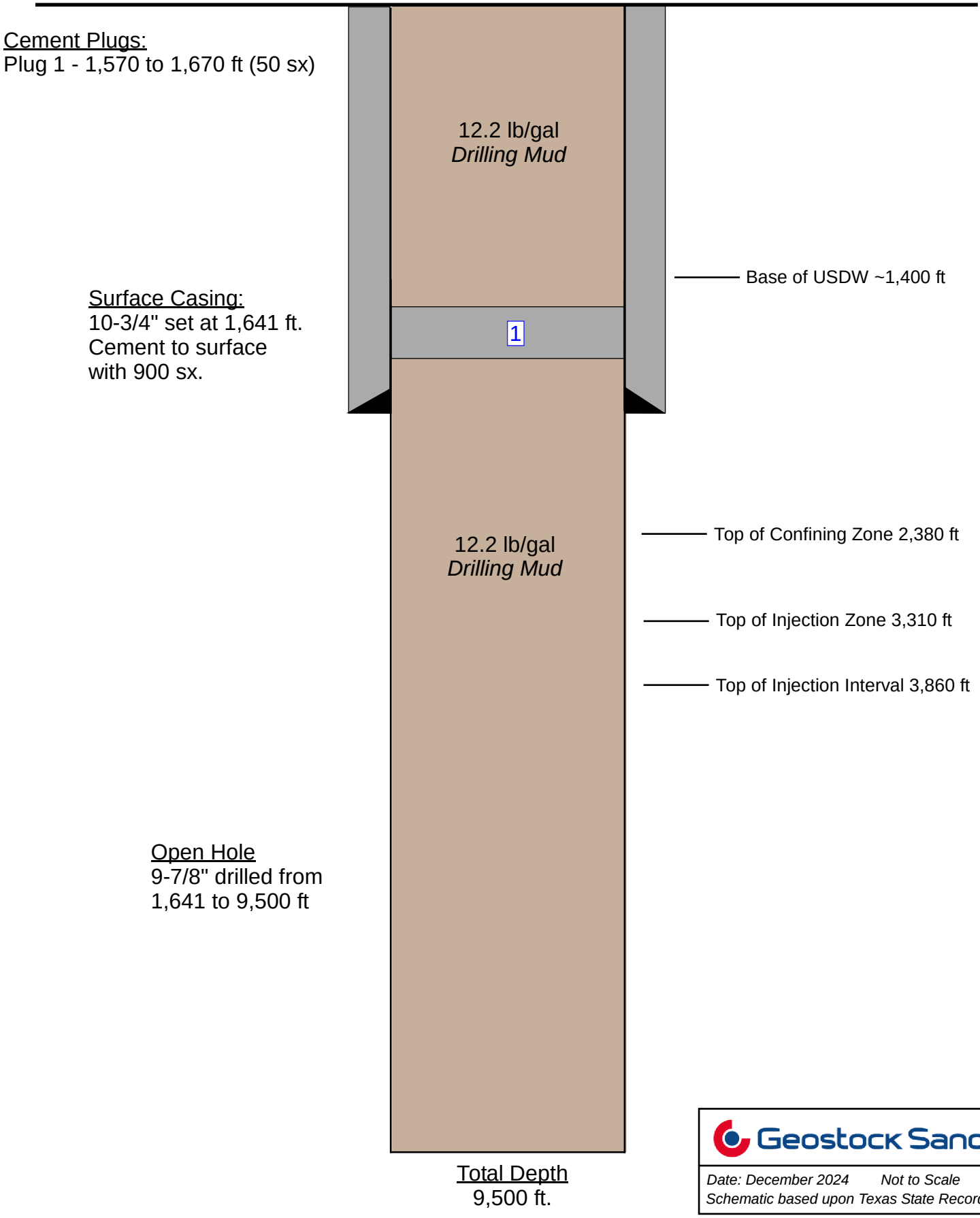
Date: December 2024 Not to Scale
Schematic based upon Texas State Records

Artificial Penetration No. 18

API Number: 42-071-01955
Operator: Union Oil Company of California
Well Name: H.P. Drought No. 1
Status: Dry & Abandoned

Spud Date: October 2, 1955
Date Plugged: October 25, 1965
KB: 40 ft
Total Depth: 9,500 ft

Ground Level: 25 ft



Geostock Sandia

Date: December 2024 *Not to Scale*
Schematic based upon Texas State Records

APPENDIX VIII-3

CORRECTIVE ACTION SCHEMATICS

Geostock Sandia

Artificial Penetration No. 10

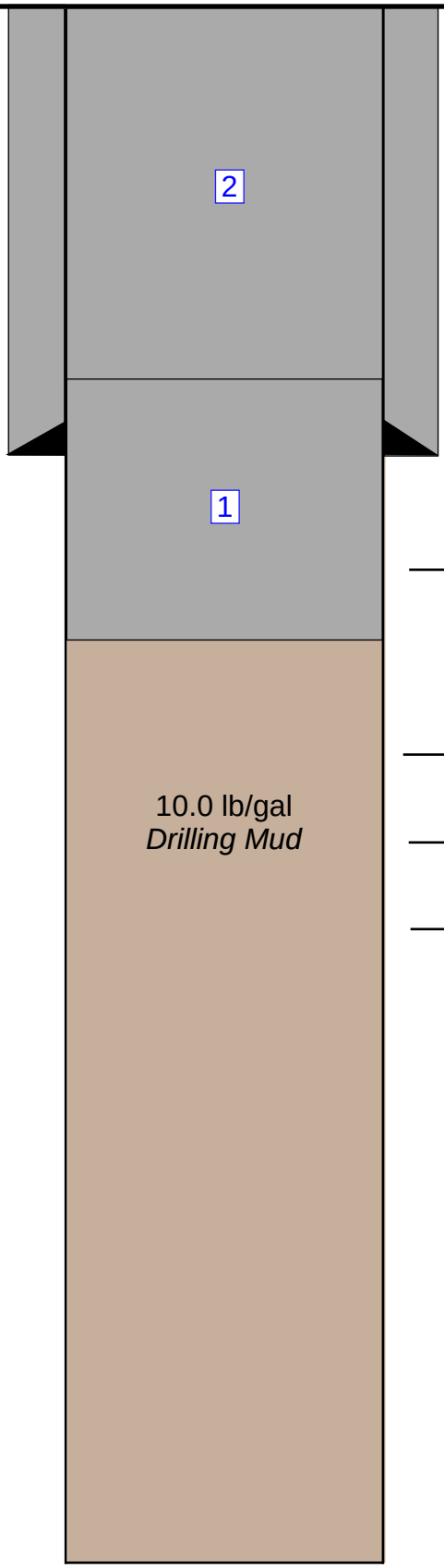
API Number: 42-071-01960
Operator: H.E. Williams & Crown Central Petroleum
Well Name: Trinity Rice Disposal No. 1
Status: Dry & Abandoned

Spud Date: June 11, 1941
Date Plugged: July 4, 1941
KB: Unknown
Total Depth: 8,091 ft

Ground Level: 25 ft est

Proposed Plugs:
Plug 1: 900 to 1,800 ft (451 sx)
Plug 2: 0 to 900 ft (474 sx)

Proposed Corrective Action



Surface Casing:
10-3/4" set at 1,263 ft.
Cement data unknown.
Assume cement to surface based upon regulations at time of construction.

Base of USDW 1,550 ft

Top of Confining Zone 2,340 ft

Top of Injection Zone 3,300 ft

Top of Injection Interval 3,800 ft

Open Hole
9-7/8" drilled from 1,263 to 8,019 ft

Total Depth
8,091 ft.

Geostock Sandia

Date: December 2024 *Not to Scale*
Schematic based upon Texas State Records

Artificial Penetration No. 12

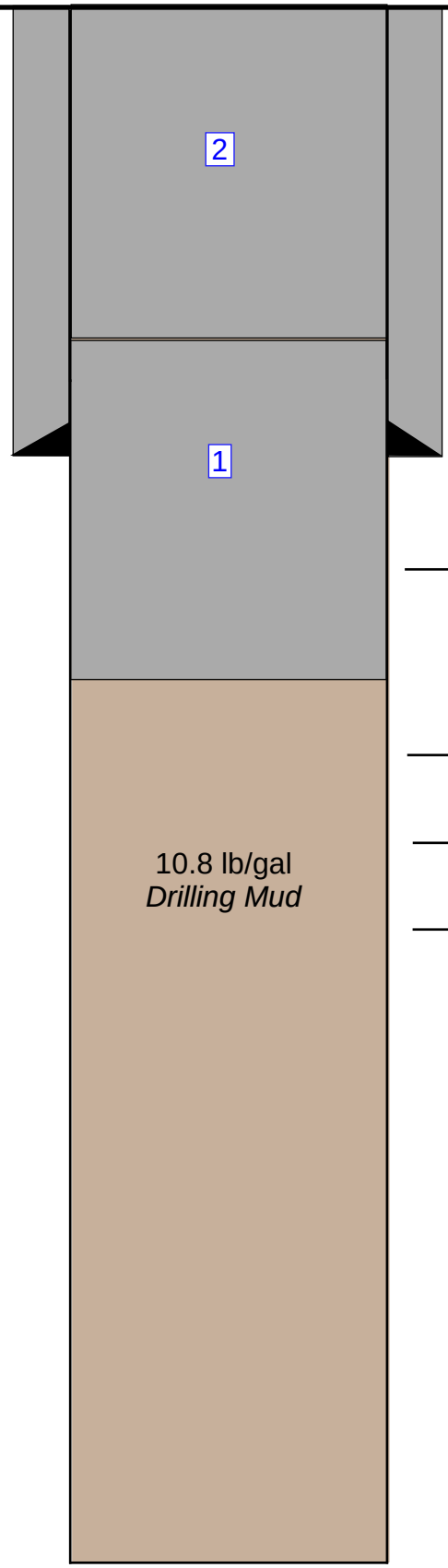
API Number: 42-071-01959
Operator: P.H. Welder
Well Name: William Doornbos et al No. 1
Status: Dry & Abandoned

Spud Date: March 30, 1956
Date Plugged: April 24, 1956
KB: 43 ft
Total Depth: 9,024 ft

Ground Level: 30 ft est

Proposed Plugs:
Plug 1 - 900 to 1,800 ft (481 sx)
Plug 2 - 0 to 900 ft (504 sx)

Proposed Corrective Action



Surface Casing:
10-3/4" set at 1,192 ft.
Cement to surface with unknown sacks.

Base of USDW ~1,420 ft

Top of Confining Zone 2,400 ft

Top of Injection Zone 3,420 ft

Top of Injection Interval 3,880 ft

Open Hole
8-3/4" drilled from 1,192 to 9,024 ft

Total Depth
9,024 ft.

Geostock Sandia

Date: December 2024 *Not to Scale*
Schematic based upon Texas State Records

SECTION IX

WASTE AND WASTE MANAGEMENT

Geostock Sandia

BLUEBONNET SEQUESTRATION HUB

UIC CLASS I NONHAZARDOUS INJECTION WELL APPLICATION

SECTION IX – WASTE AND WASTE MANAGEMENT

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IX. WASTE AND WASTE MANAGEMENT

Bluebonnet Sequestration Hub LLC (Bluebonnet) is proposing to dispose of non-hazardous industrial process and non-process aqueous liquid wastes via subsurface injection into two new wells at the Bluebonnet Sequestration Project in Chambers County. Proposed injection wells will inject into sands of the Miocene-aged Lagarto Formation at an approximate depth between approximately 3,791 and 4,419 feet below ground level based upon the Type Log presented in Section V as Figure V-2. The Injection Interval sands are identified within the basal portion of the Miocene Lagarto Formation.

The proposed injection wells will be accepting wastewater from two nearby, but offsite, brine production wells. These production wells will be owned and operated by Bluebonnet and this application is for disposal of nonhazardous waste stream as a noncommercial facility. Bluebonnet is not applying for, nor will it be receiving offsite waste from any other entity, therefore, this is not a commercial facility.

Additionally, Bluebonnet plans to manage minor and intermittent volumes of wastewater associated with well construction, servicing and closure of wells generated by the Bluebonnet project. These associated wastewaters are located within contiguous leased acreage specifically for the project. Therefore, these wastewaters are characterized as originating onsite. Bluebonnet anticipates that these waters could periodically also be managed through the proposed injection well system, such as during upset conditions.

The following sections describe the waste streams and management practices for the proposed injection wells.

IX.A WASTE GENERATION AND MANAGEMENT ACTIVITIES

Bluebonnet plans to drill and complete two saltwater production wells to support a large scale project. These wells will be owned and operated by Bluebonnet. Formation brine from each well will be conveyed to the injection facility and then processed by on-site wastewater treatment facilities that are operated by Bluebonnet.

Broadly speaking, the primary well feed will include saline wastewater (formation brine) generated by Bluebonnet production wells to support deep subsurface sequestration of CO_2. Other associated wastes such as groundwater and rainfall contaminated by wastes described above, spills of the wastes described above, decontamination waters, and wash waters and solutions used in cleaning and servicing the waste disposal well system equipment that are compatible with permitted wastes, the injection zone, and the well may also be sent to the well system. Further, waste associated with well construction, servicing, and closure could periodically also be managed through the proposed injection well system. All analytical data for the waste streams that will be submitted to TCEQ will be performed by an accredited lab under the NELAP standards.

IX.A.1 Waste Stream Description and Processes

Bluebonnet uses geologic carbon sequestration to permanently trap CO_2 in deep subsurface formations. Production of formation brine is a waste byproduct of pressure maintenance process for geologic carbon sequestration.

Table IX.A provides the sources and volumes of the effluent proposed for injection. Formation brine will be collected into twenty (20) storage tanks, from which the commingled waste will be discharged into one, or both, of the proposed injection wells. The composite stream can be discharged from any tank. Radioactive waste will not be generated or injected at the facility; therefore, Attachment H is not required.

Waste will be generated offsite, by facilities (wells) owned and operated by Bluebonnet. The major waste streams that will comprise the majority of the anticipated average flow to the two proposed injection wells are:

1) Bluebonnet PRDW F1 Formation Brine

2) Bluebonnet PRDW F2 Formation Brine

These sources and their anticipated flow to the proposed injection wells are shown in Figure IX-1. There are also several potential minor contributions from miscellaneous nonhazardous waste streams that are being requested for authorization for injection, on an as-needed basis. All miscellaneous waste described below is from operations owned and operated at Bluebonnet. These miscellaneous streams are:

1) Nonhazardous wastes used in cleaning and servicing of the disposal system such as groundwater, rainfall, wash waters and solutions, hydrotest water, knockout water, and spills; and

2) Nonhazardous wastes generated during project wells construction, servicing, or closure such as flowback, acidizing, drilling mud, kill fluid, packer fluid, test fluid.

A description of the formation brine waste streams is provided in the following paragraphs.

1) **Bluebonnet PRDW F1 Formation Brine (RN TBD)** - This stream originates from a production well. The stream is produced from a deep water well completed in the Frio Formation, using an electric submersible pump. The stream at the production well can range from slightly acidic to slightly basic, with a pH range of 6.0 – 8.0 SU. The stream has a consistent water chemistry with trace impurities, and minimal water treatment is expected prior to injection. The formation brine stream comprises most of the water to be injected with the bulk of the contaminates being the dissolved sodium and chloride ions. Only trace level organics are contained in this stream.

2) **Bluebonnet PRDW F2 Formation Brine (RN TBD)** - This stream originates from a production well. The stream is produced from a deep water well completed in the Frio Formation, using an electric submersible pump. The stream at the production well can range from slightly acidic to slightly basic, with a pH range of 6.0 – 8.0 SU. The stream has a consistent water chemistry with trace impurities, and minimal water treatment is expected prior to injection. The formation brine stream comprises most of the water to be injected with the bulk of the contaminates being the dissolved sodium and chloride ions. Only trace level organics are contained in this stream.

From the production wells, the formation brine is commingled and conveyed through corrosion-resistant pipelines to the injection facility. Planned operations are to convey formation brine directly to the injection wells via pipeline. Storage tanks are present, if needed, to dampen out fluctuations in flow prior to injection, contingency storage during injection well shutdown, and acceptance of the miscellaneous waste streams described above. The storage system consists of twenty (20), 42,000-gallon fixed roof tanks. During normal operations, the tanks are operated in parallel, with level switches and online monitoring of tank levels. In the event of an upset, both the production wells and injection wells will have controls for automatic, remote, and manual shutdown. Prior to injection pumps, Bluebonnet may dose formation brine with scaling/corrosion or clay inhibitor depending on the physical and chemical characteristics of the waste stream.

IX.A.2 Waste Stream Classification

Waste streams listed in Table IX.A will be commingled into one stream presented in Table IX.B. This commingled stream will be injected into the two proposed waste injection wells. The injected waste will be nonhazardous. Table IX.B also provides TCEQ waste classification and the applicable EPA and TCEQ waste codes.

IX.A.3 Waste Stream Characteristics

Parameters such as pH, specific gravity, and flowrate will be measured prior to injection into the wells. The requested parameters for injection for pH are equal or greater than 4.0 and equal or less than 12.0 standard units. Parameters for specific gravity is less than or equal to 1.10 at 68°F and 1 atmosphere. Viscosity of the injectate will be determined in a future analysis but is expected to be equal or less than 1.5 cP. Measured parameters will be continuously monitored to ensure compliance with permit requirements.

Physical Characteristics

The waste stream will be evaluated for particle size and mineral and fluid (solid phase) compositions. These waste stream characteristics will be evaluated with one or a combination of; research, testing with formation fluids/surrogates, and/or testing with formation core samples. The composite waste stream may be filtered, depending on results of pore throat analysis, prior to injection.

Organic and Chemical Characteristics

The waste streams have been evaluated for constituents, concentrations and potential reactions and compatibility using geochemical modeling. Based on the evaluations, the waste stream can be processed through the system without pretreatment. Core will be acquired during the drilling of the injection wells, and additional compatibility testing will be demonstrated using the site-specific data (downhole geology and conditions).

Radiological Properties

Bluebonnet and its captured facilities do not generate radioactive waste, and do not intend to generate these wastes. Naturally occurring radioactive materials (NORM) typically exclude natural radioactivity or background radiation. Background radiation present in the wastewater stream is below levels of concern, and naturally present in the Injection Zone and production (formation brine) zone at similar concentrations. Transport of the formation brine to the injection wells will have a negligible impact on the radiological properties. The commingled stream will remain at background levels.

Radium-226 activity levels measured in the wastewater (261 pCi/L) and Injection Zone (Western Gulf Coast Basin) are similar to background levels measured in other high salinity (> 50,000 mg/L TDS) brines present in sedimentary basins such as the Permian, Appalachian, Mississippi Salt, and Williston basins (Kraemer, 1987; Fisher, 1998; Rowan et. al., 2011). Previous studies have shown that natural radioactivity in sedimentary brines has a direct correlation with fluid salinity and chloride concentration.

Conversion of liquid (pCi/L) to dry (pCi/g) Radium-226 activity levels can be calculated using fluid specific gravity or fluid salinity and suspended solids, where:

$$\text{Radium} - 226\ (pCi/g) = \frac{\text{Radium} - 226\ (pCi/L)}{\text{Fluid TDS}\ (g/l) + \text{TSS}(g/l)}$$

or,

$$\text{Radium} - 226\ (pCi/g) = \text{Radium} - 226\ (pCi/L) \times \left(\frac{1\ L}{\text{Fluid SG} \times 1000(g)}\right)$$

Here, a Radium-226 concentration of 261 pCi/L in a fluid with 127,000 mg/L TDS yields a 2.06 pCi/g of background radioactivity.

Injection fluid samples of the commingled waste streams (Bluebonnet PRDW F1 and Bluebonnet PRDW F2) will be collected on a periodic basis and analyzed for constituents and parameters. Results will be filed onsite and reported annually to the TCEQ.

IX.A.4 New Waste Stream Information

This application for permit considers two new injection wells at Bluebonnet. As this is the initial permit for the injection wells, this section is not applicable.

IX.A.5 Waste Stream pH, Specific Gravity, and Waste Compatibility

The pH for the waste feed to the injection wells will be equal or greater than 4.0 and equal or less than 12.0 standard units.

The requested specific gravity range for the waste stream is less than or equal to 1.10 at 68°F and 1 atmosphere. The specific gravity value is consistent with the calculations provided in Section VII.A.5.1 - Maximum Allowable Surface Injection Pressure Calculation.

IX.A.5.1 Waste Compatibility

The information provided in this section demonstrates that there is no evidence, theoretical or observed, to suggest that the waste or well treatment fluids injected at this site could cause wastes to migrate horizontally or vertically out of the injection zone due to chemical incompatibilities. The integrity of the sand and the shale in the Injection Interval is not threatened by the injected waste, potential inhibitors (scaling, corrosion, biocide, clay), or the concentrated acids used during potential stimulation treatments.

Even if there were to be chemical dissolution of the formation, the worst-case scenarios presented in this section are extremely conservative and demonstrate that no potential exists for the injected wastes to approach the boundary limits of the Injection Zone.

The current monitoring system and physical limitations on injection, as established by the state and federal regulations, are adequate checks to identify and address any problems that might arise. Operating limits, such as maximum injection pressure, monitoring well annular pressure versus injection pressure, and annulus volume, all force the operator to be as protective of his wellbore and the injection zone as is possible. Furthermore, items such as tubing failures and packer failures, caused by the injection of corrosive materials, would require shutdown of the well and a workover to be performed. The current monitoring methods are capable of detecting wellbore integrity and injection problems before they could threaten human health and the environment.

The areas of compatibility are:

- Waste Fluid – Compatibility with Well Materials (see Section VI)
- Waste Stream - Formation Compatibility
- Waste Stream Solids Content
- Compatibility of Well Treatment Acids with the Formation

IX.A.5.2 Waste Stream – Formation Compatibility

The Miocene-aged Injection Interval capable of receiving injected waste is composed of unconsolidated sandstones. These unconsolidated sandstones primarily comprise silica (SiO_2) sand gains. Clays and shales of the aquiclude layers within the Injection Zone or the Confining Zone are primarily alumino-silicates, with quartz and minor amounts of feldspar, carbonates, and miscellaneous oxides. They contain thin interbedded shale layers that are composed of various clay minerals. Clays particles are also randomly disseminated within the sands. The sands are also slightly limy or calcareous due to minor amounts of calcite that is generally present as limestone grains, shell fragments, and calcite cement. This will be confirmed from recovered whole core or rotary core plugs obtained during well construction.

The shale intervals in the Miocene formations, as in other Gulf Coast formations including the Anahuac, which forms one of the many confining layers beneath the injection zone, are composed of quartz, smectite, montmorillonite, and small quantities of other clays, feldspars, pyrite, and

calcite (Gray and Darley, 1980, p. 381). This will be confirmed from recovered whole core or rotary core plugs obtained during well construction.

The porous portions of the Injection Interval, which directly receive fluids, are expected to be composed of approximately 80% to 90% by weight medium to very fine sand grains (with diameters ranging from 0.250 to 0.0625 mm) and approximately 10-20% clay (with particle sizes less than or equal to 0.002 mm). This will be confirmed from recovered whole core or rotary core plugs obtained during well construction.

The clay minerals in these formations are capable of ion exchange reactions with heavy metals and adsorption/desorption reactions with organics (Callahan et al., 1979). Clay particles typically are elongated and tubular or sheet-like in form with large surface areas of exchangeable cations (Potter, et al., 1980). These clay materials are generally unreactive or very slowly reactive with weak acids and bases, and aqueous organics. EPA testing (Section II 28 of CERI 88 33) has shown that the hydraulic conductivity of clay soil and blends is not adversely affected by organics and solvents containing at least 50 percent water. Any reaction that would occur would be expected to reduce permeability of the confining shales, further limiting bulk fluid flow. The permeability of the confining shales at Bluebonnet is at least orders of magnitude less permeable than the Injection Interval sands. In a practical sense, the large permeability difference between these intervals means that the waste has the highest potential to contact and react with the Injection Interval material, not the aquiclude shale material. Due to the low permeability of the aquiclude shales, only reactions near or at the shale/sand interface can occur. The waste is estimated to penetrate no more than a few feet into the overlying shales during the active injection period (Section VII). The overall Injection Zone includes approximately 1,100 ft of geologic section which includes an upper Containment Zone with 472 ft of alternating sands and shales (Figure V-2). The Confining Zone overlying the Containment zone is approximately 980 ft thick with 742 ft of net shale (Figure V-2). Further, the two proposed Injection Intervals contain numerous isolating shales between and below the Injection Intervals. Even if the waste was to completely react with the shale permeated during active injection, that only represents slightly more than a small percent of the confining material available within the Injection Zone.

Studies of clays indicate that chemical reactions may take place between injected waste streams and clay, mainly by cation exchange, clay dissolution, and new mineral formation (zeolites) (Mohnot et al., 1984). Clays (especially illites and smectites) are known to be efficient ion exchange materials. These clays have a structure consisting of alternating layers of tetrahedral SiO_4 and octahedral AlO_6, in which oxygens are shared between the structural units. Generally, clay minerals have undergone isomorphic substitutions for either the Si or Al by ions of lower valence. This results in a negative lattice charge, which can be neutralized by exchangeable cations. Clays are known to preferentially adsorb heavy metal ions (nickel, lead, and chromium) onto their surfaces and release sodium or calcium ions into solutions. Since the waste stream does not contain significant quantities of heavy metals, this process can be discounted at Bluebonnet. Clays can also adsorb organic compounds onto their surfaces, however. The above-referenced EPA study shows that cation exchange with aqueous organics will not affect the integrity of the confining shales.

A typical or representative analysis of the nonhazardous waste stream proposed for injection is presented as Appendix IX-1. An Injection Zone water analysis is presented as Table VII-6 in Section VII.A.3.1. Formation brine samples will be collected from one or both wells during well development activities prior to injection. Simple dilution will be the primary result of the mixing of injected wastewater (formation brine) and *in-situ* formation brine native to the disposal reservoir (i.e., mixing of two fluids with similar chemical compositions).

Compatibility Testing

Compatibility testing of potential waste streams was conducted using equilibrium geochemical modeling. Further fluid-fluid and fluid-rock compatibility laboratory testing can be conducted using whole core and plugs recovered from the proposed injection wells during drilling activities.

Here, representative fluid chemistry analyses for the wastewater (formation brine; Appendix IX-1) and Injection Zone (Table VII-6 in Section VII.A.3.1) were obtained from an offset well (Encanto 01) and used as inputs for the geochemical model. XRD analyses of drill cuttings through the Injection Zone were used as inputs for reservoir mineralogy. Mineralogy and fluid chemistry results generally match anticipated injection depths in the two proposed injection wells.

Geochemical equilibrium modeling was conducted using PHREEQC Simulator Version 3 (Parkhurst and Appelo, 2013), a program developed by the USGS that includes a robust thermodynamic database for aqueous, mineral, and gaseous interactions (Krupka et al. 2010). PHREEQC includes the Peng-Robinson (1978) equation of state to improve the solubility calculation of gas, which can be an important control on fluid pH in deep subsurface brines.

Although some chemical reactions are known to be time-dependent, the equilibrium assumption was selected here because it is the most conservative approach. In this method, minerals can dissolve or precipitate instantaneously and achieve the final stage of interaction with other solid phase and aqueous species. Thus, this process simulates long-term fluid-fluid and fluid-rock interactions regardless of whether the kinetics are favorable.

The objective of this work is to provide initial assessment of potentially significant chemical reactions (solid and aqueous phase). Injection Zone formation water is the native brine that currently exists in the Miocene-aged disposal reservoir. Note that the wastewater and formation water native to the Injection Zone are chemically similar. Wastewater streams are formation brine generated by production wells. The following scenarios are modeled: (1) Injection Zone with 100% native formation water, (2) Injection Zone with 100% wastewater, and (3) Injection zone with 50% native formation water and 50% wastewater. Certain trace metals (e.g., arsenic, mercury) were not considered in modeling because their concentrations were negligible or below detection limits.

Geochemical simulations were performed to equilibrate the Injection Zone with its respective reservoir mineralogy to simulate conditions prior to the injection and establish the baseline condition. Appendix IX-2 contains the results for the three geochemical modeling scenarios; positive and negative saturation index numbers (ΔSI) indicate changes to more supersaturated or undersaturated conditions in relation to a mineral, respectively.

Quartz, smectite, and dolomite were considered stable phases without precipitation tendencies. As expected, all brine samples are in close equilibrium conditions with their respective minerals. Injection Interval Water and injected wastewater are in equilibrium with barite, and undersaturated with respect to halite. The lack of positive mineral saturation index values with the addition of the wastewater to the Injection Interval suggest limited to no formation damage concerns. The

calculated pH from simulations (7.5 to 7.7 SU) is likely larger than the expected pH values due to negligible dissolved CO_2 concentrations used in the simulation. Calcite is predicted to precipitate at reservoir conditions for the Injection Interval Water, but this result is likely due to a lack of available dissolved CO_2 concentrations for the Injection Interval Water. In addition, calcite precipitation will be shifted towards equilibrium with wastewater injection due to lower concentrations of dissolved Ca in wastewater compared to Injection Interval Water.

IX.A.5.3 Waste Solids Content

Physical characteristics of the waste stream could adversely affect the efficiency of the waste disposal unit. To prevent formation permeability loss due to pore-throat clogging by suspended particulate matter, the waste stream may be filtered to remove particles with diameters larger than pore-throat sizes. Initiation and adjustments to the final filter sizing will be based on the determination of pore throat size distribution in the recovered whole and rotary cores (mercury injection capillary pressure (MICP) testing). Prudent operation of the two proposed injection wells is necessary to prevent costly well-remediation activities and potential revenue loss due to facility shutdown.

IX.A.5.4 Compatibility of Well Treatment Fluids with the Formation

The effects of potential remedial stimulations on the Injection Interval material are dependent on the acid used. The large permeability difference between the Injection Interval and the confining aquiclude layers results in the stimulation fluid having the highest potential to contact and react with materials in the Injection Interval, not the aquiclude layers. Pressure-driven vertical permeation through the aquiclude layers is much more important than shale-acid reactions in determining how far vertically fluids will move. Once the stimulation procedure is complete, injection of waste will be reinitiated. Thus, any "live" acid will be swept deeper into the Injection Interval where it will continue to be neutralized.

Hydrochloric acid (HCl) will rapidly react with the carbonates (CaCO3) in the Injection Interval and formation fluids. Data indicates that these reactions quickly reach equilibrium (Fink et al., 1988). The typical chemical reaction is as follows:

$$(4\text{-}s)\ HCl + CaCO_3 * Ca^{+2} + (4\text{-}s)\ Cl^- + s\ HCO_3 +$$

$$(1\text{-}s)\ H_2O + (1\text{-}s)\ CO_2\ \text{aqueous}$$

Where: s ranges from 1 to 0 Silica can be solubilized by acid as follows:

$$SiO_2 + H_2O + H^+ * Si(OH)^{3+}$$

However, the rate of silica dissolution is quite slow, especially in low pH (acidic) environments (Iler, 1979).

Acid HF is extremely reactive with siliceous materials. In combination with HCl, HF is so reactive with siliceous materials that the HF is completely spent within a radial distance of three to four feet of the wellbore (Empack, 1990; Jorda, 1978). The reaction that takes place is as follows:

$$6\ HF + SiO_2 * 2\ H_2O + H_2SiF_6$$

Since the reaction kinetics are so rapid, there is minimal potential for the acid to remain active in the formation for any appreciable length of time. Therefore, overlying containment shale layers will not be impacted.

Formation/HCl Compatibility

HCl will not react with the silica that forms the sand grains in the Injection Interval. It will, however, react with any calcite present in the formation. Because calcite is present only in very minor amounts in the sands, HCl will have a negligible effect on the formation.

Formation/HF Compatibility

In contrast to HCl, hydrofluoric acid (HF) is reactive with siliceous material (Williams et al., 1979; Shaughnessy and Kunze, 1981; Guin and Schechter, 1971; Smith and Hendrickson, 1965; Hall, 1978; Crowe, 1986). The rapid reaction rate of the HF with the siliceous material, which results in the HF reacting completely in the Injection Interval, precludes the possibility of any significant portion of the injected HF from undergoing reaction with the shale interval. The basic reason for this is the difference between the very low permeability of the shale in the containment interval and the relatively high permeability of the Injection Interval sands. The injected fluid will take the

path of least resistance and, therefore, will move preferentially into the more permeable Injection Interval.

Since the reaction is extremely fast, no long-term potential exists for this acid to remain active in the formation and migrate into the shale interval and HF treatments are not expected to penetrate more than a few inches of the shale. Note that Bluebonnet does not currently plan to utilize HF for any operations.

IX.A.6 Waste Analysis Plan Table IX.C

Table IX.C provides a listing of sampling and analytical methods that are used for testing the nonhazardous streams. These tests will characterize the effluent for various chemical constituents and physical properties. The table includes proposed sampling location, sampling method, sample frequency, parameter, and test method for each waste constituent to be analyzed. The UIC Nonhazardous Waste Analysis Plan is included as Appendix IX-3.

IX.A.7 Hazardous Wastes Subject to 40 CFR 148

This section pertains to hazardous waste injection wells, only. The two proposed wells will only receive nonhazardous waste. Therefore, this Section does not apply as none of the wastes are subject to Federal Land Ban Restrictions.

IX.A.8 Hazardous Waste Not Subject to 40 CFR 148

This section pertains to hazardous waste injection wells, only. The two proposed wells will only receive nonhazardous waste. Therefore, this Section does not apply.

IX.A.9 Injection Well Checklist Table IX.D

Table IX.D provides the status, total injected volume, maximum permitted injection rate, number of years utilized, and year placed in service for each proposed nonhazardous Class I Injection well at Bluebonnet.

IX.B WASTE MANAGEMENT (HAZARDOUS WASTE INJECTION WELLS)

This section pertains to hazardous waste injection wells, only. The two proposed wells will only receive nonhazardous waste. Therefore, this Section does not apply.

REFERENCES

Driscoll, F. G., 1986, Groundwater and Wells: 2nd ed., Johnson Division, St. Paul, Minnesota, p. 658-665.

Environmental Protection Agency, 1987, Technical Assistance Document: Corrosion, Its Detection and Control in Plant Wells: EPA 570/9-87-002, Washington, D. C.

Larrabee, C. P., 1946, Effect of Composition and Environment on Corrosion of Iron and Steel: Corrosion of Metals, p. 30-50.

Callahan, M.A., Slimak, M.W., Gabel, N.W., May, I.P., Fowler, C.F., Freed, J.R., Jennings, P., Durfee, R.L., Whitmore, F.C., Maestri, B., Mabey, W.R., Holt, B.R. & Gould, C. (1979) Water-related Environmental Fate of 129 Priority Pollutants. 1. EPA-440/4-79-029a. U.S. Environmental Protection Agency, Washington.

Fink, F. E., Aubert, W. G. and Bernard, W. J., 1988, Underground Injection Practices Council (UIPC) Summer Meeting Proceedings, p. 23-45.

Fisher, R.S., 1998. Geologic and geochemical controls on naturally occurring radioactive materials (NORM) in produced water from oil, gas, and geothermal operations. Environmental Geosciences, 5(3), pp.139-150.

Gray, G.R., Darley, H.C.H., Rogers, W.F., 2011, Composition and Properties of Oil Well Drilling Fluids, 6th Edition: Gulf Publishing Company Book Division, Houston, London, Paris, Toyoko, p.381.

Iler, R. K., 1979, The Colloidal Chemistry of Silica and Silicates: Cornell University Press, Ithaca, New York.

Jorda, R. M., 1978, Pennwalt-Lucidol Plant Waste Plant Well Study – Interim Report: Completion Technology Company, Houston, Texas.

Kraemer, T.F., 1987. Radium content of central Mississippi salt basin brines (No. 87-694). US Geological Survey.

Mohnot, S.M. and Cussler, E.L., Jr., 1984, Chemical Engineering and Materials Science: Volume 39, Issue 3, p. 569-577.

Potter, P.E., Maynard, J.B, and Pryor, W.A., 1980, Sedimentology of Shale – Study Guide and Reference Source: Springer-Verlag, New York, New York.

Rowan, E.L., Engle, M.A., Kirby, C.S., and Kraemer, T.F., 2011, Radium content of oil- and gas-field produced waters in the northern Appalachian Basin (USA)—Summary and discussion of data: U.S. Geological Survey Scientific Investigations Report 2011–5135, 31 p. (Available online at http://pubs.usgs.gov/sir/2011/5135/)

TABLES

Geostock Sandia

TABLE IX-A
WASTE MANGEMENT
SUMMARY

Individual Waste Stream	Source	Volume (gallons/year)[1]
(1) Bluebonnet PRDW F1 Formation Brine	**Offsite** Bluebonnet PRDW F1 (RN TBD) Formation Brine	630,720,000
(1) Bluebonnet PRDW F2 Formation Brine	**Offsite** Bluebonnet PRDW F2 (RN TBD) Formation Brine	630,720,000
(2) Nonhazardous miscellaneous wastes used in cleaning and servicing of disposal system such as groundwater, rainfall, wash waters and solutions, hydrotest waters	**Onsite/Offsite**	< 100,000
(3) Nonhazardous miscellaneous wastes generated during project wells construction, servicing, or closure such as flowback, acidizing, drilling muds, kill fluid, packer fluid	**Onsite/Offsite**	< 100,000

TABLE IX-B
INJECTED WASTE STREAMS

Waste Stream Number	Waste Stream[1]	EPA Waste Codes	EPA Hazard Codes (I, C, R, E, H, T)	TCEQ Waste Classifications (H, 1, 2, 3)	TCEQ Waste Codes
1	Composite Streams 1, 2, 3	--	--	1	101 105 110 113 114 199 514 516

te Stream Numbers Shown in Table IX.A

TABLE IX-C
WASTE STREAM SAMPLING AND ANALYSIS SUMMARY

Waste Number (From Table IX-B)	Sampling Location	Sampling Method	Frequency	Parameter	Test Method[1]
1	Flowline/Pipeline to well	Grab	Initial to characterize, then annually	Dissolved cations and anions	ICP-OES, EPA Method 6010d, ICP-MS Method 200.8, Ion Chromatography, EPA Method 300.1, Titration, ASTM D3875 or equivalent
1	Flowline/Pipeline to well	Online	Once per Day	Specific gravity	ASTM D5057, ASTM D4052 or equivalent
1	Flowline/Pipeline to well	Online	Once per Day	pH	ASTM D1293, EPA 150.23 or equivalent

[1]Methodologies may be substituted as long as in accordance with approved EPA procedures and/or standard methods

TABLE IX-D
INJECTION WELL
SUMMARY

WDW Number	Status[1]	Injected Volume[2]	Maximum Permitted Injection Rate[3]	Number of Years Utilized	Date in Service
WDWXXX Bluebonnet DSW M1 Proposed Well No. 1	Proposed	0	630,720,000	0	Pending
WDWXXX Bluebonnet DSW M2 Proposed Well No. 2	Proposed	0	630,720,000	0	Pending

[1]Indicate only one of the following: Active, Inactive, Closed, or Proposed

[2]Total Volume (gallons) injected into the well (LIFETIME) as of year-end 2024

[3]Gallons per year - Note that the total volume is site cumulative all wells

FIGURES

Geostock Sandia

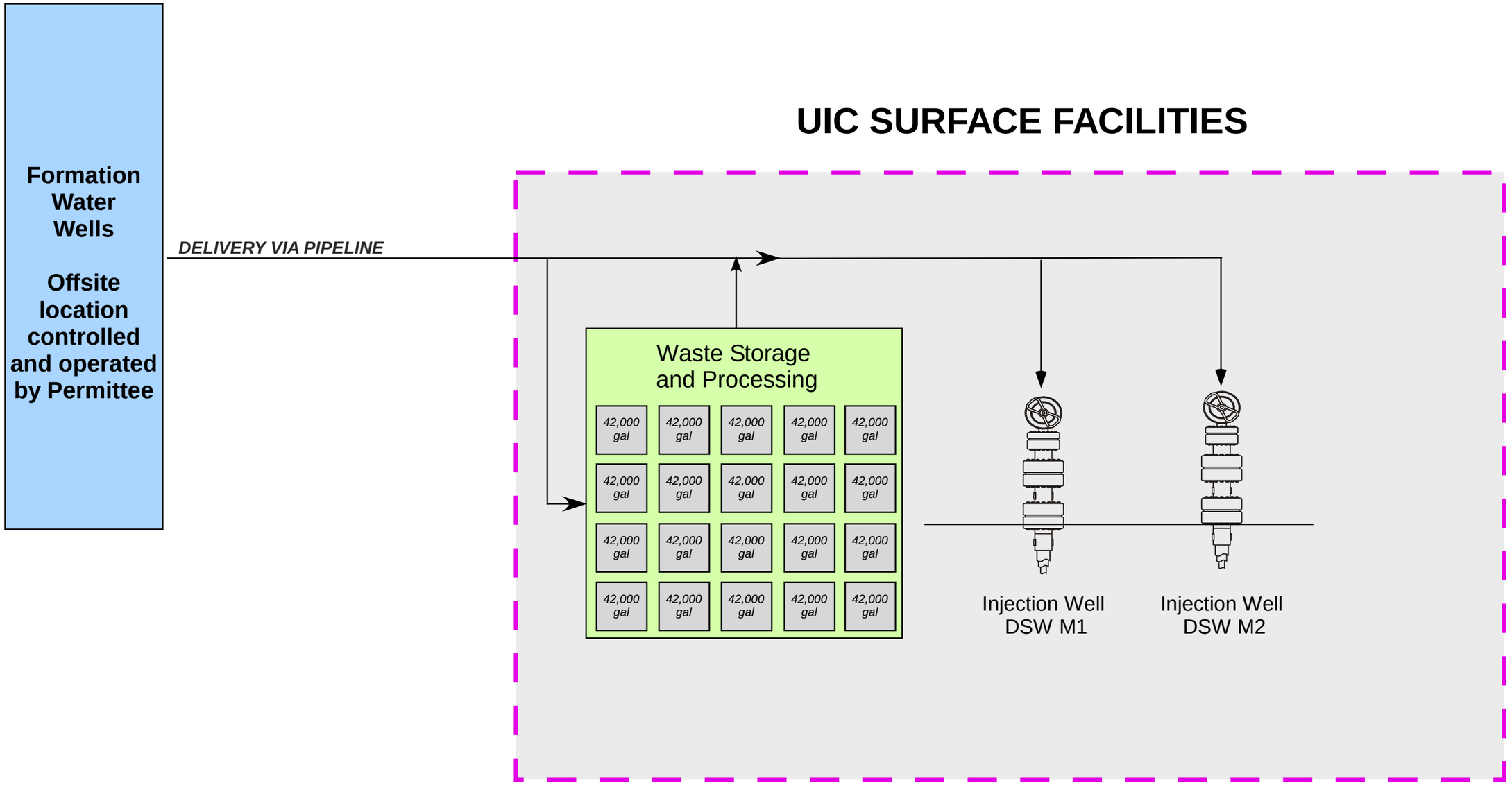

Figure IX-1:Waste Disposal Flow Diagram

APPENDICES

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APPENDIX IX - 1

WASTE STREAMS COMPOSITION

Geostock Sandia

Appendix IX-1

Representative Waste Stream

Parameter	Method	Result	Unit
Aluminum	ICP-OES	ND	mg/L
Barium	ICP-OES	63.2	mg/L
Boron	ICP-OES	34	mg/L
Cadmium	ICP-OES	ND	mg/L
Calcium	ICP-OES	2418.4	mg/L
Copper	ICP-OES	ND	mg/L
Chromium (total)	ICP-OES	ND	mg/L
Iron (total)	ICP-OES	37.3	mg/L
Lead	ICP-OES	ND	mg/L
Lithium	ICP-OES	6.1	mg/L
Magnesium	ICP-OES	544.4	mg/L
Manganese	ICP-OES	2.5	mg/L
Nickel	ICP-OES	ND	mg/L
Phosphorus (total)	ICP-OES	ND	mg/L
Potassium	ICP-OES	220.1	mg/L
Silicon	ICP-OES	7.1	mg/L
Sodium	ICP-OES	39449.1	mg/L
Strontium	ICP-OES	205.4	mg/L
Zinc	ICP-OES	ND	mg/L
Vanadium	ICP-OES	ND	mg/L
Selenium	ICP-OES	ND	mg/L
Arsenic	ICP-OES	ND	mg/L
Molybdenum	ICP-OES	ND	mg/L
Acetate	IC	ND	mg/L
Formate	IC	ND	mg/L
Propionate	IC	ND	mg/L
Butyrate	IC	ND	mg/L
Bicarbonate	IC	33.5	mg/L
Bromide	IC	150.7	mg/L
Chloride	IC	64421.1	mg/L
Fluoride	IC	0.6	mg/L
Glycolate	IC	ND	mg/L
Iodide	IC	12.8	mg/L
Phosphate	IC	ND	mg/L
Sulfate	IC	10.4	mg/L
pH (lab, 25 °C)	ASTM D1293	6.31	SU
Conductivity (lab, 25 °C)	ASTM D4052	149200	µS/cm
Density (lab, 20 °C)	ASTM D4052	1.0793	g/cm^3
TDS	Calculated	107750	mg/L
TDS	Gravimetric (ASTM D5907)	127080	mg/L
Total Alkalinity	Titration (ASTM D3875)	33.8	mg/L
Alkalinity (carbonate)	Titration (ASTM D3875)	0.0	mg/L
Alkalinity (bicarbonate)	Titration (ASTM D3875)	41.2	mg/L
Alkalinity (hydroxide)	Titration (ASTM D3875)	0.0	mg/L
Radium-226	EPA 903.0	261	pCi/L
Radium-228	EPA 904.0	450	pCi/L

APPENDIX IX-2

GEOLOGIC COMPATIBILITY MODELING RESULTS

Geostock Sandia

APPENDIX IX-2
GEOLOGIC COMPATIBILITY
MODELING RESULTS[1]

Modeled Parameter	100% Injection Interval Water (Reservoir Conditions)[2]	100% Wastewater (Reservoir Conditions)	50% Wastewater 50% Injection Interval Water (Reservoir Conditions)
Calcite	1.29	0.54	1.07
Barite	-0.3	0.07	0.06
Halite	-1.44	-1.44	-1.44
Gypsum	-3.06	-2.67	-2.69
Hemihydrate	-3.67	-3.28	-3.3
Anhydrite	-3.07	-2.69	-2.71
Celestite	-2.67	-1.95	-2.18
Iron Sulfide[3]	N/A	N/A	N/A
Zinc Sulfide[3]	N/A	N/A	N/A
pH (SU)	7.7	7.5	7.7
Viscosity (cp)	0.75	0.72	0.73
Density (g/cm3)	1.07	1.06	1.07

[1]Values given are for Mineral Saturation Index (tendency to precipitate or dissolve)

[2]Inputs for reservoir conditions in injection interval are 130 °F and 2,150 psi

[3]H_2S was not detected in water samples, therefore no sulfide scales could precipitate

APPENDIX IX - 3

UIC NONHAZARDOUS WASTE ANALYSIS PLAN

Geostock Sandia

CLASS I

UIC NONHAZARDOUS

WASTE ANALYSIS PLAN

BLUEBONNET SEQUESTRATION HUB LLC

CHAMBERS CO, TEXAS

Contents

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1.0 SCOPE AND OBJECTIVES

The Waste Analysis Plan (WAP) is written to document the procedures the Bluebonnet Sequestration Hub LLC ("BBSH") facility will employ to inspect, and as necessary, analyze each industrial nonhazardous waste stream identified for disposal in Class I Injection Wells. The objective of these procedures is to provide the facility with sufficient information concerning properties of waste proposed for disposal, to ensure each waste can be treated, stored, or disposed in a manner that minimizes threats to human health or the environment, and will be compatible with facility and well materials of construction, treatment operations, and well formation characteristics.

The plan describes the waste evaluation process, including the sampling methodologies and analytical methods that will be used to evaluate proposed waste streams for disposal via an injection well. The plan will describe:

1. The analytical parameters for which each waste will be analyzed, and the rationale for why those parameters are appropriate;

2. The approved or standard analytical methods to be used for each parameter;

3. The methods and equipment that will be used to obtain representative samples of the waste to be analyzed; and

4. The process, including frequency, by which the initial waste evaluation process will be reviewed or repeated to ensure that the waste information is accurate.

All of the information required by state and federal regulations and guidance concerning waste management (e.g., sample collection, analysis, and waste classification) is provided in this section.

2.0 OVERVIEW OF WASTE STREAMS

A description of the major process waste stream is provided in the following paragraphs. All wastes are non-hazardous. Waste stream numbers are keyed to Tables 1 and 2.

1. **Bluebonnet Formation Brine** - This stream originates from formation brine production wells. The stream is produced from deep water wells completed in the Frio Formation,

using an electric submersible pump. The waste stream can range from slightly acidic to slightly basic, with a pH range of 6.0 – 8.0 SU. The waste stream has a consistent water chemistry with trace impurities, and minimal water treatment is expected prior to injection. The formation brine stream comprises most of the water to be injected with the bulk of the contaminates being the dissolved sodium and chloride ions. Only trace level organics are contained in this stream.

There are also several potential minor contributions from miscellaneous nonhazardous waste streams that are being requested for authorization for injection, on an as-needed basis. All miscellaneous waste described below is from operations owned and operated at BBSH. These miscellaneous streams are:

1. Nonhazardous wastes used in cleaning and servicing of disposal system such as groundwater, rainfall, wash waters and solutions, hydrotest water, knockout water, and spills; and
2. Nonhazardous wastes generated during project wells construction, servicing, or closure such as flowback, acidizing, drilling mud, kill fluid, packer fluid, test fluid.

3.0 TCEQ NONHAZARDOUS WASTE CLASSIFICATION

In accordance with the requirements of 30 TAC 335.505 and 335.508, BBSH has evaluated all nonhazardous wastes to determine the appropriate TCEQ classification. Factors evaluated in making this determination include physical and chemical properties, and the form of the waste.

4.0 WASTE SAMPLING

The waste stream will be sampled and analyzed with a frequency sufficient to yield representative data of their characteristics. Waste analysis will be repeated when process or operational changes occur that may significantly alter characteristics of the waste stream.

4.1 Selecting Waste Evaluation Parameters

Selection of parameters for evaluation will depend on the waste type generated. As detailed below, Tables 1 and 2 provide information regarding waste evaluation parameters, as well as the basis for selection of the parameters. The waste type will be evaluated based on its composition as determined from previous analytical data and knowledge of the process generating the waste.

Table 1 contains the following information for each waste:

- Sampling location;
- Sampling method;
- Frequency;
- Parameter;
- Test method; and
- Desired accuracy level.

Table 2 shows the waste stream and associated analytical parameters along with the rationale for selection of the parameter.

4.2 Sampling Collection and Management

Whenever possible, BBSH will use EPA-specified methods and sampling techniques to generate information required for waste classification and compliance demonstrations. Due to the expected uniformity and nonhazardous classification of the waste stream at BBSH, online instruments will be installed for daily analytical measurements. Daily analytical measurements will be supplemented with grab samples for detailed chemical composition for annual waste characterization.

Methods and equipment used to sample wastes are summarized in Table 1. Online analyzers methods may include sensors, transmitters, and maintenance/calibration diagnostic technology appropriate for the waste stream characteristics. Grab sampling methods and equipment may include coliwasa, thief, dipper, bottle, trier, shovel, scoop, and/or tap. Representative samples will be collected using EPA or ASTM protocols and equipment specified in Table 1 or other appropriate sampling methods. Waste in tanks and pipelines is typically sampled from taps at a location that is representative of the material in the tank or pipeline (e.g., discharge of pump, recirculation line, etc.).

Daily sample rates will be conducted using online analyzers. The number of samples for detailed laboratory analysis is based on EPA-specified sampling, preservation. and laboratory methods, as well as the expected physicochemical consistency of the waste stream. Sample homogeneity

will be determined during sample collection by visual inspection of the waste for variations in color, texture, and for the presence of phases of samples.

Equipment used to collect waste samples will be constructed of materials chemically and physically compatible with the waste being sampled. Qualified personnel will select sampling equipment used to collect the waste samples. Dedicated sampling equipment and/or proper decontamination of sampling equipment between sampling points or events will be used to prevent cross contamination of waste samples.

4.3 Sample Preservation/Storage

Collected samples will be placed in containers designed to ensure integrity of the sample. Whenever possible, BBSH will adhere to the recommendations for the use of sample containers, preservation techniques, and holding times for water samples as stated in EPA SW 846, *Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods.*

A program that ensures proper documentation of sample collection, handling, and analysis is used to track the handling of waste samples from the time of field collection until completion of final laboratory analysis. The documentation program will specifically describe the following:

- Use of sample labels that clearly identify samples;
- Use of a field/laboratory log that contains a description of sample collection methods as well as a visual description of waste collected;
- Use of chain-of-custody (COC) records for all samples shipped to an offsite laboratory. These COC records are used to establish sample possession from the time of collection until final analysis. Appendix A contains an example COC form. For samples analyzed in the onsite laboratory, a COC sample card will be utilized;
- For offsite analysis, use of sample analysis request sheets that clearly communicate to the laboratory performing the analysis what specific analysis is required for each sample received by the laboratory; and
- For onsite analysis, appropriate analysis will be determined by sensor capability and compatibility with waste characteristics.

4.3 Sample Quality Assurance/Quality Control (QA/QC)

Both sampling and analytical techniques are subject to quality assurance/quality control (QA/QC) procedures. Sampling QA/QC will include COC records to document possession and handling of waste samples from the time of field collection through laboratory analysis. The program will specify the use of:

- Sample labels that clearly indicate container contents;
- Field/laboratory log to describe visual description of wastes;
- COC record to establish sample possession from the time of collection to analysis. An example COC/analysis form is included as Appendix A;
- Sample analysis request sheets that serve as official communication to the laboratory of the particular analysis required for each sample; and
- Electronic documentation of analytical records from online analyzers.

Outside laboratories selected by BBSH to analyze waste samples will maintain a written QA/QC plan that conforms, as a minimum standard, with QA/QC protocol set forth in the EPA's *Test Methods for Evaluating Solid Waste, Physical Chemical Methods*.

5.0 LABORATORY SELECTION AND ANALYTICAL METHODS

5.1 Selecting a Laboratory

BBSH considers the use of proper analytical procedures essential towards acquiring useful and accurate data. Prior to sampling, the facility ensures that the laboratory that will analyze the waste samples maintains a written QA/QC plan, which conforms, at a minimum, with QA/QC protocol set forth in EPA's *Test Methods of Evaluating Solid Waste, Physical/Chemical Methods,* SW-846.

When selecting an offsite laboratory, BBSH will only consider laboratories that are certified by the National Environmental Laboratory Accreditation Program (NELAC). Preference is given to those NELAC Laboratories that are capable of providing documentation of their proven analytical capabilities, available instrumentation, and standard operating procedures. Furthermore, the selected laboratory is asked to substantiate the data by systematically documenting the steps

taken to obtain and validate the data. The analytical laboratory is asked to demonstrate experience and capabilities in three major areas:

- Comprehensive QA/QC programs;
- Technical analytical expertise; and
- Effective information management systems.

5.2 Selecting Testing/Analytical Methods

To sustain regulatory and permit compliance, this WAP includes testing and analytical methods capable of providing reliable data for its intended data quality objective. The selection of an appropriate method is dependent upon the following considerations:

- Physical state of the sample (liquid or solid);
- Analytes of interest (organics, metals, or both);
- Required detection limits (e.g., 1/5 to 1/2 of the regulatory thresholds); and
- Data objectives (e.g., detection monitoring, compliance verification, and/or waste classification).

BBSH personnel will utilize in-house technical knowledge and previous analytical results of the same or similar wastes to determine what analyses to perform. Table 2 provides analytical methods for analytes of interest for the waste stream. Analytical methods utilized by contract laboratories are EPA methods taken from SW-846, *Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods,* or other EPA-approved test methods. Selection of online measurement sensors will include consideration of various factors such as measurement range, accuracy and precision, compatibility with process conditions, sensor types, calibration features, and maintenance and durability. The onsite laboratory may also utilize test methods developed onsite to provide information to determine if analysis by a contract laboratory is necessary. The onsite laboratory maintains procedures and practices (e.g., laboratory procedures) for conducting onsite analyses, and copies of current procedures are maintained at the laboratory at all times.

Other references used for compliance are:

- American Society for Testing and Materials (ASTM);
- Methods for Chemical Analysis of Water and Wastes (EPA).

6.0 TEXAS WASTE CLASSIFICATION RULES

Waste generated at the BBSH must be classified in accordance with the Texas waste classification rule found in 30 TAC Chapter 335, Subchapter R. The rule allows for self-classification of waste from industrial sources into four separate groupings (hazardous, class 1, class 2, and class 3). For hazardous waste classification, the rule references federal regulations.

TABLE 1 – SAMPLING AND ANALYTICAL METHODS

Waste No.[1]	Sampling Location	Sampling Method	Frequency	Parameter	Test Method[2]	Desired Accuracy Level
1	Flowline/Pipeline to well	Grab	Initial to characterize, then annually	Dissolved cations and anions	ICP-OES, EPA Method 6010d, ICP-MS Method 200.8, Ion Chromatography, EPA Method 300.1, Titration, ASTM D3875 or equivalent	+/-10%
1	Flowline/Pipeline to well	Online	Once per Day	Specific gravity	ASTM D5057, ASTM D4052 or equivalent	+/- 10%
1	Flowline/Pipeline to well	Online	Once per Day	pH	ASTM D1293, EPA 150.23 or equivalent	+/- 10%

[1] Waste stream numbers keyed to Section 2.0

[2] Methods reflected are primary EPA/ASTM methods used for analysis. Other EPA/ASTM preparation and analytical methods (e.g., SW-846 methods) not listed on the table may be used, as appropriate. In addition, screening and/or site methods may be used for classification purposes (e.g., reactivity determination) provided that supporting quality assurance and quality control procedures are followed. In accordance with SW-846 and 40 CFR 136, minor modifications to analytical methods are allowed provided that the Quality Control Performance Criteria are achieved.

TABLE 2 – BASIS FOR EVALUATION PARAMETERS

Waste Number	Waste	Parameters	Rationale for Analysis
(1)	Bluebonnet Formation Brine	Specific gravity, pH Dissolved cations/anions (annual)	Nonhazardous waste stream with consistent chemical composition, primarily composed of dissolved sodium and chloride

SECTION X

RCRA

Geostock Sandia

X. RCRA PERMIT BY RULE REQUIREMENTS

This application is for non-hazardous waste injection. Therefore, this section does not apply.

SECTION XI

RADIOACTIVE MATERIALS

Geostock Sandia

XI. DISPOSAL OF WASTE CONTAINING RADIOACTIVE MATERIAL

Bluebonnet Sequestration Hub, LLC will not dispose of waste containing radioactive materials.

Therefore, this section does not apply.

SECTION XII

PRE-INJECTION UNITS

Geostock Sandia

XII. PRE-INJECTION UNITS

Pre-injection units are the on-site above-ground appurtenances, structures, equipment, and other fixtures including the injection pumps, filters, tanks, surface impoundments, and piping for wastewater transmission between any such facilities and the well that are or will be used for storage or processing of waste to be injected, or in conjunction with an injection operation.

Pre-injections tanks used for storage and processing of the non-hazardous will be permitted through the Industrial Solid Waste department at TCEQ. This permit application is being prepared and submitted in tandem with this Class I UIC Application.

Table XII has been completed for the proposed storage units and system that will be used at the Bluebonnet Sequestration Hub site in Chambers County.

TABLE XII

PRE-INJECTION UNIT SUMMARY

Pre-Injection Unit Name	Unit Number or Identifier	Permit Authority
Pre Injection Tanks	20 Tanks (42,000 gal)	Industrial Solid Waste Permit No. TBD
Filtration Pump	TBD	Industrial Solid Waste Permit No. TBD
Tank Filters	TBD	Industrial Solid Waste Permit No. TBD
Chemical Injection Pump	TBD	Industrial Solid Waste Permit No. TBD

SECTION XIII

CONFIDENTIAL MATERIAL

Geostock Sandia

XIII. Confidential Material

Any information requested in the previous Sections I through XII of this application which is deemed confidential shall be provided in this Section as a separate collective document and clearly labeled "**Confidential.**"

SECTION XIV

ATTACHMENTS

Geostock Sandia

XIV. Index of Attachments

List and index below all attachments to this application and indicate if included, not included or not applicable

Attachments to this Application

Description of Attachment	Section	Attachment	Included	Not Included	Not Applicable
Core Data Form	I.L	A	X		
Public Interest Demonstration	I.M	B	X		
Site Legal Description	I.P.5.	C	X		
Facility Boundary and Topographic Map	I.P.6.	D	X		
Plain-Language Summary	I.Q.	E	X		
Public Involvement Plan	I.R	F	X		
Affected Land and Mineral Owners	II.	G	X		
Letter from Railroad Commission	III.	H	X		
Financial Assurance, Liability, and Financial Capability	IV.	I	X		
Radioactive Waste Statement	XI.	J			X

ATTACHMENT A

TCEQ CORE DATA FORM

Geostock Sandia

TCEQ Use Only

TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.)*

☐ Renewal *(Core Data Form should be submitted with the renewal form)*

☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 606372670		RN 112189964

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	1/31/2025

☒ New Customer ☐ Update to Customer Information ☐ Change in Regulated Entity Ownership

☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
Bluebonnet Sequestration Hub LLC	

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
0804819116	32087318385	92-0785631	

11. Type of Customer:

☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☒ Other: Limited Liability Corporation

12. Number of Employees

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?

☐ **Yes** ☒ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator ☐ Other:

☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant

15. Mailing Address:	5 Greenway Plaza Suite 110						
	City	Houston	**State**	TX	**ZIP**	77046	**ZIP + 4**	0521

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(713) 215-7000		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name *(Enter name of the site where the regulated action is taking place.)*

Bluebonnet Sequestration Hub

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	I 10 Frontage Rd							
	City	Winnie	**State**	TX	**ZIP**	77046	**ZIP + 4**	521
24. County	Chambers							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	Injection well pad location. From Winnie, TX (int. of TX-124 N & Gulfway Dr.) to well drive North on TX-124 N /Gulfway Dr. toward Broadway Ave. for 89 ft. Turn left onto Farm to Market 1406/Broadway Ave., and drive for 1.1 mi. Turn Right at Curve, and continue for 0.3 mi. Turn Left onto I-10 Frontage Rd., and drive for 3.6 mi. Turn Left onto Lease Road, and drive for 0.2 mi. Turn Left at Ogden Ditch, and drive for 0.7 mi. Latitude: 29.822455 ; Longitude: -94.449610.

26. Nearest City	State	Nearest ZIP Code
Winnie	TX	77665

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:	29.822455		28. Longitude (W) In Decimal:	-94.449610	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	49	20.838	-94	26	58.596

29. Primary SIC Code (4 digits)	30. Secondary SIC Code (4 digits)	31. Primary NAICS Code (5 or 6 digits)	32. Secondary NAICS Code (5 or 6 digits)
		562219	

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Carbon Sequestration

34. Mailing Address:	**5 Greenway Plaza Suite 110**							
	City	Houston	**State**	TX	**ZIP**	77046	**ZIP + 4**	0521
35. E-Mail Address:								

36. Telephone Number	37. Extension or Code	38. Fax Number *(if applicable)*

(713) 215-7000		( ) -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Angie Contreras	**41. Title:**	Eng Consultant

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(713) 497-2012		( ) -	angie_contreras@oxy.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	Bluebonnet Sequestration Hub, LLC	**Job Title:**	Vice President
Name *(In Print):*	Douglas Conquest	**Phone:**	(713) 215- **7304**
Signature:		**Date:**	7/22/25

ATTACHMENT B

PUBLIC INTEREST DEMONSTRATION

Geostock Sandia

ATTACHMENT B
Public Interest Demonstration

Section 27.051 of the Texas Water Code (TWC) stipulates certain conditions that must exist for the Commission to grant an application and issue a permit. For all new applications, permit renewals, and permit amendments, submit as **"Attachment B"** information addressing the following considerations:

1. That the use or installation of the injection well is in the public interest. [TWC§27.051(a)(1)]

   Bluebonnet Sequestration Hub LLC is submitting an application to install and use two Class I UIC wells for injection of non-hazardous brine (also referred to as "brine") to support the Bluebonnet CO_2 UIC Class VI Sequestration Project (Bluebonnet Project).

   The advancement of carbon capture and sequestration (CCS) technology is critically important in addressing CO_2 emissions, support the effort to capture CO_2 from industrial sources and global climate change concerns. The Bluebonnet Sequestration Hub (Bluebonnet Hub) is designed to demonstrate utility-scale integration of transport and permanent storage of captured CO_2 into a deep geologic formation.

   The Bluebonnet Hub will display that the geologic sequestration process can be deployed safely, ensuring retainment of the injected CO_2 within the intended storage reservoir and protection of the underground sources of drinking water (USDW). By using safe and proven pipeline technology, the CO_2 will be transported to a storage site located in Chambers County, Texas, where it will be injected into six newly built dedicated CO_2 injector wells. The Bluebonnet Hub is strategically located near a concentration of industrial power-generating plants, refineries, and chemical production, natural-gas processing, and natural-gas liquefaction facilities along the Gulf Coast, from the Beaumont/Port Arthur area to the east and to the Houston area in the west.

   The Bluebonnet Project includes the installation of two wells, that will extract brine form the CO_2 storage reservoir, as part of the pressure maintenance program proposed for the site. The water production wells will extract 8,000 to 20,000 barrels of brine per day from the Frio Formation. The Frio formation brine has a high total dissolved solids (TDS) composition of up to 110,000 mg/L which is not suitable for commercial or agricultural uses. There is no current commercially available desalination technology to accommodate the TDS concentration or volume of brine that will be produced from the project.

   Issuing permits for the proposed UIC Wells is in the public interest because it supports Bluebonnet Project by authorizing the safe injection of the non-hazardous brine into UIC Class I Wells.

2. That no existing rights, including, but not limited to, mineral rights, will be impaired. [TWC §27.051(a)(2)]

   No existing rights will be impaired using the proposed 1PointFive Bluebonnet Class I UIC Injection Wells. The waste plumes generated will be contained in the defined injection intervals. No mineral rights will be impaired because injection will be confined to the permit-authorized Upper Miocene sands, which are barren of producing oil and gas reservoirs in the 2.5-mile Area of Review. This conclusion is based on a detailed assessment of historical and current Oil and Gas operations of the area. The geographic location of the injection wells was selected away from the production and storage salt domes in the regional area. The Upper Miocene sands (injection interval) are saline and are not developed for commercial or private use.

3. That, with proper safeguards, both ground and surface fresh water can be adequately protected from pollution. [TWC §27.051(a)(3)]

   Surface and groundwater will be protected from pollution by continuous monitoring of operations and secondary containment systems. Class I Injection Wells offer superior protection with a known and proven technology employed since the 1950's in the petrochemical industry. The long-term demonstration of proper well construction, operation, testing, and maintenance indicates the injection operations pose a low-risk to groundwater pollution. This is attributed to the high standards and regulations specific to Class I Injection Wells.

   Proper safeguards will be implemented for the proposed injection wells at the Bluebonnet project site. These will include: 1) selection of favorable injection interval geology (Upper Miocene Formation), 2) stringent well installation/construction standards, 3) regulatory oversight and reporting, 4) TCEQ specified mechanical integrity testing of well completion, and 5) operational permit limits on injection pressure, injection volume, fluid density, and pH.

   The two proposed injection wells will contain multiple groundwater protection safeguards (casing and cement to surface) for well construction including sealing of geologic formations, drilling mud, cement, casing strings, annulus fluid monitoring, and injection tubing. In combination, these elements will offer exceptional confinement and isolation of the injected waste from the lowermost underground source of drinking water (USDW) which is defined as < 10,000 mg/l total dissolved solids. Each injection well will contain multiple casing strings and continuous cement sheaths, as well as a pressurized annulus system, all of which will provide isolation and confinement offering protection of the shallow ground water zones.

   As part of siting criteria and regulations, the geology of the area includes a set of buffer saline aquifers present between the Confining Zone and groundwater zones. These buffer saline aquifers are present in the Upper Miocene and Lower Pliocene formations at the Bluebonnet project site and will provide additive protection should the effluent ever migrate vertically out of the Injection Zone. Additionally, there are alternating thick shales within the upper portion of the Injection Zone (Containment Interval) which overlies the proposed Injection Interval sands. This ensures that the injected waste will be encased in a larger vertical section, the Injection Zone, where the aggregate sands and shales provide additional bleed-off and confinement layers.

4. That the applicant has made a satisfactory showing of financial responsibility if required by Section 27.073 of this code. [TWC §27.051(a)(4)]

   Bluebonnet Sequestration Hub LLC has provided financial assurance documents for all permits and operations regulated by TCEQ for the Bluebonnet project Injection Wells. **See Attachment "I"** for financial assurance documentation.

5. That the compliance history of the applicant and related entities is acceptable. [TWC §27.051(d)(1), 30 TAC § 331.121(b)(1)]

   Bluebonnet Sequestration Hub LLC understands that TCEQ will retrieve the facility compliance history from the agency's database.

6. That there is no practical, economic, and feasible alternative to an injection well reasonably available. Provide justification for subsurface disposal. Include results of treatability studies of alternate, practical, economic and feasible methods of waste disposal. Explain in detail why each method is considered to be less satisfactory in terms of environmental protection than the proposed subsurface disposal method.

Indicate whether this waste is presently being produced and, if so, what method is used for disposal. Describe the manufacturing process(es) and product(s) which produce the waste(s). [TWC §27.051(d)(2), 30 TAC § 331.121(b)(2)]

There is no practical, economic, and feasible waste disposal alternative to underground injection technology reasonably available today for the formation waters associated with a large-scale carbon sequestration hub. Bluebonnet believes that underground injection is the most effective disposal technique currently available to manage the large volumes of brine when safety, environmental protection, and system reliability are considered.

Bluebonnet has investigated potential alternatives to underground injection via engineering research and technology advancements. None of the identified alternatives present practical, economic, and feasible options for management of the large volume of aqueous waste proposed for management by the disposal wells. The use of injection wells will also provide a competitive business and environmental advantage to Bluebonnet managing these large volumes of aqueous wastes in a safe, protective program, authorized by the TCEQ.

Justification for Injection Well Disposal

The role of chemical interaction of the underground formations with the proposed injected waste stream is critical in assessing the degradation and neutralization of wastes in the subsurface due to temperature, pressure, salinity, buffering of pH and long-term kinetic reactions of waste constituents. The formation water (waste stream) is chemically similar to the formation water in the reservoir intended for disposal.

The advantages of the use of deep wells for waste disposal are that there are no releases to surface water, no air emissions, and no CO_2 or carbon releases, and that groundwater and human health are protected. At the site, the depth of the shallowest injection sand interval is located at approximately 3,750 feet to 4,425 feet below ground level. In addition, the buffer saline sand aquifers, of which there is no economic value, are at a depth range of approximately 1,500 feet to 2,350 feet below ground level. This interval range is comprised of multiple barriers to protect the shallow groundwater resources.

Alternative Technologies Investigated

Surface Treatment (Desalination)

Full surface treatment of the aqueous waste is cost-prohibitive due to the degree of treatment required. Such a decision would make the facility a high-cost one, uneconomic, and more importantly, would likely impact the ability of extracting water as pressure control technique during the CO_2 sequestration process. Additionally, it creates a solid by-product that cannot be easily disposed.

Surface Bio-Ponds

Various wastewater streams have been successfully treated via biological activity in surface ponds in the area. However, these waste streams contain a high level of Chlorides which cannot be treated via Surface Bio-Ponds, due to their treatment limitations.

On-Site Underground Injection

From the perspective that the primary objective of handling waste is the protection of human health and the environment, on-site underground injection is the most feasible option available to the Bluebonnet project at this time. It is protective of human health in that the general population does not come in

contact with the waste stream because it is handled solely within property managed by Bluebonnet Sequestration and is emplaced deep into the subsurface. Its point of emplacement is well below the deepest potentially usable underground source of drinking water, which is shallower than 1,500 feet below ground level.

From an economic perspective, on-site underground injection is quite feasible. It eliminates concerns associated with the transportation of large quantities of formation water to commercial disposal facilities.

7. (for hazardous waste injection wells only) That the applicant has provided for the proper operation of the proposed hazardous waste injection well. [TWC §27.051(a)(5)]

   N/A

8. (for hazardous waste injection wells only) That the applicant for a hazardous waste injection well not located in an area of industrial land use has made a reasonable effort to ensure that the burden, if any, imposed by the proposed hazardous waste injection well on local law enforcement, emergency medical or fire-fighting personnel, or public roadways, will be reasonably minimized or mitigated. [TWC §27.051(a)(6)]

   N/A

9. (for hazardous waste injection wells only) That the applicant owns or has made a good faith claim to own, or has the consent of the owner to utilize, or has an option to acquire, or has the authority to acquire through eminent domain, the property or portions of the property where the hazardous waste injection well will be constructed. [TWC §27.051(a)(7)]

   N/A

10. (for hazardous waste injection wells only) That the applicant will maintain sufficient public liability insurance for bodily injury and property damage to third parties that is caused by sudden and non-sudden accidents or will otherwise demonstrate financial responsibility in a manner adopted by the Commission in lieu of public liability insurance. [TWC §27.051(d)(3), 30 TAC § 331.121(b)(3)]

    N/A

11. (for hazardous waste injection wells only) For on-site generated waste, provide certification by the owner/operator that (1) the generator of the hazardous waste has a program to reduce the volume or quantity and toxicity of the waste to the degree determined by the generator to be economically practicable, and (2) injection of the waste is that practicable method of disposal currently available to the generator which minimizes the present and future threat to human health and the environment. [30 TAC §331.121(b)(4)]

    N/A

ATTACHMENT C

SITE LEGAL DESCRIPTION

Geostock Sandia

WARRANTY DEED WITH VENDOR'S LIEN

THE STATE OF TEXAS X
X KNOW ALL MEN BY THESE PRESENTS:
COUNTY OF CHAMBERS X

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

THAT THE UNDERSIGNED, **THE GUY AND CAROLYN MATTHEWS FAMILY LIMITED PARTNERSHIP I, a Texas limited partnership,** hereinafter called "Grantor," whether one or more, for and in consideration of the sum of TEN DOLLARS ($10.00) and other valuable consideration to the undersigned in hand paid by the Grantee herein named, the receipt of which is hereby acknowledged, and the further consideration of the execution and delivery by the Grantee of that one certain promissory note of even date herewith in the principal amount of ONE MILLION FIVE HUNDRED FIFTEEN THOUSAND AND 00/100 ($1,515,000.00) DOLLARS, payable to the order of **BOM BANK** therein specified, providing for the acceleration of maturity and for attorney's fees, the payment of which note is secured by the Vendor's Lien retained and is additionally secured by a Deed of Trust of even date herewith to **STEPHEN VAN SICKLE, Trustee,** has GRANTED, SOLD AND CONVEYED, and by these presents, subject to the reservations and exceptions hereinafter contained, does GRANT, SELL AND CONVEY unto, **GIP II, LLC,** hereinafter referred to as the "Grantee," whether one or more, the real property described as follows, to-wit:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF FOR ALL INTENTS AND PURPOSES

This conveyance, however, is made and accepted subject to any and all restrictions, encumbrances, easements, covenants and conditions, if any, relating to the hereinabove described property as the same are filed for record in the County Clerk's Office of CHAMBERS County, Texas.

TO HAVE AND TO HOLD the above described premises, together with all and singular the rights and appurtenances thereto in anywise belonging unto the said Grantee, Grantee's heirs, executors, administrators, successors and/or assigns forever; and Grantor does hereby bind Grantor's heirs, executors, administrators, successors and/or assigns to WARRANT AND FOREVER DEFEND all and singular the said premises unto the said Grantee, Grantee's heirs, executors, administrators, successors and/or assigns, against every person whomsoever claiming or to claim the same or any part thereof.

But it is expressly agreed that the Vendor's Lien as well as Superior Title in and to the above described premises, is retained against the above described property, premises and improvements until the above described note and all interest thereon are fully paid according to the face, tenor, effect and reading thereof, when this Deed shall become absolute. Said Vendor's Lien, together with the Superior Title to said property, is retained herein for the benefit of **BOM BANK ("Lender")** and the same are hereby TRANSFERRED AND ASSIGNED without recourse to said Lender, its successors and assigns, said Lender at the instance and request of the Grantee herein, having advanced and paid in cash to the Grantor herein that portion of the purchase price of the herein described property as is evidenced by the hereinabove described Note.

Taxes for the year 2022 have been prorated as of the date of this Deed; payment thereof shall be assumed by Grantee.

EXECUTED on April 26, 2022.

THE GUY AND CAROLYN MATTHEWS FAMILY LIMITED PARTNERSHIP I, a Texas limited partnership

By and through its General Partner:

GCAH MATTHEWS HOLDINGS, LLC, a Texas limited liability company

GUY E. MATTHEWS, Manager/Member

CAROLYN MATTHEWS, Manager/Member

THE STATE OF TEXAS X

COUNTY OF CHAMBERS X

BEFORE ME, the undersigned authority, a Notary Public, on this day personally appeared, GUY E. MATTHEWS and CAROLYN MATTHEWS, Managers/Members of GCAH MATTHEWS HOLDINGS, LLC, a Texas limited liability company, General Partner to THE GUY AND CAROLYN MATTHEWS FAMILY LIMITED PARTNERSHIP I, a Texas limited partnership, known to me/proved to me through Driver's License, to be the persons whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on APRIL 26, 2022.

Notary Public, State of TEXAS

GF #RSG2202545 33/sd

Grantee's Mailing Address:

3423 Fork Shoals Rd
Simpsonville, S.C. 29680

LESLI MALONE
Notary Public, State of Texas
Comm. Expires 08-20-2025
Notary ID 123960250

Escrow File No.: RSG2102030

EXHIBIT "A"

Tract One:

A TRACT OR PARCEL CONTAINING 229.8824 ACRES (10,013,675 SQUARE FEET) OF LAND SITUATED IN THE T. & N. O. R.R. SURVEY NO. 45, ABSTRACT NO. 272, T. & N. O. R.R. SURVEY NO. 59, ABSTRACT NO. 279, F. P. STERLING SURVEY NO. 46, ABSTRACT NO. 479 (ABANDONED T. & N. O. R.R. SURVEY NO. 46, ABSTRACT NO. 602), AND CORA E. BEHRENDS SURVEY, ABSTRACT NO. 602 (ABANDONED T. & N. O. R.R. SURVEY NO. 46, ABSTRACT NO. 602), BEING THE COMBINATION OF A CALLED 15.308 ACRE TRACT CALLED TRACT ONE, A CALLED 11.069 ACRE TRACT CALLED TRACT TWO, AND A CALLED 42.463 ACRE TRACT CALLED TRACT THREE , DESCRIBED IN VOLUME 909, PAGE 415 OF THE OFFICIAL PUBLIC RECORDS OF CHAMBERS COUNTY, AND THE REMAINDER OF A CALLED 204.8 ACRE TRACT DESCRIBED IN VOLUME 190, PAGE 487 OF THE OFFICIAL PUBLIC RECORDS OF CHAMBERS COUNTY, CONVEYED FROM GUY E. MATTHEWS AND CAROLYN MATTHEWS TO GUY AND CAROLYN MATTHEWS FAMILY LIMITED PARTNERSHIP I, RECORDED IN VOLUME 1163, PAGE 226, OF THE OFFICIAL PUBLIC RECORDS OF CHAMBERS COUNTY, SAID 229.8824 ACRES BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS. THE BEARINGS SHOWN HEREON ARE BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD 83:

BEGINNING AT A 5/8 INCH CAPPED IRON ROD SET IN THE SOUTH RIGHT OF WAY LINE OF INTERSTATE HIGHWAY 10 FRONTAGE ROAD, (RIGHT OF WAY WIDTH VARIES) IN THE CENTERLINE OF A 10 FOOT DRAINAGE DITCH EASEMENT RECORDED IN VOLUME 145, PAGE 64 OF THE DEED RECORDS OF CHAMBERS COUNTY, FOR A NORTHEASTERLY CORNER OF THE REMAINDER OF THE DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I RECORDED IN VOLUME 977, PAGE 125 OF THE OFFICIAL PUBLIC RECORDS OF CHAMBERS COUNTY, THE NORTHWEST CORNER OF SAID CALLED 11.069 ACRE TRACT CALLED TRACT TWO AND THE HEREIN DESCRIBED TRACT;

THENCE SOUTH 87 DEGREES 17 MINUTES 43 SECONDS EAST, ALONG THE SOUTH RIGHT OF WAY LINE OF SAID INTERSTATE HIGHWAY 10 FRONTAGE ROAD, PASS AT 300.00 FEET THE COMMON NORTH CORNER OF SAID CALLED 11.069 ACRE TRACT CALLED TRACT TWO AND SAID CALLED 42.463 ACRE TRACT CALLED TRACT THREE, PASS AT 1626.01 FEET THE COMMON NORTH CORNER OF SAID CALLED 42.463 ACRE TRACT CALLED TRACT THREE AND SAID CALLED 204.8 ACRE TRACT, THE COMMON BOUNDARY LINE OF SAID T. & N. O. R.R. SURVEY NO. 45, ABSTRACT NO. 272 AND SAID F. P. STERLING SURVEY NO. 46, ABSTRACT NO. 479, IN ALL A TOTAL DISTANCE OF 2165.02 FEET TO A 5/8 INCH CAPPED IRON ROD SET FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT;

THENCE SOUTH 65 DEGREES 29 MINUTES 38 SECONDS EAST, CONTINUING ALONG THE SOUTH RIGHT OF WAY LINE OF SAID INTERSTATE HIGHWAY 10 FRONTAGE ROAD, A DISTANCE OF 107.70 FEET TO A 5/8 IN CAPPED IRON ROD SET FOR AN ANGLE POINT OF THE HEREIN DESCRIBED TRACT;

THENCE SOUTH 87 DEGREES 17 MINUTES 43 SECONDS EAST, CONTINUING ALONG THE SOUTH RIGHT OF WAY LINE OF SAID INTERSTATE HIGHWAY 10 FRONTAGE ROAD, PASS AT 425.00 FEET A 5/8 INCH CAPPD IRON RDO SET FOR REFERENCE, IN ALL A DISTANCE 493.66 FEET TO THE CENTERLINE OF RUSH DITCH FOR THE NORTHWEST CORNER OF THE A. & W. REALTY L. P. CALLED 165.487 ACRE TRACT RECORDED IN VOLUME 1693, PAGE 186 OF THE OFFICIAL PUBLIC RECORDS OF CHAMBERS COUNTY, AND BEING THE NORTHEAST CORNER OF SAID CALLED 204.8 ACRE TRACT AND THE HEREIN DESCRIBED TRACT;

THENCE IN A SOUTHEASTERLY DIRECTION WITH THE MEANDERS OF SAID RUSH DITCH , THE FOLLOWING COURSES AND DISTANCES:

SOUTH 43 DEGREES 02 MINUTES 39 SECONDS EAST, A DISTANCE OF 348.71 FEET;

SOUTH 23 DEGREES 48 MINUTES 39 SECONDS EAST, A DISTANCE OF 474.30 FEET;

SOUTH 09 DEGREES 43 MINUTES 39 SECONDS EAST, A DISTANCE OF 440.40 FEET;

SOUTH 17 DEGREES 51 MINUTES 39 SECONDS EAST, A DISTANCE OF 51.00 FEET TO THE COMMON BOUNDARY LINE OF SAID F. P. STERLING SURVEY NO. 46, ABSTRACT NO. AND SAID CORA E. BEHRENDS SURVEY, ABSTRACT NO. 602;

THENCE CONTINUING WITH THE MEANDERS OF SAID RUSH DITCH , THE FOLLOWING COURSES AND DISTANCES:

SOUTH 17 DEGREES 51 MINUTES 39 SECONDS EAST, A DISTANCE OF 314.40 FEET;

SOUTH 24 DEGREES 01 MINUTES 39 SECONDS EAST, A DISTANCE OF 328.10 FEET;

SOUTH 48 DEGREES 27 MINUTES 39 SECONDS EAST, A DISTANCE OF 459.70 FEET;

SOUTH 52 DEGREES 27 MINUTES 39 SECONDS EAST, A DISTANCE OF 437.30 FEET;

SOUTH 45 DEGREES 27 MINUTES 39 SECONDS EAST, A DISTANCE OF 252.00 FEET;

SOUTH 11 DEGREES 26 MINUTES 39 SECONDS EAST, A DISTANCE OF 156.50 FEET;

SOUTH 00 DEGREES 12 MINUTES 21 SECONDS WEST, A DISTANCE OF

586.00 FEET;

THENCE SOUTH 00 DEGREES 02 MINUTES 39 SECONDS EAST, CONTINUING WITH THE MEANDERS OF SAID RUSH DITCH , A DISTANCE OF 510.85 FEET TO THE COMMON BOUNDARY LINE OF SAID CORA E. BEHRENDS SURVEY, ABSTRACT NO. 602 AND SAID T & N. O. R.R. SURVEY NO. 59, ABSTRACT NO. 279, THE COMMON BOUNDARY CORNER OF SAID A. & W. REALTY L. P. CALLED 165.487 ACRE TRACT, SAID CALLED 204.8 ACRE TRACT, THE B. B. B. FARMS LLC CALLED 16.0 ACRE TRACT RECORDED IN VOLUME 150, PAGE 113 OF THE OFFICIAL PUBLIC RECORDS OF CHAMBERS COUNTY, AND THE REMAINDER OF THE DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT THREE RECORDED IN VOLUME 977, PAGE 125 OF THE OFFICIAL PUBLIC RECORDS OF CHAMBERS COUNTY, AND BEING THE SOUTHEAST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE SOUTH 87 DEGREES 22 MINUTES 43 SECONDS WEST, ALONG THE NORTH LINE OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT THREE AND THE COMMON BOUNDARY LINE OF SAID T & N. O. R.R. SURVEY NO. 59, ABSTRACT NO. 279, AND SAID CORA E. BEHRENDS SURVEY, ABSTRACT NO. 602, PASS AT 83.00 FEET A 5/8 INCH CAPPED IRON ROD SET FOR REFERENCE, PASS AT 1474.25 FEET A 5/8 INCH CAPPED IRON ROD SET FOR REFERENCE, IN ALL A DISTANCE OF 1524.25 FEET TO THE CENTERLINE OF SWEET BAY BAYOU FOR THE SOUTHEAST CORNER OF THE DOORNBOS BROTHERS L. P. CALLED 18.789 CALLED TRACT 7 RECORDED IN VOLUME 977, PAGE 125 OF THE OFFICIAL PUBLIC RECORDS OF CHAMBERS COUNTY, AND BEING THE SOUTHERLY SOUTHWEST CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE IN A NORTHWESTERLY DIRECTION ALONG THE MEANDERS OF THE CENTERLINE OF SAID SWEET BAY BAYOU THE FOLLOWING COURSE AND DISTANCES:

NORTH 24 DEGREES 16 MINUTES 54 SECONDS WEST, A DISTANCE OF 460.05 FEET;

NORTH 24 DEGREES 25 MINUTES 17 SECONDS WEST, A DISTANCE OF 235.85 FEET;

NORTH 45 DEGREES 27 MINUTES 38 SECONDS WEST, A DISTANCE OF 65.80 FEET;

NORTH 57 DEGREES 43 MINUTES 00 SECONDS WEST, A DISTANCE OF 306.83 FEET;

NORTH 67 DEGREES 00 MINUTES 49 SECONDS WEST, A DISTANCE OF 312.69 FEET;

NORTH 73 DEGREES 47 MINUTES 59 SECONDS WEST, A DISTANCE OF 218.41 FEET;

THENCE NORTH 80 DEGREES 23 MINUTES 03 SECONDS WEST, PASS AT 26.10 FEET THE COMMON BOUNDARY LINE OF SAID T. & N. O. R.R. SURVEY NO. 45,

ABSTRACT NO. 272, AND SAID CORA E. BEHRENDS SURVEY, ABSTRACT NO. 602, THE NORTHWEST CORNER OF SAID DOORNBOS BROTHERS L. P. CALLED 18.789 CALLED TRACT 7 AND A EASTERLY CORNER OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, AND THE COMMON BOUNDARY CORNER OF SAID CALLED 204.8 ACRE TRACT AND SAID CALLED 15.308 ACRE TRACT, (FROM THIS POINT A ½ INCH IRON ROD FOUND FOR REFERENCE BEARS NORTH 02 DEGREES 45 MINUTES WEST, 73.57 FEET) IN ALL A TOTAL DISTANCE 55.89 FEET TO THE CENTERLINE OF SAID 10 FOOT DRAINAGE DITCH FOR AN INTERIOR CORNER OF SAID S DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, AND THE SOUTHERLY SOUTHWEST CORNER OF SAID CALLED 15.308 ACRE TRACT AND BEING A SOUTHWESTERLY CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE NORTH 02 DEGREES 45 MINUTES 22 SECONDS WEST, ALONG THE EAST LINE OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, AND THE CENTERLINE OF SAID 10 FOOT DRAINAGE DITCH, A DISTANCE OF 386.89 FEET TO AN EASTERLY CORNER OF THE DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, AND BEING AN INTERIOR CORNER OF SAID CALLED 15.308 ACRE TRACT AND THE HEREIN DESCRIBED TRACT;

THENCE NORTH 44 DEGREES 20 MINUTES 51 SECONDS WEST, CONTINUING ALONG THE NORTHEAST LINE OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, AND THE CENTERLINE OF SAID 10 FOOT DRAINAGE DITCH, A DISTANCE OF 1463.13 FEET TO AN EASTERLY CORNER OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, AND BEING AN INTERIOR CORNER OF SAID CALLED 15.308 ACRE TRACT AND THE HEREIN DESCRIBED TRACT;

THENCE NORTH 82 DEGREES 18 MINUTES 02 SECONDS WEST, CONTINUING ALONG THE EAST LINE OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, AND THE CENTERLINE OF SAID 10 FOOT DRAINAGE DITCH, A DISTANCE OF 246.08 FEET TO A 5/8 INCH CAPPED IRON ROD SET FOR AN ANGLE POINT OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, SAID CALLED 15.308 ACRE TRACT, AND THE HEREIN DESCRIBED TRACT;

THENCE NORTH 69 DEGREES 40 MINUTES 47 SECONDS WEST, ALONG THE EAST LINE OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, AND THE CENTERLINE OF SAID 10 FOOT DRAINAGE DITCH, PASS AT 60.0 FEET THE BANK OF SAID 10 FOOT DRAINAGE DITCH, IN ALL A TOTAL OF 84.74 FEET TO A ½ INCH BENT IRON ROD FOUND FOR THE COMMON BOUNDARY CORNER OF SAID CALLED 15.308 ACRE TRACT AND SAID CALLED 42.463 ACRE TRACT, FOR AN EASTERLY CORNER OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, AND BEING A WESTERLY CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE NORTH 02 DEGREES 45 MINUTES 30 SECONDS WEST, ALONG THE EAST LINE OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, WITH THE WEST LINE OF SAID 42.463 ACRE TRACT, A

DISTANCE OF 201.05 FEET TO A 5/8 INCH CAPPED IRON ROD SET IN THE CENTERLINE OF SAID 10 FOOT DRAINAGE DITCH FOR THE SOUTH CORNER OF SAID CALLED 11.069 ACRE TRACT, AN EASTERLY CORNER OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, AND BEING AN INTERIOR CORNER OF THE HEREIN DESCRIBED TRACT;

THENCE IN A NORTHWESTERLY DIRECTION ALONG THE CENTERLINE OF SAID 10 FOOT DRAINAGE DITCH AND THE EAST LINE OF SAID DOORNBOS BROTHERS L. P. CALLED 560 ACRE TRACT CALLED TRACT I, THE FOLLOWING COURSES AND DISTANCES:

NORTH 46 DEGREES 21 MINUTES 59 SECONDS WEST, A DISTANCE OF 306.65 FEET;

NORTH 15 DEGREES 03 MINUTES 36 SECONDS WEST, A DISTANCE OF 359.26 FEET;

NORTH 40 DEGREES 58 MINUTES 47 SECONDS WEST, A DISTANCE OF 68.46 FEET;

NORTH 60 DEGREES 47 MINUTES 01 SECONDS WEST, A DISTANCE OF 339.98 FEET;

NORTH 38 DEGREES 07 MINUTES 01 SECONDS WEST, A DISTANCE OF 70.03 FEET;

NORTH 02 DEGREES 42 MINUTES 13 SECONDS WEST, A DISTANCE OF 78.43 FEET;

NORTH 27 DEGREES 55 MINUTES 04 SECONDS EAST, A DISTANCE OF 266.68 FEET;

THENCE NORTH 59 DEGREES 06 MINUTES 18 SECONDS EAST, A DISTANCE OF 254.72 FEET TO THE POINT OF BEGINNING AND CONTAINING 229.8824 ACRES OF LAND, MORE OR LESS.

NOTE: The Company is prohibited from insuring the area or quantity of the land described herein. Any statement in the above legal description of the area or quantity of land is not a representation that such area or quantity is correct, but is made only for informational and/or identification purposes and does not override item 2 of Schedule B hereof.

Tract Two: Irrigation Easement

That certain 1.008 acres out of two tracts, first tract being a 29.151 acre tract same being out of a 80.0 acre tract recorded in Chambers County Deed Records, Vol. 146 pg. 602 and Tract two being a 204.8 acre tract same recorded in Chambers County Clerk's Film Code # 92-190-487, and first tract being out of the T&N.O.R.R. Survey Section 45, and the Second tract being out of T.&N.O.R.R. Survey Section 46, A-479 & 602, this canal easement being North of I-10 and either side of the common line joining the above mentioned acreages, and this Easement being described by metes and bounds as follows:

Commencing at the Southeast corner of the above mentioned 29.15 acre tract and the

intersection of the West line of the 204.8 acre tract with the North right of way line of Interstate I-10, a set #4 rebar for the POINT OF BEGINNING:

THENCE North 84°27'31" West along said right of way line, a distance of 22.81' to a set #4 rebar for a corner and the Southwest corner of this easement;

THENCE North 00°10'24" East along the West line of this easement a distance of 1024.96' to the North line of the 29.15 acre tract and a point #4 rebar set for a corner;

THENCE North 89°53'53" East along the North line of said tract and the North line of the adjoining 204.8 ac tract to the East a distance of 42.75' to a set #4 rebar in high bank for a corner;

THENCE South 00°10'24" West along the East line of this easement in that portion of the 204.8 ac tract, a distance of 1029.18' to the North right of way line of I-10, a set #4 rebar for a corner;

THENCE North 84°27'31" West along the North right of way line of I-10 a distance of 22.13' to a set #4 rebar for a corner and the PLACE OF BEGINNING and containing 1.008 acres, or 43,907.22 square feet of land.

NOTE: The Company is prohibited from insuring the area or quantity of the land described herein. Any statement in the above legal description of the area or quantity of land is not a representation that such area or quantity is correct, but is made only for informational and/or identification purposes and does not override item 2 of Schedule B hereof.

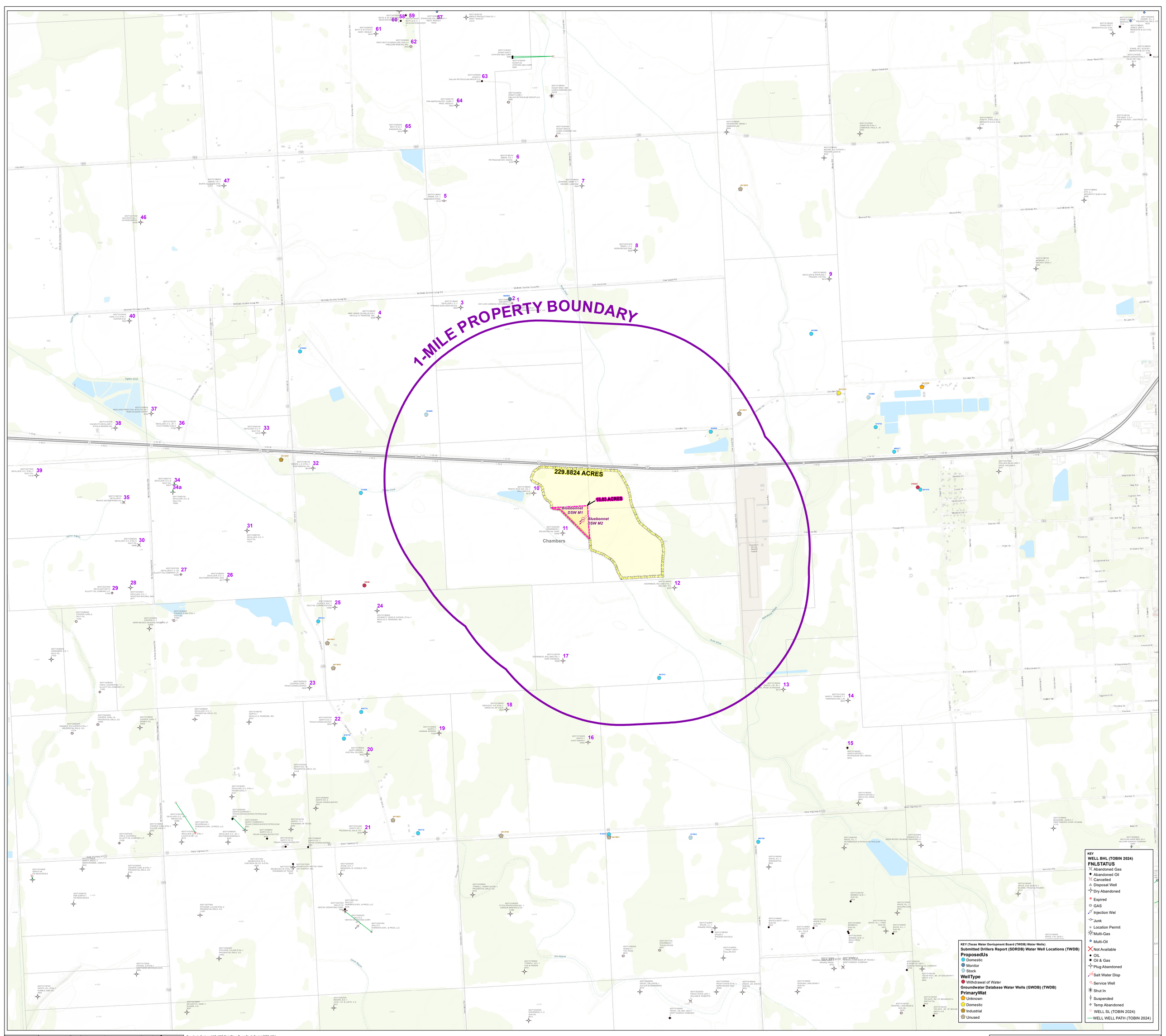
FILED FOR RECORD IN:
Chambers County Clerk
On: 04/28/2022 05:42 PM
Doc Number: 2022-181336
Number of Pages: 10
Amount: $58.00
Order#: 20220428000051
By: Clerk Initials
Heather H. Hawthorne



ATTACHMENT D

TOPOGRAPHIC MAP AND FACILITY BOUNDARIES

Geostock Sandia


1-MILE PROPERTY BOUNDARY
229.8824 ACRES
15.03 ACRES
Bluebonnet DSW M1
Bluebonnet DSW M2
Chambers
McBride Dewitter Loop Rd
Oak Island Rd
Devillier Rd
Static Highway 65
Jack McBride Rd
Bearcroft Rd
Excelsior Rd
Oak Island Rd
Oak Island Rd
Oak Island

WATER WELLS WITHIN 1-MILE RADIUS
PROPERTY BOUNDARY (ATTACHMENT D)

GKS Project No. 240068PWT
Admin NODS - May 2025

Well ID No.	Well Owner	Well Depth (ft)	Useage	LatitudeDD	LongitudeD	Data Source
124609	John Savoie	180	Stock	29.8333340	-94.4669440	*SDRDB Database*
326856	Steve Devillier	160	Domestic	29.8305550	-94.4347220	*SDRDB Database*
547012	Robert Lee	146	Domestic	29.8063890	-94.4416670	*SDRDB Database*
6413501	U.S. Dept.of Agriculture	164	Withdrawal of	29.8322220	-94.4313890	*TWDB Database*

BLUEBONNET PROJECT - DETAILS AREA OF INTEREST (AOI)

229.8824 ACRES

15.03 ACRES

PROPOSED PRE-INJECTION UNIT AREA
- PRE-INJECTION TANKS
- FILTRATION PUMP
- TANK FILTERS
- CHEMICAL INJECTION PUMP

Bluebonnet DSW M1

Bluebonnet DSW M2

A-272 SECT 45
T&NO RR CO

Chambers

A-602 SECT 46
T&NO RR CO

420713223300
DOORNBOS-1
GOLDSTON OIL CORP
10000

11

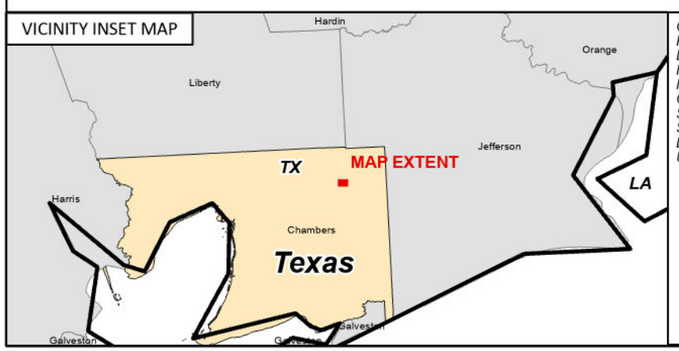
20 ft

Ogden Ditch

KEY
MINERAL RIGHTS OWNERSHIP

KEY
WELL BHL (TOBIN 2024)
FNLSTATUS
- Abandoned Gas
- Abandoned Oil
- Cancelled
- Disposal Well
- Dry Abandoned
- Expired
- GAS
- Injection Wel
- Junk
- Location Permit
- Multi-Gas
- Multi-Oil
- Not Available
- OIL
- Oil & Gas
- Plug Abandoned
- Salt Water Disp
- Service Well
- Shut In
- Suspended
- Temp Abandoned
- WELL SL (TOBIN 2024)
- WELL WELL PATH (TOBIN 2024)

VICINITY INSET MAP



Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

N

0 125 250 500 750 Feet

0 0.03 0.05 0.1 0.15 0.2 Miles

KEY ITEMS
- PROPOSED PRE-INJECTION UNITS
- PROPOSED PRE-INJECTION UNITS PAD
- PROPOSED UIC CLASS 1 LOCATIONS (M1 & M2)
- FACILITY BOUNDARY (CLASS I LAND OWNER)
- PROPERTY OVERALL BOUNDARY (CLASS I LAND OWNER)

1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from EnverusDI (EnvDI), TXRRC (08/2024)

1POINTFIVE

ATTACHMENT Da
DETAIL PRE-INJECTION UNIT WITHIN PROPERTY AND FACILITY BOUNDARY

CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 250' (1:3k) PRINT SIZE: 17" x 11" (Ledger)

DATE: 07/07/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: EDG (GKS)	SHEET: 1 OF 1

Geostock Sandia

ATTACHMENT E

PLAIN LANGUAGE SUMMARY

Geostock Sandia

ATTACHMENT E

PLAIN LANGUAGE SUMMARY

Pursuant to 30 TAC §39.405(k) Bluebonnet Sequestration Hub submits this Plain-Language Summary of the application including the following information:

1. the applicant/operator name;
2. the type of application;
3. the type of waste;
4. the type of facility;
5. the facility name and location;
6. the function of the proposed plant or facility;
7. the expected output of the proposed plant or facility;
8. the expected pollutants that may be emitted or discharged by the proposed plant or facility which require an injection well permit; and
9. how the applicant will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

Notice in an alternative language is not required in accordance with 30 TAC §39.426

In addition, provide a copy of the plain-language summaries in pdf clearly labeled on a flash drive.

ENGLISH

Bluebonnet Sequestration Hub, LLC will operate the Bluebonnet Sequestration Hub Facility in Chambers County. The purpose of this new underground injection control (UIC) facility is to dispose of saline water from one subsurface formation into another subsurface formation. The facility will be located along I-10 Frontage Rd, Winnie, Texas, 77665. Directions from Winnie, TX (int. of TX-124 N & Gulfway Dr.) to the facility are the following: Drive North on TX-124 N /Gulfway Dr. toward Broadway Ave. for 89 ft. Turn left onto FM1406/Broadway Ave. and drive for 1.1 miles. Turn right at the curve and continue for 0.3 miles. Turn left onto I-10 Frontage Rd. and drive for 3.6 miles. Turn left onto Lease Road and drive for 0.2 miles. Turn left at Ogden Ditch and drive for 0.7 miles. This is a new permit application for two injection wells (WDW495 and WDW496) which have not been permitted or drilled as of the date of this publication, as this is an initial application.

The Bluebonnet Sequestration Hub Facility will accept non-hazardous formation waters (*i.e.* waste) which are generated offsite from wells extracting saline brine from deeper geological formations. This produced saline formation brine will be disposed of via the proposed on-site injection wells into shallower saline formations. Examples of waste to be permitted for injection into the wells include: formation waters from the deeper saline Frio and Miocene Formations, non-hazardous contaminated surface and groundwater associated with well maintenance, and non-hazardous fluids generated during the drilling, construction and operation of the Bluebonnet Sequestration Hub. The facility will not generate a waste stream, nor will the facility inject hazardous materials.

The proposed injection wells have been designed and will be installed according to Texas agency laws and regulations. The annual amount of waste to be injected will not exceed 630,720,000 gallons per year (*i.e. cumulative for all wells*). The injection wells will be equipped with inner and outer casings made with corrosion-resistant materials cemented to surface, an annulus space maintained under constant pressure, and sophisticated monitoring systems. Annual mechanical integrity tests will be conducted to confirm that no failure of the protective casing or other equipment has occurred. The injected waste streams are monitored for flow, pH, specific gravity, and constituents. Finally, the injection wells will be fitted with automatic alarms and shutdown systems, that can stop operations immediately if certain operating conditions are encountered or if monitoring equipment has failed.

ESPAÑOL

Bluebonnet Sequestration Hub, LLC operará la instalación Bluebonnet Sequestration Hub en el condado de Chambers. El propósito de esta nueva instalación de control de inyección subterránea (UIC por sus siglas en Ingles) es eliminar el agua salina de una formación subterránea en otra formación subterránea. La instalación estará ubicada a lo largo de la I-10 Frontage Rd, Winnie, Texas, 77665. Las direcciones desde Winnie, TX (int. de TX-124 N y Gulfway Dr.) a las instalaciones son las siguientes: Conduzca hacia el norte por TX-124 N / Gulfway Dr. hacia Broadway Ave. por 89 pies. Gire a la izquierda en FM1406 / Broadway Ave. y conduzca por 1.1 millas. Gire a la derecha en la curva y continúe durante 0.3 millas. Gire a la izquierda en la I-10 Frontage Rd. y conduzca durante 3.6 millas. Gire a la izquierda en Lease Road y conduzca durante 0.2 millas. Gire a la izquierda en Ogden Ditch y conduzca durante 0.7 millas. Esta es una nueva solicitud de permiso para dos pozos de inyección (WDW495 y WDW496) que no han sido permitidos o perforados a la fecha de esta publicación, ya que se trata de una solicitud inicial.

La instalación del centro de secuestro de Bluebonnet aceptará aguas de formación no peligrosas (*es decir,* desechos) que se generan fuera del sitio, provenientes de pozos que extraen salmuera salina de formaciones geológicas más profundas. Esta salmuera de formación salina producida se eliminará a través de los pozos de inyección in situ propuestos en formaciones salinas menos profundas. Los ejemplos de desechos que se permitirán para su inyección en los pozos incluyen: aguas de formación provenientes de las formaciones salinas más profundas de Frio y Mioceno, aguas superficiales y subterráneas contaminadas no peligrosas asociadas con el mantenimiento del pozo y fluidos no peligrosos generados durante la perforación, construcción y operación del Centro de Secuestro Bluebonnet. La instalación no generará un flujo de desechos, ni inyectará materiales peligrosos.

Los pozos de inyección propuestos han sido diseñados y se instalarán de acuerdo con las leyes y regulaciones de la agencia de Texas. La cantidad anual de desechos que se inyectarán no excederá los 630,720,000 galones por año (*es decir, acumulados para todos los pozos*). Los pozos de inyección estarán equipados con carcasas internas y externas hechas con materiales resistentes a la corrosión cementados a la superficie, un espacio anular mantenido bajo presión constante y sofisticados sistemas de monitoreo. Se realizarán pruebas anuales de integridad mecánica para confirmar que no se ha producido ninguna falla en la carcasa protectora u otro equipo. Los flujos de desechos inyectados se monitorean para determinar el flujo, el pH, la gravedad específica y los componentes. Finalmente, los pozos de inyección estarán equipados con alarmas automáticas y sistemas de apagado, que pueden detener las operaciones inmediatamente si se encuentran ciertas condiciones de operación o si el equipo de monitoreo ha fallado.

ATTACHMENT F

PUBLIC INVOLVEMENT PLAN

Geostock Sandia

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

The Public Involvement Plan is intended to provide applicants and the agency with information about how public outreach will be accomplished for certain types of applications in certain geographical areas of the state. It is intended to apply to new activities; major changes at existing plants, facilities, and processes; and to activities which are likely to have significant interest from the public. This preliminary screening is designed to identify applications that will benefit from an initial assessment of the need for enhanced public outreach.

All applicable sections of this form should be completed and submitted with the permit or registration application. For instructions on how to complete this form, see TCEQ-20960-inst.

Section 1. Preliminary Screening

☒ New Permit or Registration Application

☐ New Activity – modification, registration, amendment, facility, etc. (see instructions)

If neither of the above boxes are checked, completion of the form is not required and does not need to be submitted.

Section 2. Secondary Screening

☒ Requires public notice,

☒ Considered to have significant public interest, **and**

☒ Located within any of the following geographical locations:

- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

If all the above boxes are not checked, a Public Involvement Plan is not necessary. Stop after Section 2 and submit the form.

☐ Public Involvement Plan not applicable to this application. Provide **brief** explanation.

Section 3. Application Information

Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V

Waste ☐ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire
☐ Radioactive Material Licensing ☒ Underground Injection Control

Water Quality

☐ Texas Pollutant Discharge Elimination System (TPDES)

- ☐ Texas Land Application Permit (TLAP)
- ☐ State Only Concentrated Animal Feeding Operation (CAFO)
- ☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

Plain language provided in attachment E

Section 5. Community and Demographic Information

Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.

Information gathered in this section can assist with the determination of whether alternative language notice is necessary. Please provide the following information.

Winnie

(City)

Chambers

(County)

48071710401

(Census Tract)

Please indicate which of these three is the level used for gathering the following information.

☐ City ☐ County ☒ Census Tract

(a) Percent of people over 25 years of age who at least graduated from high school

87%

(b) Per capita income for population near the specified location

24,274$

(c) Percent of minority population and percent of population by race within the specified location

white:73% , Black: 1%, Asian: 2%, Hispanic: 22%, Two or more races: 2%

(d) Percent of Linguistically Isolated Households by language within the specified location

3%

(e) Languages commonly spoken in area by percentage

English: 78%; Spanish: 18%; French, Haitian,Caju: 2%; Other Asian and pacific island: 2%;

(f) Community and/or Stakeholder Groups

The two communities closest to the project site with the greatest potential for impacts from construction and operation of the Bluebonnet Hub are Winnie (population of 3,162 in 2020) and Stowell (population of 1,743 in 2020). Bluebonnet Sequestration Hub LLC has established relationships and continues developing community outreach activities related to the CCS project. These proposed Class I wells are part of such program.

(g) Historic public interest or involvement

Oxy Low Carbon Ventures the parent company of Bluebonnet Sequestration Hub has established important relationships with the stakeholders in the communities The project has performed community engagement meetings to discuss with the communities the Carbon Sequestration project that includes the drilling of the proposed class I wells. The project is in progress to execute a community benefit plan that include support to educational institutions, community programs, listening session as well as community meetings as part of the DOE CarbonSAFE III initiative.

Section 6. Planned Public Outreach Activities

(a) Is this application subject to the public participation requirements of Title 30 Texas Administrative Code (30 TAC) Chapter 39?

☒ Yes ☐ No

(b) If yes, do you intend at this time to provide public outreach other than what is required by rule?

☐ Yes ☒ No

If Yes, please describe.

If you answered "yes" that this application is subject to 30 TAC Chapter 39, answering the remaining questions in Section 6 is not required.

(c) Will you provide notice of this application in alternative languages?

☐ Yes ☒ No

Please refer to Section 5. If more than 5% of the population potentially affected by your application is Limited English Proficient, then you are required to provide notice in the alternative language.

If yes, how will you provide notice in alternative languages?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

(d) Is there an opportunity for some type of public meeting, including after notice?

☒ Yes ☐ No

(e) If a public meeting is held, will a translator be provided if requested?

☒ Yes ☐ No

(f) Hard copies of the application will be available at the following (check all that apply):

☑ TCEQ Regional Office ☑ TCEQ Central Office

☑ Public Place (specify) Winnie Library

Section 7. Voluntary Submittal

For applicants voluntarily providing this Public Involvement Plan, who are not subject to formal public participation requirements.

Will you provide notice of this application, including notice in alternative languages?

☐ Yes ☐ No

What types of notice will be provided?

☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

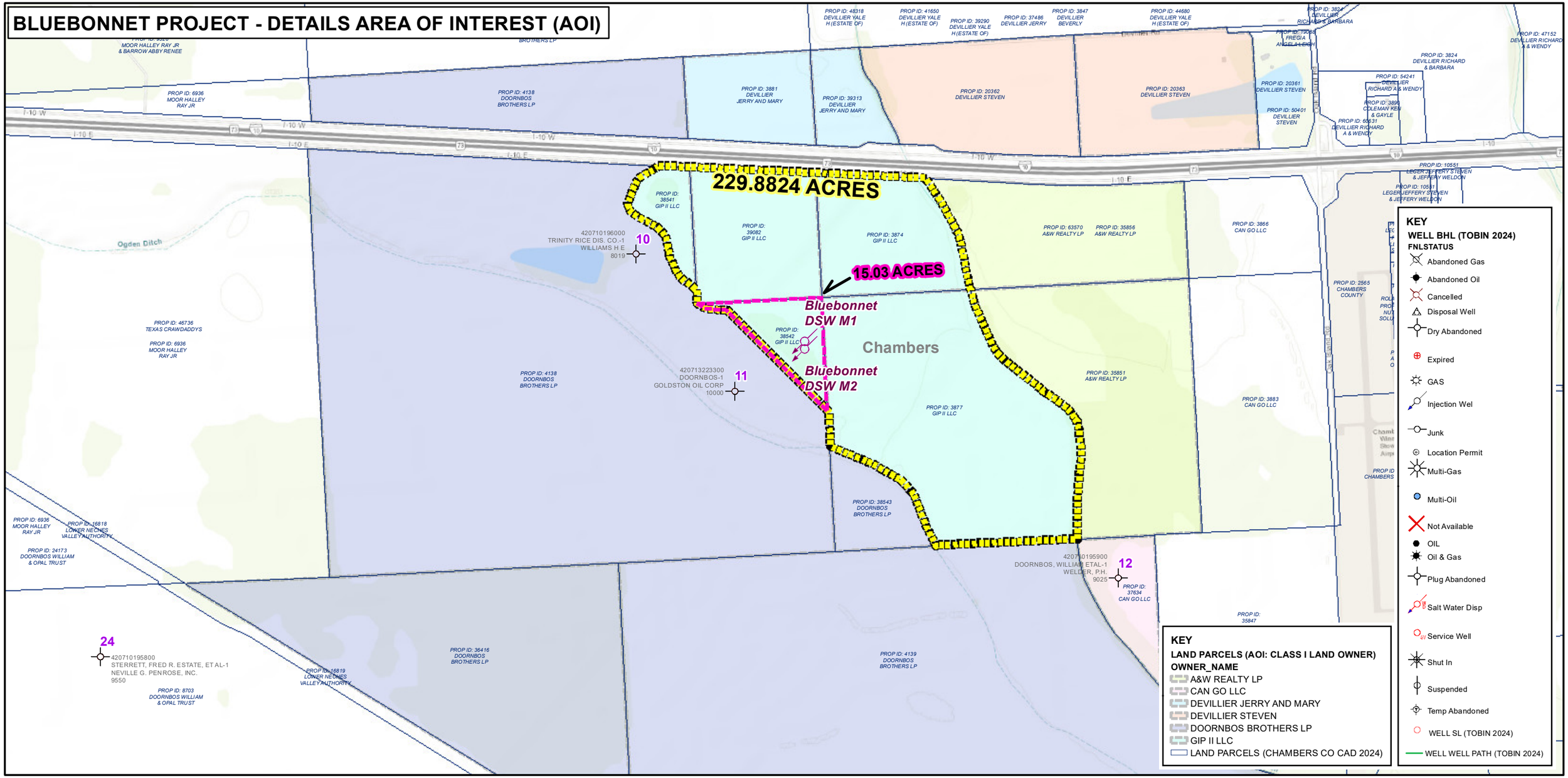
☐ Other (specify)

ATTACHMENT G

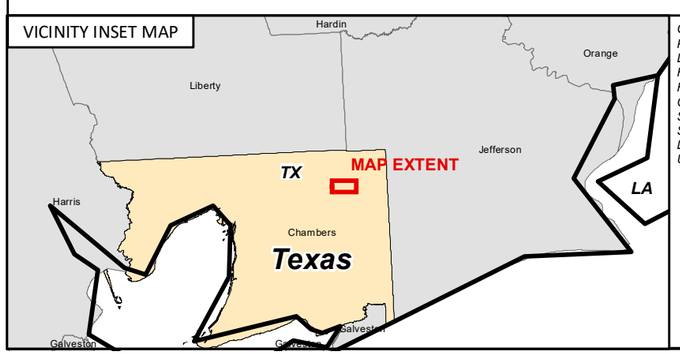
AFFECTED LAND AND MINERAL OWNERS

Geostock Sandia

BLUEBONNET PROJECT - DETAILS AREA OF INTEREST (AOI)



VICINITY INSET MAP



Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
Projection: Lambert Conformal Conic
Datum: North American 1927
False Easting: 2,000,000.0000
False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

N

0 495 990 1,980 2,970 Feet

0 0.05 0.1 0.2 0.3 0.4 Miles

KEY ITEMS

PROPOSED UIC CLASS 1 LOCATIONS (M1 & M2)

FACILITY BOUNDARY (CLASS I LAND OWNER)
PROPERTY OVERALL BOUNDARY (CLASS I LAND OWNER)
LAND PARCELS (CHAMBERS CO CAD 2024)

1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from EnverusDI (EnvDI), TXRRC (08/2024)

1POINTFIVE

ATTACHMENT G
ADJACENT LANDOWNER MAP

CHAMBERS COUNTY, TEXAS

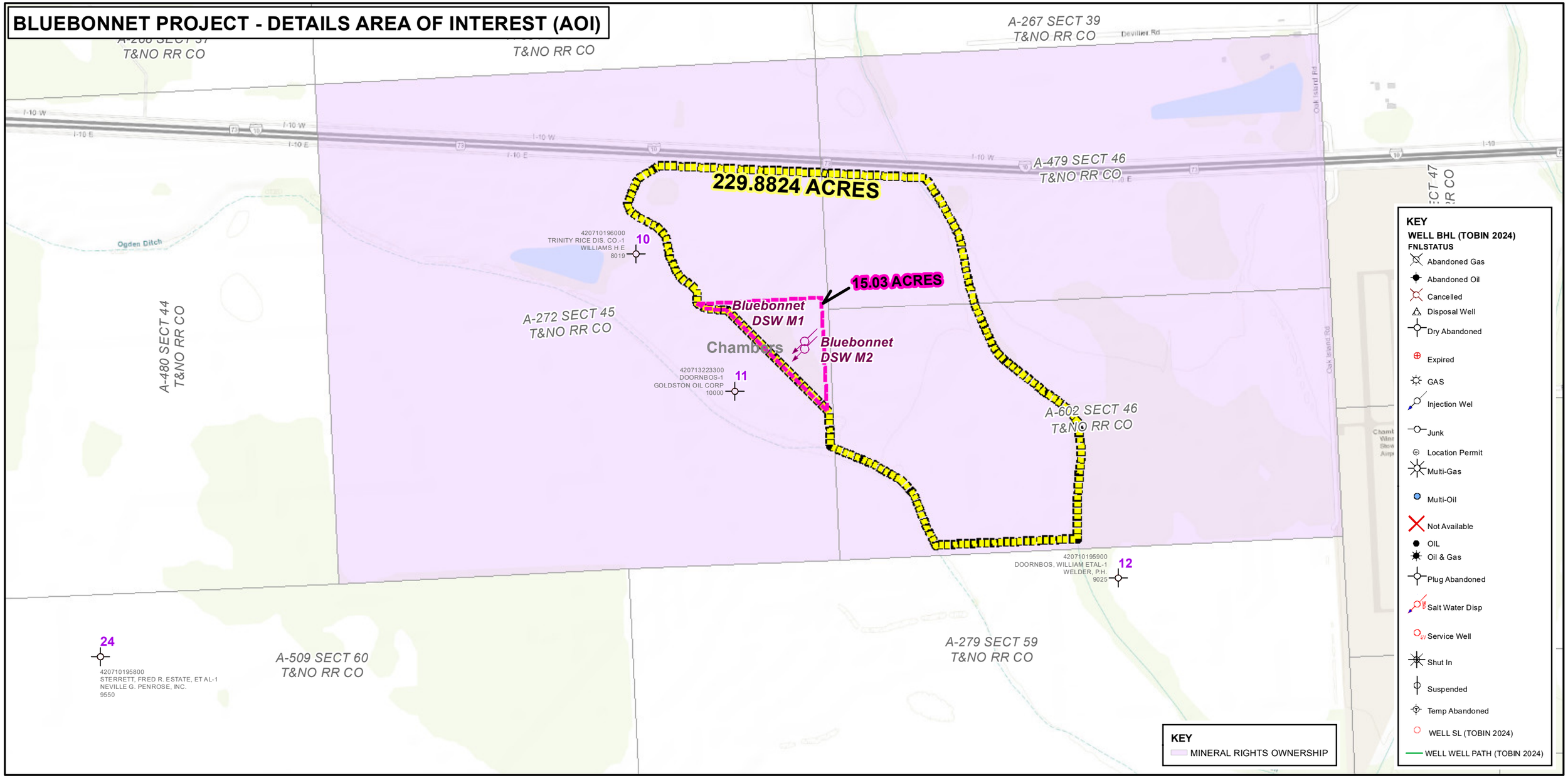
CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET		SCALE: SEE SCALEBAR 1" = 1000' (1:12k) PRINT SIZE: 17" x 11" (Ledger)	
DATE: 05/19/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: EDG (GKS)	SHEET: 1 OF 1

Geostock Sandia

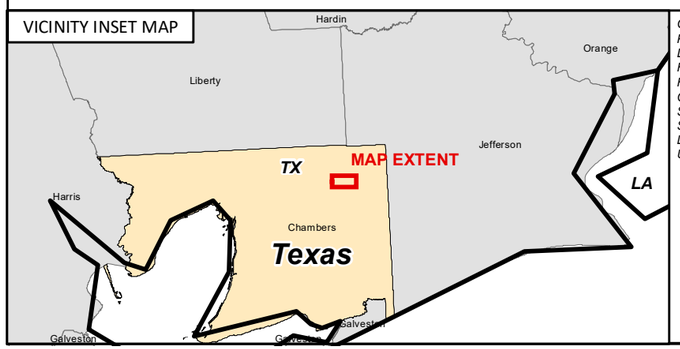
SURFACE OWNERS LIST

Property ID No.	Owner Name	Mailing Address	Land Use
63570	A&W Realty LP	PO Box 2279 Winnie, Texas 77665	Industrial
4138	Doornbos Brothers LP	1148 Helena Nederland, TX 77627	Agricultural
3881	Jerry & Mary DeVillier	1741 FM 1410 Winnie, TX 77665	Agricultural
39313	Jerry & Mary DeVillier	1741 FM 1410 Winnie, TX 77665	Agricultural
20362	Steven Devillier	PO BOX 358 Winnie, TX 77665	Agricultural
20363	Steven Devillier	PO BOX 358 Winnie, TX 77665	Agricultural
35856	A&W Realty LP	PO Box 2279 Winnie, Texas 77665	Industrial
3874	GIP II, LLC	3423 Fork Shoals Rd Simpsonville, SC 29680	Agricultural
39082	GIP II, LLC	3423 Fork Shoals Rd Simpsonville, SC 29680	Agricultural
38541	GIP II, LLC	3423 Fork Shoals Rd Simpsonville, SC 29680	Agricultural
4138	Doornbos Brothers LP	1148 Helena Nederland, TX 77627	Agricultural
38542	GIP II, LLC	3423 Fork Shoals Rd Simpsonville, SC 29680	Agricultural
3877	GIP II, LLC	3423 Fork Shoals Rd Simpsonville, SC 29680	Agricultural
35851	A&W Realty LP	PO Box 2279 Winnie, Texas 77665	Agricultural
38543	Doornbos Brothers LP	1148 Helena Nederland, TX 77627	Agricultural
4139	Doornbos Brothers LP	1148 Helena Nederland, TX 77627	Agricultural
37634	Can Go, LLC	PO BOX 123 Wallisville, TX 77597	Vacant
36416	Doornbos Brothers LP	1148 Helena Nederland, TX 77627	Agricultural

BLUEBONNET PROJECT - DETAILS AREA OF INTEREST (AOI)



VICINITY INSET MAP



Coordinate System: NAD 1927 StatePlane Texas South Central FIPS 4204
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Datum: North American 1927
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False Northing: 0.0000
Central Meridian: -99.0000
Standard Parallel 1: 28.3833
Standard Parallel 2: 30.2833
Latitude Of Origin: 27.8333
Units: Foot US

N

0 495 990 1,980 2,970 Feet

0 0.05 0.1 0.2 0.3 0.4 Miles

KEY ITEMS

PROPOSED UIC CLASS 1 LOCATIONS (M1 & M2)

FACILITY BOUNDARY (CLASS I LAND OWNER)

PROPERTY OVERALL BOUNDARY (CLASS I LAND OWNER)

1PointFive - Bluebonnet Sequestration Hub
Existing Well Penetration Proposal (Chambers Co. TX, USA)
NOTE: O&G Well Locations based/sourced from data licensed from EnverusDI (EnvDI), TXRRC (08/2024)

1POINTFIVE

ATTACHMENT G
MINERAL OWNER MAP

CHAMBERS COUNTY, TEXAS

CRS: NAD27 STATEPLANE TX SC PROJECTION: LAMBERT CONFORMAL CONIC GRID UNITS: FEET	SCALE: SEE SCALEBAR 1" = 1000' (1:12k) PRINT SIZE: 17" x 11" (Ledger)

DATE: 05/19/2025	PROJECT NAME: 240069PWT	MAP BY: ESSJ (GKS) CHECK BY: EDG (GKS)	SHEET: 1 OF 1

Geostock Sandia

Section 45 / Abstract 275	
Owner Name	**Owner Mailing Address**
Alexandra Hilton Olson	4619 Majestic Drive Baytown, TX 77523
Allison Renee Devillier McNally	177 County Road 1402 Jacksonville, TX 75766
Amsler/Priddy Trust	c/o KEW Drilling 1528 Slocum Dr Dallas, TX 75207
Baxsto, L.L.C.	P.O. Box 302857 Austin, TX 78703
Betty Milner Blake	P.O. Box 277 Brookshire, TX 77423
Blairbax Energy, L.L.C.	1108 Lavaca Street, Suite 110-604 Austin, TX 78701
Branex Resources, Inc.	629 Sudderth Drive Ruidoso, NM 88345
Britton M. and Shelly Devillier Family Trust	1109 Sendero Drive Keller, TX 76248
Buffy Energy, L.L.C.	3100 Cavalcade Court Austin, TX 78746
C. Doornbos Minerals, L.P.	c/o Doornbos, INC GP 1148 Helena Ave Nederland, TX 77627
Carloyn Devillier Cormier	PO Box 83 Winnie, TX 77665
Carol Ann Baer Fink	2201 Verot School Road, Unit 2209 Lafayette, LA 70508
Catherine Anne Devillier Good	110 Washington Harbor Washington, NC 27889
Christine Marie Costello	2896 North 197 Road Beggs, OK 74421
Clifford Petroleum Trust	P.O. Box 830308 Dallas, TX 75283
Clifford Royalty Trust	P.O. Box 830308 Dallas, TX 75283
Diane Faye Desormeaux Devillier	1532 Sunny Acres Winnie, TX 77665
Doornbos Brothers, L.P.	1148 Helena Ave Nederland, TX 77627
Edwin S. Webster, III	P.O. Box 9457 Newport Beach, CA 92658
EMG Oil Properties, Inc.	1000 West 4th Street Roswell, NM 88201

EST of Edna Mae Devillier Leonards	c/o W. J. "Billy" Devillier, Executor 3223 FM 1410 North Winnie, TX 77665
EST of Stanley L. Sissom	c/o Joyce Rogers Sissom 904 Indiana St San Marcos, TX 78666
EST of Walter J. Breaux, Jr.	c/o Walter J. Breaux, III 2164 Chestnut Oak Circle College Station, TX 77845
Gary Richard McDaniel	244 State Road #K Long Land, MO 65590
Iris Goldston, Ltd.	1819 St. James Place Houston, TX 77056
James Michael McDaniel	P.O. Box 1124 Winnie, TX 77665
James R. Sissom	1211 Wild Cherry Carrollton, TX 75007
Jane Devillier Baker	P.O. Box 2338 Anahuac, TX 77514
Jean Webster Doyle	9 Aldere Drive Paonia, CO 81428
Jerry Douglas and Maurcie Moren	433 Pasadena Place Corpus Christi, TX 78411
Jo Ann Devillier Barlow	2010 Timberline Court Brenham, TX 77833
Julie Anna Devillier	1735 North Boulevard Houston, TX 77098
Justin Dean Devillier	P.O. Box 2241 Winnie, TX 77665
Kathleen Devillier Davis	1502 South Boulder Avenue, Apt. 12A Tulsa, OK 74119
Larry James Devillier, Jr.	P.O. Box 1424 Winnie, TX 77665
Louis C. Butaud, Jr.	206 Branson Falls Boerne, TX 78006
Lynda Louise Devillier Aycock	460 Fairway Drive Riverton, WY 82501
Marjorie Devillier Gossen	5321 Church Point HWY Rayne, LA 70578
Mary Sophia Webster 2005 Trust	14 Madera Boulevard Corte madera, CA 94925
Mitchell Royalty, Ltd.	7950 North Wichita Avenue Haskell, OK 94925

Nancy Davis Kerby	110 Allen Circle Edwards, CO 81632
Noble Royalies, et al.	Multiple - See Attached Sheet
Comin-Temin, LLC	1001 Fannin Street, Suite 2020 Houston, TX 77002
Pamela Trosclair	4045 Dryden Road Port Arthur, TX 77642
Paul S. Davis	19367 Highway 98 Boonville, MO 65233
Paulette Coco Cobb	6575 Merrick Lane Beaumont, TX 77706
Ralph E. Davis, III	10208 North Cochran Road Spokane, WA 99208
Robert James Devillier, Jr.	11503 Long Pine Drive #501 Lake City, TX 78368
Roger Alan Devillier	339 John Price Blanco, TX 78606
Roland James Devillier	702 Campbell Road Winnie, TX 77665
Russell Anthony Devillier	1325 Audubon Place Beaumont, TX 77706
Russell T. Rudy, Ltd.	9250 Sandringham Drive Houston, TX 77024
Sandra Marie Devillier Fontenot	P.O. Box 5039 Jasper, TX 75951
Sempra Energy Production Company	14860 Montfort Drive, Suite 209 Dallas, TX 75254
Sherryl McDaniel Hightower	2 McCaffety Lane Huntsville, TX 77320
Steven Daniel Hilton	7711 O'Connor Drive, Apt. 2208 Round Rock, TX 78681
Swartz Heirs Holdings, L.L.C.	707 Virginia Street East, Suite 300 Charleston, WV 25301
Taylor Claire Devillier Trust	1109 Sendero Drive Keller, TX 76248
The Susan Mayfield Marital Trust	P.O. Box 570365 Houston, TX 77257
Walter J. Breaux, III	2164 Chestnut Oak Circle College Station, TX 77845
William John Devillier	3223 FM 1410 North Winnie, TX 77665

Section 46 / Abstract 479	
Owner Name	**Owner Mailing Address**
Allison Renee Devillier McNally	177 County Road 1402 Jacksonville, TX 75766
Bert F. Winston Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Bert Farmer Winston, Jr., Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Blake Winston Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Britton M. and Shelly Devillier Family Trust	1109 Sendero Drive Keller, TX 76248
Carloyn Devillier Cormier	PO Box 83 Winnie, TX 77665
Carol Ann Baer Fink	2201 Verot School Road, Unit 2209 Lafayette, LA 70508
Carroll Sterling Masterson Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Catherine Anne Devillier Good	110 Washington Harbor Washington, NC 27889
Cecille Hearn Phelps	2599 Grover Hardee Rd. Greenville, NC 27858
Charlie Winston Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Christine Marie Costello	2896 North 197 Road Beggs, OK 74421
David Winston 1961 Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Diane Faye Desormeaux Devillier	1532 Sunny Acres Winnie, TX 77665
EST of Edna Mae Devillier Leonards	c/o W. J. "Billy" Devillier, Executor 3223 FM 1410 North Winnie, TX 77665
EST of Grace Delores Rollo	c/o Rose Devillier Hearn 844 8th St Winnie, TX 77665
EST of Isla Carroll Sterling Turner	c/o Isla C. Reckling Goodman 410 Pine Shadows Dr Houston TX 77056
EST of Isla Carroll Sterling Winston Harrison	c/o Isla C. Reckling Goodman 410 Pine Shadows Dr Houston TX 77056

EST of Lewis B. Sterling	c/o Isla C. Reckling Goodman 410 Pine Shadows Dr Houston TX 77056
Gin City Land Company, Inc.	5005 Riverway Drive Houston, TX 77056
Hilda Rose Devillier Hearn	844 8th St Winnie, TX 77665
I. Carrol Winston Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Isla Caroll Reckling Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Isla Carrol Sterling Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
James Reckling Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
James S. Reckling Winston Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Jane Devillier Baker	P.O. Box 2338 Anahuac, TX 77514
Jo Ann Devillier Barlow	2010 Timberline Court Brenham, TX 77833
Josephine Sterling Hughes Foundation	2418 Marsh Lane, Suite 106 Carrollton. TX 75006
Julie Anna Devillier	1735 North Boulevard Houston, TX 77098
K. Christina Winston Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Kathleen Devillier Davis	1502 South Boulder Avenue, Apt. 12A Tulsa, OK 74119
Larry James Devillier, Sr.	P.O. Box 1424 Winnie, TX 77665
Louis C. Butaud, Jr.	206 Branson Falls Boerne, TX 78006
Lynda Louise Devillier Aycock	460 Fairway Drive Riverton, WY 82501
Marjorie Devillier Gossen	5321 Church Point HWY Rayne, LA 70578
Olide C. Devillier, III	212 Wildcat Run Cibolo, TX 78108
Phillip Winston Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Randa Reckling Winston Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027

Reckling-Winston Grantor Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Robert James Devillier, Jr.	11503 Long Pine Drive #501 Lake City, TX 78368
Roger Alan Devillier	339 John Price Blanco, TX 78606
Roland James Devillier	702 Campbell Road Winnie, TX 77665
Roseanna Rene' Hearn Hoffpauir	1125 9th Street Winnie, TX 77665
Rosalind Winston Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Russell Anthony Devillier	1325 Audubon Place Beaumont, TX 77706
Sandra Marie Devillier Fontenot	P.O. Box 5039 Jasper, TX 75951
Skylor Devillier Hearn	837 Faith Drive Liberty Hill, TX 78642
Stephen Reckling Winston Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
Taylor Claire Devillier Trust	1109 Sendero Drive Keller, TX 76248
Thomas K. Reckling Test. Trust	4265 San Felipe Street, Suite 900 Houston, TX 77027
William John Devillier	3223 FM 1410 North Winnie, TX 77665

Section 46 / Abstract 602	
Owner Name	**Owner Mailing Address**
J. E. Broussard Heirs O&G, LP	1800 Pecos Street Beaumont, TX 77701
Doornbos Brothers, L.P.	1148 Helena Ave Nederland, TX 77627

COMPANY/SPOUSE	ADDRESS 1	CITY	STATE	ZIP
Chester Charles Albin	2432 "O" Street	Eureka	California	95501
Lawrence Walter Albin	2432 "O" Street	Eureka	California	95501
Daniel Altman	2544 Etna Street	Berkeley	California	94704
Arun K. Arora	7813 Bailey Bridge Way	Knoxville	Tennessee	37938
Angus Baker, Jr.	2153 Lookout Court	Hurst	Texas	76054
Eleanor Ruth Bernacchi	24213 Summerhill Avenue	Los Altos	California	94024
Dr. Shabir Ahmad Bhatti	213 Burnt Ash Lane	Bromley, Kent	England	Bri 5Dl
Phyllis R. Black	171 Old Franklin School Road	Pittstown	New Jersey	08867
William H., Jr. Black	2005 Breakwater Lane	Fort Lauderdale	Florida	33316
Kevin Brenneke	35 Cottonwood Lane	Ennis	Montana	59729
Marjorie Brewer	P.O. Box 1629 - #1 Carnegie	Brownwood	Texas	76801
George H. Buckle	P.O. Box 1274	Mendocino	California	95460
Elaine J. Cararillo	100 Lake Shore Drive, Apt. 956	North Palm Beach	Florida	33408
Richard A. Calvert	28855 Cedarbluff Drive	Rancho Palos Verdes	California	90275
Bridget M. Carroll	45 West Sienna Place	Spring	Texas	77382
Paul Peter Cayot	512 Memorial Highway	North Yarmouth	Maine	4097
Terrence D. Chatwin	2105 South Oneida Street	Salt Lake City	Utah	84109
Esther Bie-Ru Chung	6893 Landing Court	Eastvale	California	91752
Thomas Wayne Clayton	2541 Dumbarton Avenue	San Jose	California	95124
Angela W. Colson	P.O. Box 355	Idyllwild	California	92549
William J. Connery	1445 Areca Palm Drive	Port Orange	Florida	32128
James R. Cox	2900 NE 33rd Court, Apt. 301	Fort Lauderdale	Florida	33306
John C. Dobson	40 SW 31 Road	Miami	Florida	33129
H. C. Dodson	629 Ty Ty Omega Road	Tifton	Georgia	31794
Alice Dorn	1310 East Ocean Boulevard, #103	Long Beach	California	90802
Peter W. Erskine	1975 SE Crystal Lake Drive, Unit 232	Corvallis	Oregon	97333
Pamela Evans	2420 East Briarcreek Circle	Salt Lake City	Utah	84117
Janet Blair Fleming	13991 Country Way	McCall	Idaho	83638
Clayton R. Freeberg	235 Butterfield Drive	Novato	California	94945
Glen Fullmer	10367 East Meandering Trails Lane	Gold Canyon	Arizona	85118
Linda Garroutte-Campbell	2 Meadowlark Court	Novato	California	94947
Patricia L . Gunning	9703 Cannock Chase Court	Houston	Texas	77065
Owen Haggard	5605 Plantation Circle	Plano	Texas	75093
Suzie Hammond	11717 Johnny Weismuller Lane	Austin	Texas	78748
Jerry L. Harris	595 Gage Lane	San Diego	California	92106
Ronald V. Hepp	235 Sun River Road	Great Falls	Montana	59404
Daniel E. Hucul	225 Meredith Drive	Englewood	Florida	34223
Frank V Jacobsen Jr	P.O. Box 8097	Bend	Oregon	97708
Frank Jacobsen Sr	61624 Cedarwood Road	Bend	Oregon	97702
Harry Edward Jenkins	4038 Villa Grove Drive	Dallas	Texas	75287
Merril A. Jensen	10680 South 540 East	Sandy	Utah	84070
Lina Jimenez	2172 Stewart Avenue	Walnut Creek	California	94596
Lily Joe	12009 Coit Road, Apt 2337	Dallas	Texas	75251
Patrick Donald Kirk	2472 Oxford Avenue	Cardiff By The Sea	California	92007
James Ronald Kliesch	200 Beaver Road	Ingram	Texas	78025
Warren Kluger	3100 US Hwy 1 South, Suite #2	St Augustine	Florida	32086
Raymond Kuntz	2675 West Shore Drive	Helena	Montana	59602
Shepard Lee	200 Main Street	Westbrook	Maine	4092
Siu Man Leung	4840 Touchstone Terrace	Fremont	California	94555
Robert L. Lininger	5213 Clovis Court	Concord	California	94521
Joshua M. Linkner	25305 Canterbury Road	Franklin	Michigan	48025
Nadir Cabral Lins	20759 Gabriella Lane	Murrieta	California	92562
Veme Lockard	4643 Viaggio Circle	Riverside	California	92509
Lamar E. Loyd	11 Lillington Manor Court	Spring	Texas	77379
Andrea Rachel Maltzer	214 Palmetto Avenue, #13	Pacifica	California	94044
Judith H. Manning	2727 North Rock Road, Apt. #204	Wichita	Kansas	67226
Daniel W. Mar	35119 Cardiff Street	Newark	California	94560
Karen N. Matetich	5753 Gleneagles Drive	Plano	Texas	75093
Michael G. Matetich	5753 Gleneagles Drive	Plano	Texas	75093
Terrence L. Mealy	1821 Briarwood Lane	Muscatine	Iowa	52761
Richard W. Munn	15 Camelot Oaks Court	Spring	Texas	77382
Ellen Jo Myers	P.O. Box 609	Bridgehampton	New York	11932
Wayne Nash	11728 East Longhorn Drive	Dewey	Arizona	86327
Harold L. Osher, Md	P.O. Box 4832	Portland	Maine	4112
Carlos Pedra	P.O. Box 509	Bell	California	90201
Dale M. Pescatrice	3720 Interlaken Drive	Plano	Texas	75075
Maurice W. Pinson	1007 Greenwich Park	Nashville	Tennessee	37215
Thomas C. Pritchett	305 Jennifer Lane	Asheville	North Carolina	28803
Carmen Risiglione	5142 Sepulveda Boulevard, #184	Sherman Oaks	California	91403
Victor E.Salvino	P.O. Box 560747	Dallas	Texas	75356
Victor E. Salvino, Jr.	509 Poppy Avenue	Corona Del Mar	California	92625
Connie Schmiesing	933 Magdalena Road	Palm Beach Gardens	Florida	33410
Vincent J. Severini	1051 Palms Road	Wales	Michigan	48027
Thomas M. Shelton	7606 State Route #39	Millersburg	Ohio	44654
Virginia D.Simpson	230 Frisbie Street	Oakland	California	94611
Sherri Smith	6136 Tatinger Court	Las Vegas	Nevada	89122
Laura Sommer	3 Vistawood Way	San Rafael	California	94901
Scott Kevin Stenzel	14598 East Corrine Drive	Scottsdale	Arizona	85259
Frederick Stern	5175 Creek Trail	Las Cruces	New Mexico	88012
Madeline Strafello	3796 Alabama Street, Unit 110	San Diego	California	92104
Brian Swomia	5266 Thorson Road	Sun Prairie	Wisconsin	53590

COMPANY/SPOUSE	ADDRESS 1	CITY	STATE	ZIP
Lori C. Temple	15179 Wagon Wheel	Sisters	Oregon	97759
Brian J. Thorsen	8375 Forest Haven Court	Parker	Colorado	80134
Isabel Trueman	3748 Hidden Springs Court	El Sobrante	California	94803
Ernest E. Tschannen	6029 Woodminster Circle	Orangeville	California	95662
Donna Claire Turner	P.O. Box 703	Mount Aukum	California	95656
William C. Ward	5623 Farquhar Lane	Dallas	Texas	75209
Anita Tara Williams	1502 Anthony Court	Cedar Park	Texas	78613
Priscilla Elaine Zahn	4885 Franklin Pond	Atlanta	Georgia	30342
Tommy H. Zallman	4512 Shari Way	Granite Bay	California	95746
#1 Teal Royalty Properties, L.L.C.	1800 Norwood Drive, Suite 104	Hurst	Texas	76054
1984 Hutcheson Family Trust U/A/D 9-27-84. Jerry Hutchenson and Lana Hutcheson, Trustees	1835 Aliso Canyon Drive	Lake Forest	California	92610
2000 Harvey Hunt Duryee and Christine Hawgood Duryee Revocable Trust Dtd 11-1-2000	300 Mesa Lila Road	Glendale	California	91208
270 Bronx Realty Corporation	c/o Stephen Mallis 320 Fifth Avenue, Suite 1104	New York	New York	10001
5H Oil Co., L.L.C.	P.O. Box 25204	Dallas	Texas	75225
5H Oil Co., L.L.C.	P.O. Box 25204	Dallas	Texas	75225
Adrienne Mansi, Successor Trustee of The Robert Mansi & Adrienne Mansi Revocable Trust Dated 06-06-02	100 Deer Valley Road, Apt 2G	San Rafael	California	94903
Aguilar Royalties, L.P.	4901 Lakeridge Drive	Lubbock	Texas	79424
Akhtar Family Living Trust Dtd 11/28/89	11903 Bingham Street	Cerritos	California	90703
Alfred Lion Jr. and Pearl J. Lion As Trustees Under The Alfred Lion Jr. Family Trust Dtd 9/24/75	P.O. Box 1350	Selma	California	93662
Allen V. Kennedy Trust	P.O. Box 495	Homerville	Georgia	31634
Alliance Royalties	735 First National Building	Oklahoma City	Oklahoma	73102
Alois Lamprecht and Joan Lamprecht, Husband and Wife As Joint Tenants With Right Of Survivorship	1970 North Leslie Street	Pahrump	Nevada	89060
Alpine Royalties L.L.C.	15601 Dallas Parkway Suite 900	Addison	Texas	75001
Amy Y. Leung, a married woman as her Sole and Separate Property	22717 Voss Avenue	Cupertino	California	95014
Andre Basovich and Marina Basovich as Community Property	5064 Sea Mist Court	San Diego	California	92121
Anthony Esquibel and Veyra Esquibel	7006 Greenspoint Drive	Arlington	Texas	76001
Arie Leibovitz Revocable Living Trust Dtd June 4, 1986, as amended	29355 Northwestern Hwy, Suite 301	Southfield	Michigan	48034
Arthur W. Beckman and Diana N. Beckman	97 Verissimo Drive	Novato	California	94947
Barton P. Simmons and Kathleen A. Simmons, Trustees of The Barton P. and Kathleen A. Intervivos Trust Dated 9/24/82	10 Boulevard Court	Walnut Creek	California	94595
Beatrice Pixa, Trustee of The Beatrice Pixa Revocable Trust Udt June 9, 2006	1505 Siskiyou Drive	Walnut Creek	California	94598
Benedict Family Trust, Dtd March 13, 2000, Gregory M. Benedict, Trustee	942 Lighthouse Way	Port Hueneme	California	93041
BJF Royalties, L.L.C.	5675 West Iliff Drive	Lakewood	Colorado	80227
Blaze Income Properties, L.L.C.	5092 Warner Avenue	Huntington Beach	California	92649
Bluewater Management Co., L.L.C.	32585 Shadowbrook Drive	Solon	Ohio	44139
Blythe Royalty Holdings, L.L.C.	1403 North Greenway Drive	Coral Gables	Florida	33134
Boca Grande Trust	485 Landreth Lane	Northfield	Illinois	60093
Bolero Trust, Jeffrey R. Grether, Trustee	27631 San Valle	Mission Viejo	California	92692
Boothe Texan Family Investments, LTD.	5204 Lincolnshire Court	Dallas	Texas	75287
Boscamp Family Limited Partnership, L.L.P.	5531 Winston Court	Dallas	Texas	75220
Botros Rizk Mitry Botros Rizk and Mary George Nawar Rizk	2302 Dryden Road	Houston	Texas	77030
Brower Family Partnership	5008 York Lane	Plano	Texas	75093
Browne Cattle Co., Inc.	P.O. Box 415	Wheatland	California	95692
Bruce H. Kendall Jr. and Andrea Yee	35 West Main Street, Suite B	Ventura	California	93001
Bryce E. Kennedy Jr. Trust	63 Edgewater Drive	Tifton	Georgia	31793
Burke Diversified, L.L.C.	242 La Flores	Aliso Viejo	California	92656
Byron Paulina, L.L.C., Elizabeth Degryse Buino, Mgr	2323 McDaniel Avenue, Apt 2104	Evanston	Illinois	60201
C. Allen Braswell 1988 Trust	14655 Highland Home Road	Yucaipa	California	92220
Calypso Green Investments, L.L.C.	P.O. Box 2143	Pinedale	Wyoming	82941
Cammack Royalties, L.L.C.	3500 South Ocean Shore Boulevard, Unit 111	Flagler Beach	Florida	32136
Candace Graham, Trustee of The Candace Graham 2004 Trust Dated Aug. 10, 2004	P.O. Box 81	Glenbrook	Nevada	89413
Carolyn S. Canha As Sole Trustee Under That Certain Unrecorded August N. Canha and Carolyn S. Canha Declaration Of Trust Dated 11/18/02	420 SW Waterfall Court	Lee's Summit	Missouri	64081
Castle Re Insurance Company, LTD FBO SA 1025 L.L.C.	6101 Falcon Lane	Morrison	Colorado	80465
Charles B. Adams Jr. Revocable Trust U/A 02-17-1999, Charles B. Adams Jr., Trustee & Edythe A. Adams, Trustee	711 North Crescent Drive	Hollywood	Florida	33021
Charles E. Overhiser and Dorothy A. Overhiser, Husband and Wife, Community Property With Right To Survivorship	4147 Calle Belleza	Las Cruces	New Mexico	88011
Charles Joseph Stein and Gail Ann Stein Husband and Wife As Community Property	5846 NE Tuscan Loop	Albany	Oregon	97321
Charles Mark Saunders and Kathryn Dianne Saunders, As Trustees Of The Saunders Family 1993 Trust	32 Pinewood Court	San Mateo	California	94403
Charron S. Kissam As Trustee Of The Charron S. Kissam Trust U/A Dated 3/27/95	728 Pointe Vedra Boulevard	Ponte Vedra Beach	Florida	32082
Chew Family Trust, Udt 11/26/1996, Andrew D. Chew and Linda C. Chew, Trustees	969 Holly Hock Drive	San Leandro	California	94578
Chris W. Jacobsen and Teresa L. Jacobsen	1813 Glenn Place	Davis	California	95616
Christine N. King Trust Dtd 8/14/1967 As Restated, Christine N. King, Trustee	28614 La Caille Drive	Naples	Florida	34119
Clark Michael Glasson Trust	P.O. Box 3747	Napa	California	94558
Collins 7369, L.L.C.	344 Clear View Court	Clermont	Georgia	30527
Coral Way L.L.C.	1385 Coral Way, Suite 304	Miami	Florida	33145

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Crofoot Cattle Co., Inc.	P.O. Box 53188	Lubbock	Texas	79453
Curtis A. Brewer and Sylvia Diane Brewer Trustees Under The Curtis A. Brewer and Sylvia Diane Brewer Revocable Trust Agreement, Dated 2/29/84	223 Country Club Road	Macon	Georgia	31210
Cynthia B. Noble, Trustee Of The Cynthia B Noble Trust Of 1995	P.O. Box 282	Blairsden Graeagle	California	96103
Dale & Beverly Johnson Family LTD Partnership	447 Northmont Way	Salt Lake City	Utah	84103
Dale A. Counce and Bette J. Counce, JTWROS	11934 West 75th Place	Arvada	Colorado	80005
Dale T. Darling and Roxanne V. Darling Trust Dated June 21, 2005	4885 Sierra Springs Drive	Pollock Pines	California	95726
Dale W. Martin As Trustee Utd 10/07/1996	7731 Hillandale Drive	San Diego	California	92120
Daniel E. McCabe and Shirley L. McCabe	1649 South Iris Way	Lakewood	Colorado	80232
Daniel J. Eberle Revocable Trust, Daniel J. Eberle Trustee	3234 Caminito Ameca	La Jolla	California	92037
Daniel J. Waldron, Individually	4001 Wood Lake Drive	Plano	Texas	75093
Darvel L. Sumner and Helen R. Sumner Family Trust Dtd April 25, 1988	6160 Caminito Plata	San Diego	California	92120
Dash Ranch, L.L.C.	RR 1 Box 248	McAlester	Oklahoma	74501
David King, A Married Man, As His Sole and Separate Property	P.O. Box 1400	Friday Harbor	Washington	98250
David L. Miller and Devonna J. Miller Living Trust	251 Futurity Lane	Fallbrook	California	92081
David Stebbins Trust Dtd 12/4/03	4948 Voltaire Street, Suite #1A	San Diego	California	92107
David Van Zomeren and Yvonne Van Zomeren Trustees For The Van Zomeren Family Trust	5156 Simoni Drive	Richmond	California	94803
Defined Benefit Plan For Employees Of Thomas S. Roy MDPA	9 Sunset Trail	Rockwall	Texas	75032
Dewayne H. Pickering and Joy L. Pickering	10738 West Cinnebar Avenue	Sun City	Arizona	85351
Dhirajlal B. Mistry and Sunita Mistry Trust Dtd 10/15/84	5234 Bindewald Road	Torrance	California	90505
DLNGR NR, L.L.C., A Delaware L.L.C.	6501 Red Hook Plaza 201, Pmb 534	St Thomas	Virgin Islands	802
Donna Panayotoff Or Her Successor(S), As Trustee Of The Donna M. Panayotoff Revocable Trust U/A Dated November 17, 1997, and Any Amendments Thereto	1001 Lakeshore Drive	Big Lake	Minnesota	55309
Douglas J. Graham, As Trustee Of The Douglas Graham Survivors Trust Dated December 16, 1996	780 Freels Peak Drive	Incline Village	Nevada	89451
Douglas M. and Barbara J. Allan Revocable Living Trust	P.O. Box 2218	Kirkland	Washington	98083
Dubrovnik Properties, L.L.C.	100 South Murphy Avenue, Suite 102	Sunnyvale	California	94086
Dufour Family Trust, David A. Dufour, Trustee	545 San Lucas Drive	Solana Beach	California	92075
Dunlap Exempt Trust, Susan P. Dunlap, Trustee	100 South Street, Apt #320	Sausalito	California	94965
Dwight Centanne and Roberta Centanne Living Trust Dtd March 28, 2001	1045 Vine Street	San Jose	California	95110
Dynamic Plumbing Systems 401K	5920 Winterhaven Avenue	Riverside	California	92504
E.O. Cobb LTD., A Texas Limited Partnership Dated 12/07/1994	808 West Round Grove Road	Lewisville	Texas	75067
East End Partners	8855 Baker Avenue	Rancho Cucamonga	California	91730
Edward D. Benton and Judith A. Benton, Trustees, The Benton Family Trust Dated 10/27/1993	1083 Flying Fish Street	Foster City	California	94404
Edward O. Raether and Jane Raether, Trustees of The Edward O. Raether and Jane Raether Revocable Living Trust	204 Los Gatos Boulevard	Los Gatos	California	95030
EHKM Enterprises, L.L.C.	29540 Southfield Road	Southfield	Michigan	48076
Ernest J. Vasek and Sandra L. Vasek	16003 Drifting Rose Circle	Cypress	Texas	77429
Estelle Elkus Trust Dtd 12/18/1987 As Amended	20155 Boca West Drive, Unit A601	Boca Raton	Florida	33434
Esther Brenner IRA	P.O. Box 609	Marion	Iowa	52302
Evelyn Leonard Trust Dated 5-14-82	215 Hobbs Street	San Angelo	Texas	76903
Ezell Family Trust, John T. Ezell & Margaret A. Ezell Trustee	6 Camino Botero	San Clemente	California	92673
F. Del Meeks and Jean S. Meeks, Joint Tenants	P. O. Box 53188	Lubbock	Texas	79453
Falcon Gas, L.L.C.	10580 Merriman Road	Cupertino	California	95014
FCC, L.L.C. Custodian Fbo Esther Brenner Ira, #1771-9928	P.O. Box 609	Marion	Iowa	52302
FCC, L.L.C. Custodian Fbo Mary B. Cadwising Account #4712-7896	c/o Berthel Fisher P.O. Box 609	Marion	Iowa	52302
FCC, L.L.C. Custodian Fbo Robert Kienow, Ira #46895928	P.O. Box 609	Marion	Iowa	52302
FCC, L.L.C. Custodian Fbo Robert R. Farsi Account #21721199	c/o Berthel Fisher P.O. Box 609	Marion	Iowa	52302
FCC, L.L.C. Custodian Fbo Warren James Holt Account #21563553	c/o Berthel Fisher P.O. Box 609	Marion	Iowa	52302
FCC, L.L.C. Fbo Joanne B. Scanlan Account #7584-2278	P.O. Box 609	Marion	Iowa	52302
FEHRCO, Inc., A Texas Corporation	1415 Woodland Trail	Abilene	Texas	79605
Fennessey Buick, Inc.	P.O. Box 670	Somerville	New Jersey	8876
Finkelstein Family L.L.C.	4319 Cedarwood Road	St Louis Park	Minnesota	55416
First Regional Bank Custodian Fbo Mark Mulligan Sep. IRA Escrow Account 10392	108 Montesano Street	Santa Cruz	California	95062
First Regional Bank Custodian Fbo Phillip Edward Mulligan Sep. IRA Escrow Account 10364	108 Montesano Street	Santa Cruz	California	95062
FISERV ISS & Co. Fbo Neil Galatz	c/o Fiserv Investment Support Services P.O. Box 173859	Denver	Colorado	80217
Flanagan Revocable Trust	11428 Quail Village Way	Naples	Florida	34119
Floyd D. Ahlstrom Revocable Family Trust Dated 3/11/1991	P.O. Box 303	Kanosh	Utah	84637
Foster Royalties, L.P.	4901 Lakeridge Drive	Lubbock	Texas	79424
Francisco C. Runas, Jr. and Hermelina P. Runas, Co-Trustees In Community Property of The Francisco C. Runas and Hermelina P. Runas Family Trust Dtd December 10, 1993	240 East 47th Street	Long Beach	California	90805
Frank A. Rodriquez and Frances J. Rodriquez, Trustees Of The Rodriquez Family Trust, Dtd 11-02-05	7651 Conquistador Court	Granite Bay	California	95746
Frederick T. Ingersoll and Pamela Ingersoll	37 Laurel Cove Lane	Travelers Rest	South Carolina	29690
Friedrich and Thorunn Bathelt Revocable Trust	209 West Blithedale Avenue	Mill Valley	California	94941
FXS/AFS Oil, L.L.C.	12218 Cleghorn Road	Cockeysville	Maryland	21030

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Kaji Revocable Trust Dtd 3-6-95	14540 Deer Park Court	Los Gatos	California	95032
Galatz 1977 Family Trust Neil G. Galatz Trustee Elaine B. Galatz Trustee	7350 North Rainbow Boulevard	Las Vegas	Nevada	89131
Garden Lane Associates, L.L.C.	4 Garden Lane	Yaphank	New York	11980
Garlock Trust Established February 17, 2005, James M. Garlock and Patricia S. Garlock, Trustees	148 Florence Avenue	Mill Valley	California	94941
Garrison Ranches, Inc.	P.O. Box 320006	Glen	Montana	59732
Gary R. Gorman and Deborah Y. Gorman	1856 East Desert Lark Pass	Green Valley	Arizona	85614
Gayle and Richard Hughes Charitable Trust	1438 South Indian Hills Circle	Salt Lake City	Utah	84108
George Michael Borgo Revocable Trust, George M. Borgo Trustee	9402 West Ross Avenue	Peoria	Arizona	85382
Gerald S. Juha and Anne T. Quinlan	6504 Pyle Road, Unit #1514	Bethesda	Missouri	20817
Gregory R. Scott Trustee and Gen X. Erquiaga, Trustee Of The Scott/Erquiaga Trust Dtd 6-20-01	5839 Overlake Avenue	San Diego	California	92120
Grove Limited Partnership II, John F. Grove, General Partner	90 South Alwine Avenue	York	Pennsylvania	17408
GS1031B, L.L.C.	152 Lincoln Road	Medford	New York	11763
H.C. Dodson Farms, Inc.	20 Ray Taylor Road	Tifton	Georgia	31793
H.C. Dodson Farms, Inc.	20 Ray Taylor Road	Tifton	Georgia	31793
Halbert L. Mork, Trustee Or Successor Trustee Under The Halbert L. Mork Family Trust Dtd August 31,1993	77 Aspen Way	Rolling Hills Estates	California	90274
Hayes Enterprise, L.L.C.	18000 Farm Hill Lane	Prune dale	California	93907
Herman Brodsky Irrevocable Living Trust, Dtd 10/27/1979, Jeffrey Brodsky and Dina Brodsky, Trustees	6809 Maple Creek Boulevard	West Bloomfield	Michigan	48322
Hill Properties L.L.C. A Limited Liability Company Of Colorado, Bernard P. Hill and Linda M. Hill, Mgrs	237 East Poppy Lane	Pueblo	Colorado	81007
Hofmann Finn Development Company, Inc. Profit Sharing Plan	3188 Airway Avenue, Suite A	Costa Mesa	California	92626
Howard A. Busby, Trustee Of The Busby Family Trust Udt June 18, 1980	1232 Via Mil Cumbres	Solana Beach	California	92075
Howard Ak, L.L.C.	P.O. Box 927042	San Diego	California	92192
Hunsberger FLP, Warren Hunsberger, General Partner	5762 Columbine	Johnston	Iowa	50131
I Tige Investments, LTD	5209 Runnin River Drive	Plano	Texas	75093
Inscorp Design Limited	6905 South 1300 East, No. 240	Midvale	Utah	84047
Jackson/Smith Family Revocable Trust, Sheila Joyce Smith and James Gregory Jackson, Trustees	12561 Woodgreen Street	Los Angeles	California	90066
James A. Carter, Trustee	915 Montecito Drive	San Angelo	Texas	76901
James A. Nehman and Stephanie L Nehman	719 Wood Lane	Sarasota	Florida	34237
James B. Jenkins and Leslie S. Jenkins	2026 South Ironton Court	Aurora	Colorado	80014
James F. and Nina L. Rider Revocable Inter Vivos Trust	1032 North High Desert Drive	Deer Park	Washington	99006
James M. and Rose Mary Hellman Revocable Trust, James Marquette Hellman Trustee	3105 Evan Drive	Bryan	Texas	77802
James M. Madden and Donna J. Madden, JTWROS	2344 Apple Ridge Circle	Manasquan	New Jersey	8736
James Ramsay Family Trust Dated 2-1-95, James A. Ramsay and Rose K.M. Ramsay, Trustees	252 Rocky Point Road	Palos Verdes Estates	California	90274
James V. Dimaria and Diane S. Dimaria, Trustees For The Dimaria Family Trust Dated May 10, 2002	27052 Hidden Trail Road	Laguna Hills	California	92653
James V. Dusserre and Joanne C. Dusserre JTWRS	504 Terrado Drive	Monrovia	California	91016
Janesky Trust, Dated 12/21/2001, and Any Amendments Thereto, Lawrence M. Janesky, Trustee and Wendy S. Janesky, Trustee	2725 Blue Cypress Lane	Wellington	Florida	33414
JDL Trust U/A/D 1/27/2004 Jack Laflesch, Trustee	6559 Water Crossing Avenue	Las Vegas	Nevada	89131
Jean E. Hunter Trust Dated June 8, 1989	17075 Pony Pond Drive	Colorado Springs	Colorado	80908
Jeffrey John Messner and Sharon Ann Messner	P.O. Box 234	Grizzly Flats	California	95636
Jenson & Jenson, Inc.	13465 Camino Canada Street, Suite 106 #175	El Cajon	California	92021
Jerome T. Smutek and Janice L. Smutek	2 Turnberry Lane	Dearborn	Michigan	48120
Jerry Jay Jauregui and Norma Jauregui Trust Dated February 18, 1998	1016 Red Oak Place	Chula Vista	California	91910
John C. Langhoff and Katherine R. Langhoff Trust	1346 Gerdes Road	Yoakum	Texas	77995
John F. Braswell and Michelle D.F. Braswell	12579 2nd Street	Yucaipa	California	92399
John J. Inglesby and Susan C. Inglesby	3730 Bay Drive	Edgewater	Maryland	21037
John Owen Murrin, Trustee and Devonna Kae Murrin, Trustee	7045 East Los Santos Drive	Long Beach	California	90815
John R. Lane and Hadie H. Lane 1999 Intervivos Trust, John R. Lane Or Hadie H. Lane, Trustees	2509 Gerald Way	San Jose	California	95125
Jon W. Bortz and Jeane M. Bortz	680 Hi Park Avenue	Red Wing	Minnesota	55066
Jones Family Trust Dtd 12/29/93	10526 Medoc Court	San Diego	California	92131
Joseph G. Temple and Margaret Ann Temple	175 South Garden Way, Apt 309	Eugene	Oregon	97401
Kastman Oil Company, L.L.C.	P.O. Box 5930	Lubbock	Texas	79408
Kenmore Property, L.L.C., Edward F. Tilyou, Sole Proprietor	355 Lexington Avenue, Floor 6	New York	New York	10017
Kenneth W. Gosliner and Joan R. Gosliner In Trust As Trustees Of The Gosliner Family Revocable Intervivos Trust Dated 9-27-91	525 San Pedro Cove	San Rafael	California	94901
Kieth A. Aho and Carol Aho	10142 Three Bridges Road	Cook	Minnesota	55723
Knapp Investments, L.P.	P.O. Box 342	Provo	Utah	84603
Knepp Royalties, L.L.C.	132 Snowbird Lane, #348	Dillard	Georgia	30537
Krupka 1, L.L.C.	509 Orchard Street	Santa Rosa	California	95404
Landia Development Definied Benefit Plan	11774 Pinedale Road	Moorpark	California	93021
Landia Development, Inc.	11774 Pinedale Road	Moorpark	California	93021
Larry J. Robertson and Faye Robertson	2008 West General Street	Rancho Palos Verdes	California	90275
Larry Kennard and Pat Kennard, Trustees of The Kennard Revocable Dot Dated 2-24-88	11969 Fuerte Drive	El Cajon	California	92020
Larry Paul Kline and Carol Rhea Kline	215 East Eucalyptus St. A	Ojai	California	93023
Laura L. Fanning and Don C. Fanning as JTWROS	2040 Downing Drive	Pensacola	Florida	32505
LB Equities, L.L.C.	26400 La Alameda	Mission Viejo	California	92691
LDA Limited Partnership	30301 Northwestern Hwy, #200	Farmington Hills	Michigan	48334
Leah Croul Fletcher Separate Property Trust	2245 Heather Lane	Newport Beach	California	92660

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Leah's Gas L.L.C.	2245 Heather Lane	Newport Beach	California	92660
Lee H. Kerr and Eleanor L. Kerr, Trustees Of The Lee H. Kerr and Eleanor L. Kerr Trust Dated December 10, 1991	807 South Ola Vista	San Clemente	California	92672
Leonard Garner Trust	7233 Promenade Drive, #802A	Boca Raton	Florida	33433
Lester Family L.L.C.	33105 Santiago Road, Space 118	Acton	California	93510
Lewis L. Sandidge and Terese A. Sandidge	12770 North 145th Way	Scottsdale	Arizona	85259
Lincoln Leong and Kit Fong Leong, Community Property	2242-9th Avenue	Oakland	California	94606
Loren D. Steele and Gayle D. Steele, Trustees Of The Loren D. Steele Living Trust	524 Camelot Drive	Aberdeen	South Dakota	57401
Louis Savader and Nita Savader	3804 Chimney Ridge Place, Apt 108	Durham	North Carolina	27713
Louisiana Baptist Children's Home	7200 Desiard Street	Monroe	Louisiana	71203
Lowell W. Hamilton Properties, L.L.C.	6523 West 13400 South	Merriman	Utah	84065
Lucas Energy Royalty Holdings, L.P.	2 Bridge Avenue, Suite 632	Red Bank	New Jersey	7701
Lucas Energy Total Return Partners II, L.P.	2 Bridge Avenue, Suite 632	Red Bank	New Jersey	7701
Lucas Energy Total Return Partners, L.P.	2 Bridge Avenue, Suite 632	Red Bank	New Jersey	7701
Luetta Robertson Johnston Revocable Trust	1588 East Desert Garden Drive	Tucson	Arizona	85718
Lyman W. Taylor and J-Mae Taylor Trustees Under Terms Of That Certain Declaration Of Trust Dated 10/10/1989	5044 Lassen Avenue	San Jose	California	95129
Lynn Brenchley & Villa Brenchley	524 Bringhurst Drive	Providence	Utah	84332
Lynn E Adamson Living Trust, Lynn E Adamson, Trustee	3776 Hawk Street	San Diego	California	92103
M & S Hardin, LTD	3548 Rankin Avenue	Dallas	Texas	75205
Maichen Group, A California Corp	P.O. Box 675101	Rancho Santa Fe	California	92067
Mallios Usa L.L.C., 111 New Land Corp., Sole Member	2822 Broward Road	Jacksonville	Florida	32218
Marble Rock Investments, L.L.C.	2900 Douglas Street	Omaha	Nebraska	68131
Mardot, L.P.	50885 Waldon Park Lane	Granger	Indiana	46530
Margolis Royalties, L.L.C.	542-C Via Estrada	Laguna Woods	California	92637
Marine Street Holdings, L.L.C.	156 Marine Street	Saint Augustine	Florida	32048
Mark Diem Trust Dtd 5/8/97 As Amended	4345 Oak Grove	Bloomfield Hill	Michigan	48302
Mark William Dubuque and Lillian Marie Dubuque	20199 Markwood Xing	Estero	Florida	33928
Marston Family Living Trust	1504 Westridge Drive	Plano	Texas	75075
Marvin Salles Revocable Trust	1150 East Mesquite Avenue	Palm Springs	California	92264
Mary B. Cadwising Ira	P.O. Box 609	Marion	Iowa	52302
Marylin McClelland-Saleny First Family Partnership	2008 Laura Drive	Clarksville	Tennessee	37042
Matthew Hicken & Dana Hicken	3601 Sable Falls Lane	Celina	Texas	75009
McIntire Feed & Grain, Inc.	4720 March Avenue	Stacyville	Iowa	50476
McNab Energy L.L.C.	215 East Eucalyptus Street, Unit B	Ojai	California	93023
Meyers 1, L.L.C.	501 Silverside Road, Suite 52	Wilmington	Delaware	19808
MFM Partners	16105 West 113th Street, Suite 108	Lenexa	Kansas	66219
MIC Royalties, L.L.C.	6342 Vrain Street	Arvada	Colorado	80003
Michael H Hansen Trustee Of The Allyn & Harriet Hansen Family Trust Dtd 4/24/90	814 Carter Acres Lane	Martinez	California	94553
Mike Spalding and Paula Spalding	18 Buckthorn Drive	Littleton	Colorado	80127
Millennium Trust Co. L.L.C. Custodian Fbo Peter J. Stetson Ira #901826018	c/o Millenium Trust Co. LLC, 2001 Spring Road, Suite 700	Oak Brook	Illinois	60523
Miller High View, L.L.C.	1885 Boardwalk	Saint Joseph	Michigan	49085
Mir Mohammad Ghaemie, A Single Man and Alan Ghaemie, (Fka Saied A Ghaemie), An Unmarried Man As Joint Tenants	6709 Greenleaf Avenue, Suite 303	Whittier	California	90601
Miriam Garner Trust	7233 Promenade Drive, #802A	Boca Raton	Florida	33433
Mittman Associates. Inc.	10467 East Raintree Drive	Scottsdale	Arizona	85255
Mohammad I. Makhani Trustee Of The M and P Makhani Family Trust	20302 Bulverde Road, Unit 203	San Antonio	Texas	78259
Moore Family Trust Dtd 11/3/1983	986 Calle Plantador	Thousand Oaks	California	91360
Mother Lode Technologies, Inc.	P.O. Box 20380	Carson City	Nevada	89721
Murrin Family Trust Dtd 11/15/05, Robert Murrin Trustee	5716 Miguel Way	Long Beach	California	90814
Na Na Ranch, L.L.C.	7609 Burns Run	Dallas	Texas	75248
Nancy E. Beach Revocable Living Trust Dated October 12, 1994, Nancy E. Beach, Trustee	4036 Mclaughlin Drive	Tallahassee	Florida	32309
Nicholas S. Vacca and Jennie C. Vacca	201 Kingsberry Circle, Apt. 422	Pittsburgh	Pennsylvania	15234
Noble Royalty Access Fund II L.P.	15601 North Dallas Parkway, Suite 900	Addison	Texas	75001
Noble Royalty Access Fund IX L.P.	15601 North Dallas Parkway, Suite 900	Addison	Texas	75001
Noble Royalty Access Fund XI	15601 North Dallas Parkway, Suite 900	Addison	Texas	75001
Norm Turoff, Trustee 1997 Turoff Revocable Family Trust	17660 Butterfield Trail	Poway	California	92064
Norman and Carol Takaki Living Trust Dtd 5/4/1992	2929 Northwood Drive	Alameda	California	94501
Norman Chao and Marina Chao, Trustees Of The Norman L. Chao and Marina S.C. Chao 1993 Revocable Living Trust	946 Marion Way	Sunnyvale	California	94087
Nupetco Associates, L.P.	2001 Windsor Street	Salt Lake City	Utah	84105
Nye-Nebel Revocable Trust Dtd 2/5/98, June S. Nye-Nebel and Larry N. Nebel, Trustees	900 Park Avenue	Laguna Beach	California	92651
O & G Investment, L.L.C.	416 Travis Street, Suite 1200	Shreveport	Louisiana	71101
O. Giorgis L.L.C., Up and East Inc., Sole Member	2834 Broward Road	Jacksonville	Florida	32218
O. Mimis L.L.C., Up and East Inc., Sole Member	2834 Broward Road	Jacksonville	Florida	32218
O'Hanks Living Trust, Cathie O'Hanks and Roy O'Hanks, Co-Trust Managers	P.O. Box 660	El Cerrito	California	94530
Ozibko Family Trust	5222 Skinner Street	Irvine	California	92604
Parks Family Trust	2778 Hayloft Court	Morgan Hill	California	95037
Patrick Joseph Farrell 2000 Trust	529 Commercial Street, 2nd Floor	San Francisco	California	94111
Paul E. McNulty Revocable Trust	2101 Connecticut Avenue NW, #86	Washington	Dc	20008
Paul M. Girel & Rita A. Rubina - Girel	1081 Beach Park Boulevard, Apt 307	Foster City	California	94404
Paul William Sullivan, Jr. and Stacey Maureen Sullivan, Husband and Wife As Joint Tenants	4 Newcastle Lane	Laguna Niguel	California	92677

COMPANY/SPOUSE	ADDRESS 1	CITY	STATE	ZIP
Paula A. Tischler-Watson Trustee Of The Bruce A. Watson 2003 Revocable Trust Dated April 9, 2003	712 Carlisle Way	Sunnyvale	California	94087
Paula K. Simmons Revocable Trust	716 Hermleigh Road	Silver Springs	Maryland	20902
Perry D. Miller and Barbara R. Miller Trustee, of The Miller Family Trust Dated Sept. 20, 1983	25560 Shatter Way	Carmel	California	93923
Pesco Holdings, L.L.C.	3720 Interlaken Drive	Plano	Texas	75075
Peter Barrett and Stacy Barrett, Husband and Wife	659 South 6th Street	San Jose	California	95112
Peter Erskine Living Trust	1975 SE Crystal Lake Drive, #232	Corvallis	Oregon	97333
Philip R. Christensen and Deborah H. Christensen as JTWROS	c/o Charles Schwab P.O. Box 173797	Denver	Colorado	80217
Pinkston Royalties, L.P.	4901 Lakeridge Drive	Lubbock	Texas	79424
Pinkston Royalties, L.P., et al.				
Pinnacle Paradise, Inc	8711 East Pinnacle Peak Road	Scottsdale	Arizona	85255
Premier Trust, Inc., Agent For Davidson Family Trust	4465 South Jones Boulevard	Las Vegas	Nevada	89103
Preston Resources, Inc.	11904 Arbor Street, Suite 200	Omaha	Nebraska	68114
Ralph Thorsland and Ronald Thorsland	61 Center Street	Ramsey	New Jersey	7446
Raymond E. Lowe and Delores P. Lowe JTWROS	2209 Zinnia Way	Golden	Colorado	80401
Rescate Royalties, L.P.	P.O. Box 53188	Lubbock	Texas	79453
Reyes 2006 Living Trust	3379 Hillside Court	San Jose	California	95132
Richard A. Bills and Julia A. Bills	5715 Hagen Court	Dallas	Texas	75252
Richard D. Miller and Jane F. Miller	1885 Boardwalk	St Jospeh	Michigan	49085
Richard G. Smith, Trustee for the benefit of Richard G. Smith Family Trust	74 Monarch Bay Drive	Monarch Beach	California	92629
Richard L. Green and Bettye J. Green	2146 Ponticello Drive	Henderson	Nevada	89052
Richard M. Duffield and Donna S. Maglott Duffield	6880 Dell Road	Saline	Michigan	48176
Richard P. Wynne and Patricia L. Wynne	6700 North Linder Road Suite 156	Meridian	Idaho	83646
Richard S. Golden Revocable Trust Dtd 10-2-1987 As Amended	497 Dunston Road	Bloomfield Hills	Michigan	48304
Richard W. Wall and Mary S. Wall	P.O. Box 632	Gualala	California	95445
Ritwell, L.L.C.	1650 Fillmore Street, Apt. 1504	Denver	Colorado	80206
River North Investments, L.P.	62 West Huron Suite 1-E	Chicago	Illinois	60610
RKB L.L.C.	808 Maria Avenue	Spring Valley	California	91977
RLG Resources L.L.C.	31765 Burlwood Drive	Solon	Ohio	44139
Robert D. Silicz and Carol L. Silicz, Trustees of The Robert D. Silicz and Carol L. Silicz Trust	1755 Karchner Road	Sheridan	California	95681
Robert E. Nygard and Ruth E. Nygard Revocable Trust	1812 River Road	Fulton	California	95439
Robert Kienow IRA	P.O. Box 609	Marion	Iowa	52302
Robert L. Miller and Marilyn S. Miller	104 Olivera Way	Palm Beach Gardens	Florida	33418
Robert M. Green, Trustee Of Robert M. Green Revocable Living Trust, Dated 3/10/95	6296 Old Water Oak Road	Tallahassee	Florida	32312
Robert R. Farsi IRA	P.O. Box 609	Marion	Iowa	52302
Roberta Centanne Living Trust	2751 Westgate Avenue	San Jose	California	95125
Rochelle K. Forester Trust U/A/D 1-23-91	991 Lake Park	Birmingham	Michigan	48009
Rodenburg Joint Trust, Franklin G. Rodenburg and Beverly J. Rodenburg, Co-Trustees	5019 South Carmel Bluffs Circle	Saint George	Utah	84790
Rodney M. George Living Trust Dtd 12/28/00	4737 Wendrick Drive	West Bloomfield	Michigan	48323
Roger A. Ritvo and Lynn R.L. Ritvo	1500 Little Haven Street Apt 314	Denver	Colorado	80202
Roger D. Hecht PSP, Roger D. Hecht, Trustee	150 Central Park, South #2202	New York	New York	10019
Rogers Wilson Investments	4210 Spicewood Springs Road, Suite 203	Austin	Texas	78759
Rolling Willow L.L.C., Ruth Ku and James Ku, Members	4620 Chancery Way	Sacramento	California	95864
Ronald Licht Revocable Trust U/A/D 8/8/63 Restated 7/19/93	2189 Fawnwood Way	Bloomfield	Michigan	48302
Royalties Holdings L.L.C.	6101 Oakton Street	Skokie	Illinois	60077
S.I.I., L.L.C.	2803 Concord Drive	Wall	New Jersey	7719
Sadler Family Trust, Dtd 7/17/2000, Jack Sadler, Trustee	1060 Kratzer Circle	Henderson	Nevada	89002
Samco Realty, L.L.C.	448 Howard Avenue	Franklin Square	New York	11010
Scarlett N. Dill Revocable 2006 Trust	151 Marina Drive	Bullard	Texas	75757
Smith Mountain Lake Development Corp.	8A Florida Drive	Whiting	New Jersey	8759
Sparks Family Trust Dtd September 18, 1990, Fred G. Sparks, Trustee and Joyce M. Sparks, Trustee	48 White Water Drive	Corona Del Mar	California	92625
Spring Park Ranch, L.P.	35 Travelers Home Road	Philipsburg	Montana	59858
Stanley W. Corbett and Johanna M.D. Corbett, Trustees Or Their Successor, Under The Stanley W. and Johanna MD. Corbett Family Trust Dated March 23,1995	813 Via Conejo	Palo Verdes Estates	California	90274
Stephen D. Richardson and Marianna E. Richardson As JTWROS	1296 North Eastview Lane	Alpine	Utah	84004
Stephen E. Webber and Julie D. Webber	1027 Matilija Road	Glendale	California	91202
Sterling Trust Company FBO Helga Lininger A/C 85140	P.O. Box 2526	Waco	Texas	76702
Sterling Trust Company, Custodian FBO Garry Lenn Johns IRA - A/C #85289	P.O. Box 2526	Waco	Texas	76702
Sterling Trust Company, Custodian FBO Lisa Amy Cohen IRA - A/C #85957	P.O. Box 2526	Waco	Texas	76702
Sterling Trust FBO Derril K. Kripke IRA Rollover A/C 74226	P.O. Box 2526	Waco	Texas	76702
Sterling Trust FBO Rudolph Melendez	P.O. Box 2526	Waco	Texas	76702
Stonevest L.P.	165 Capitol Avenue Suite 1000	Hartford	Connecticut	6106
STR Investments, L.L.C., A Texas L.L.C.	P.O. Box 560747	Dallas	Texas	75356
Sturgis Realty, LTD., John R. Sturgis, G.P.	P.O. Box 1265	Beaufort	South Carolina	29901
Subodh Chander Shourie and Poonam Shourie	40947 Cruz Court	Fremont	California	94539
Sue F. Freeman Trust	760 Bolsana Drive	Laguna Beach	California	92651
Sugako Marumoto Trust Dtd 7-1-05	3037 Westwood Boulevard	Los Angeles	California	90034
Susan Braun Barnett Revocable Trust, Susan Braun Barnett, Trustee	123 West Bodley Avenue, Apt 204	St. Louis	Missouri	63122
Susan L. Hart As Trustee, Or The Successor Trustee, Of The Susan L. Hart Revocable Trust Dated September 14, 2006	1011 Southwest Emkay Drive, #101	Bend	Oregon	97702

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T. Marumoto Trust Dtd 7-16-03	3037 Westwood Boulevard	Los Angeles	California	90034
Tanaa Marie Frederic Living Trust Dtd 7/19/02	8076 Laborie Lane	Wellington	Florida	33414
Tanner Royalty Properties, L.L.C.	1800 North Norwood, Suite 104	Hurst	Texas	76054
Tapper Properties (Thomas) L.L.C., Paul J. Barulich, Trustee Malvina Tapper Living Trust, Sole Member	57 Airport Boulevard Suite 400	Burlingame	California	94010
Tapper Properties (Wachter) L.L.C., Paul J. Barulich, Trustee Malvina Tapper Trust, Sole Member	57 Airport Boulevard Suite 400	Burlingame	California	94010
Taragon Investment, L.L.C.	1277 Mesa Court	Golden	Colorado	80403
Teal 1031 L.L.C.	6800 Rt. 25, Suite 120W	Syosset	New York	11791
Teal Royalties Debra Shade L.L.C.	9890 South Flower Court	Littleton	Colorado	80127
Teal Royalties Jerry Pickering L.L.C.	9890 South Flower Court	Littleton	Colorado	80127
Teal Royalties Randy Pickering L.L.C.	9890 South Flower Court	Littleton	Colorado	80127
Teal Royalties, L.L.C.	160 Greentree Drive Suite 101	Dover	Delaware	19904
Teal Royalties, L.L.C.	c/o Noble Royalties, Inc. 15601 North Dallas Parkway, Suite 900	Addison	Texas	75001
Tealmich L.L.C.	2 Turnberry Lane	Dearborn	Michigan	49120
Teal-Wagner, L.L.C.	22638 East Weaver Drive	Aurora	Colorado	80016
Temin 1987 Partnership	c/o Noble Energy, Inc., Managing Partner 100 Glenborough Dr	Houston	Texas	77067
Teolis, L.L.C.	111 Brandywine Drive	Canonsburg	Pennsylvania	15317
Teolis, L.L.C.	111 Brandywine Drive	McMurray	Pennsylvania	15317
TFT Holdings, L.L.C., a Nevis L.L.C.	2828 61st Street	Galveston	Texas	77551
The Anna Degroote Trust, Dtd 1-20-2000, Anna Degroote, Trustee	1519 Indiana Avenue	South Pasadena	California	91030
The Bertram I. Weiner Revocable Trust	11408 Fairoak Drive	Silver Spring	Maryland	20902
The Byman Family Trust, Dated May 29, 1998	111 Creekview Drive	St. Charles	Missouri	63304
The Coogan Family Trust Dtd 3/10/87	45 Shady Vista Road	Rolling Hills Estates	California	90274
The Delia T. Molloy 2000 Revocable Living Trust, Delia T. Malloy, Trustee	2016 Texas Way	San Mateo	California	94403
The Elaine K. Weiner Revocable Trust	11408 Fairoak Drive	Silver Spring	Maryland	20902
The Fehervari Living Trust, Peter J. Fehervari, Trustee and Ada M. Fehervari, Trustee of the Fehervari Living Trust	1837 Alpha Avenue	South Pasadena	California	91030
The Gene and Pauline Anderson Revocable Trust	3544 Custer Street, #3	Oakland	California	94601
The Gerald E. and Phyllis B. Dennis Living Trust, Dtd 10/11/97	9472 Vons Drive	Garden Grove	California	92841
The Gillett Family Trust U/A 12/28/1999, Thomas Gillett and Carol Gillett, Trustee	40 West 3rd Avenue Apt 404	San Mateo	California	94402
The Himalayan L.L.C.	1610 Oak Island Drive	Charleston	South Carolina	29412
The James E. and Joyce E. Posik 2001 Revocable Trust, Dtd 7/19/2001	2334 First Avenue	Upland	California	91784
The Kenneth and Debra Leon Family Trust	5055 Louise Avenue	Encino	California	91316
The Lockett Family Trust U/T/A Dtd March 19, 2004 - Steven Gale Lockett and Bonnie Lucia Lockett, Trustees	14425 Rim Rock Drive	Reno	Nevada	89521
The Matetich Children's Trust	4 Penrith Court	Rockwall	Texas	75032
The Osborne Family Living Trust U/A 7-1-2003	42301 North Long Cove Way	Anthem	Arizona	85086
The Rene Sommer Living Trust, 1997	3 Vistawood Way	San Rafael	California	94901
The Salama Family Trust Dtd 11-10-99	26970 Pacific Terrace	Mission Viejo	California	92692
The Thiel Family Trust U/A/D/ 7/10/03, Amended 10/26/05 As Community Property, Stephen P. and Venus H. Thiel, Trustees	4323 NE 170th Street	Lake Forest Park	Washington	98155
The Todd G. Chatterton Living Trust	3439 Goldfinch Way	Chandler	Arizona	85286
The Whimsey L.L.C.	13615 Vermillion Trail	Longmont	Colorado	80504
The White-Zahn Family Trust	4885 Franklin Pond Road	Atlanta	Georgia	30342
TLTG Investments, LTD	5309 Corinthian Bay Drive	Plano	Texas	75093
Tochilin Family Trust Date 11-17-1997, Gerald E. Tochilin, Trustee and Sharon K. Tochilin, Trustee	5411 Indian Wells Court	Anaheim	California	92807
Tog Asset Holdings, L.L.C., A Colorado Limited Liability Company	5675 West Iliff Drive	Lakewood	Colorado	80227
Tommy Roark and Rosalinda Roark	3316 Vista Drive	Nampa	Idaho	83686
Torii Hunter and Katrina Hunter, Husband and Wife	1640 East Frontier Parkway	Prosper	Texas	75078
Trifaith Oil Inc. c/o Morneau & Murphy Attn: John Murphy	77 Narragansett Avenue	Jamestown	Rhode Island	2835
Trivedi Family 1994 Trust	202 India Lane	Fallbrook	California	92028
Trufas Y. Vino L.L.C.	5005 Lake Fjord Pass	Marietta	Georgia	30068
Trust of James Peijen Shee and Cheng-Lien Charlene Shee	4067 Hardwick Street	Lakewood	California	90712
Tweed Living Trust, Paul E. Tweed, Jr. or Mary Lou Tweed, Trustees	621 Whitman Drive	Turnersville	New Jersey	8012
Umble Family Trust, Nelson Umble and Marian Umble, Trustees	P.O. Box 5487	Carefree	Arizona	85377
United Property & Investments, L.L.C., Chamy Lee, Managing Member	1849 San Pedro Court	Fairfield	California	94533
Vail Consulting, L.P.	15610 Witt Place Apt 4147	Addison	Texas	75001
Van Thompson Partnership	909 South Edward Street	Mt Prospect	Illinois	60056
Vivian Bellini Trustee of The Vivian Bellini Revocable Living Trust, Dtd 3/4/1991	5478 Paseo Callado	Hemet	California	92545
Wallace L. Bailey and Cheri L. Bailey	P.O. Box 410	White Sulphur Springs	Montana	59645
Walter Long, A Married Man	420 Montgomery Street	San Francisco	California	94104
Walton D. Ross, Trustee, Utd 1-27-04	70 SW Century Drive Suit 100	Bend	Oregon	97702
Warren James Holt IRA	P.O. Box 609	Marion	Iowa	52302
Watkins Family Trust Dated 7/6/89, Billy D. Watkins and Sharon V. Watkins, Trustees	26056 Willowbrook Court	Murrieta	California	92563
Wayne W. Wilson and Betty V. Wilson, Trustees or their Successors, under The Wayne W. and Betty V. Wilson Family Trust Dtd 11-4-91, as amended and restated on 8-4-04	2710 West 230th Street	Torrance	California	90505
Wellspring Investments, L.L.C.	1277 Mesa Court	Golden	Colorado	80403
Whann Family Limited Partnership, an Alaska Limited Partnership	6125 Luther Lane, #584	Dallas	Texas	75225
White Tail Hawk, L.L.C.	11812 North 122nd Way	Scottsdale	Arizona	85259

COMPANY/SPOUSE	ADDRESS 1	CITY	STATE	ZIP
William A. Hutchings & Peggy D. Hutchings, Trustees of The Hutchings Trust Udt 9/5/2002	4887 Venner Road	Martinez	California	94553
William Auther Myers, Jr., Trustee of The Lucy S. Myers Revocable Trust U/A Dtd June 10, 1993	784 Lewis Lane	Murrells Inlet	South Carolina	29576
William Auther Myers, Jr., Trustee of The William Auther Myers, Jr. Revocable Trust U/A Dtd June 10, 1993	784 Lewis Lane	Murrells Inlet	South Carolina	29576
William B. Scott and E. Lorraine Scott, Trustees of The Scott Family Trust Dated 8-21-1984	418 Hershner Way	Los Gatos	California	95032
William C. King Dtd 5/15/1987 as amended, William C. King, Trustee	28614 La Caille Drive	Naples	Florida	34119
William H. Bradshaw and Diana R Bradshaw, Trustees of The Bradshaw Family Trust Created on February 7, 1991	3927 Lighthouse Place	Discovery Bay	California	94505
Willow JF 1031 L.L.C.	168 Brookville Road	Glen Head	New York	11545
Willowfam L.L.C.	168 Brookville Road	Glen Head	New York	11545
Wortel Trust - Teal L.L.C.	5892 Lakeville Road	Orlando	Florida	32818
Yee Family Trust, Dated 6-16-05	5047 Cumberland Drive	Cypress	California	90630

ATTACHMENT H

TEXAS RAILROAD COMMISSION LETTER

Geostock Sandia

The Application was Submitted to the Texas Railroad Commission on Monday, March 31, 2025.

This is a placeholder for the No Harm Letter to be received.

ATTACHMENT I

FINANCIAL ASSURANCE

Geostock Sandia

Bluebonnet intends to use a corporate guarantee as the mechanism to demonstrate financial assurance for well closure as provided in 30 TAC § 37.7021(b)(7). (Bluebonnet also has the ability and may choose to comply with 30 TAC Chapter 37, Subchapter Q utilizing a Letter of Credit or Surety Bond as provided in 30 TAC § 37.7021(b).)

The selected mechanism will be provided to the TCEQ Financial Assurance Unit at **least 60 days** prior to commencement of drilling operations.