

Texas Commission on Environmental Quality

# Permit Application To Conduct In-Situ Mining of Sodium Sulfate

# Instructions

1. A person (individual, corporation or other legal entity) who intends to operate an underground injection activity to recover sodium sulfate from subsurface deposits must obtain a permit pursuant to the Texas Water Code, Chapter 27. If the operator of the facility is not the owner, then the operator shall be the applicant for a permit. The applicant is referred to Title 30 of the Texas Administrative Code (TAC) Chapters 281, 305 and 331 for technical and procedural regulations. Handling and storage of radioactive materials is authorized by the Texas Commission on Environmental Quality through a Radioactive Material license in accordance with TAC Chapter 336. See [Title 30 Texas Administrative Code](https://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=3&ti=30&pt=1)[[1]](#footnote-1) for more information.
2. A person may not commence underground injection activities for the purpose of leaching or otherwise recovering sodium sulfate until the commission has issued a permit to authorize such activities.
3. The application (one original plus three complete copies) should be delivered to the following mailing address or physical address:

**Mailing address:**

Texas Commission on Environmental Quality

Attn: UIC Permits Team

Radioactive Materials Division

Mail Code: 233

P.O Box 13087

Austin Texas 78711 3087

**Physical address:**

Texas Commission on Environmental Quality

Attn: UIC Permits Team

Radioactive Materials Division

Mail Code: 233

12100 Park 35 Circle Building: F

Austin Texas 78753

Additionally, for new, renewal, major amendment and minor amendment applications provide a CD or DVD with a copy of the application text formatted in Microsoft Office Word 2007 or a totally compatible format.

The third copy should consist of paper copies of all plans, well logs, seismic data, maps and cross-sections, and a CD or DVD of the remaining document. The document should be formatted in Microsoft Office Word 2007 or a totally compatible format.

Telephone inquiries:

(512) 239-6466 - Technical - Underground Injection Control

(512) 239-6466 - Licensing – Radioactive Materials Division

(512) 239-0600 - Legal - Environmental Law Division

(512) 239-0300 - Fees - Financial Administration Division

(512) 239-6833 - Registration Review and Reporting Section

(512) 239-6260 - Financial Assurance - Financial Assurance Section

1. The application consists of nine sections: Section I – General Information, Section II – Facility Background Information, Section III – Information Required to Provide Notice, Section IV - Financial Assurance, Sections V thru IX - Technical Report. The Technical Report addresses geology, hydrology, well construction, facility operation, mine plan, excursion prevention, and aquifer exemption.

Information submitted should be organized and labeled consistent with the organization of this form. For example, the discussion of regional geology should be labeled as Section V.A. The application should be organized in three-ring binders not to exceed three inches in thickness. All pages should be numbered and placed in the binders. Once the application is submitted, any revised text, tables, or maps should be clearly marked as revisions and dated. Any new pages, tables, maps or well logs should be clearly marked as additions and numbered or labeled appropriately for insertion into the application.

For a new permit application or renewal application, submit:

1. an original complete application, plus two (2) full paper copies;
2. a CD or DVD of the application text; and
3. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division with a photostatic copy of the check included in the original application.

For a major amendment application [30 TAC §305.62(c)(1)], submit:

1. an original application, plus two (2) paper copies;
2. the application must include Section I, the Signature Page, and Section II **plus** any other portion of the application that changes as a result of the major amendment;
3. if any portion of application Sections IV through IX are revised, include the Technical Report Signature Page;
4. a CD or DVD of the application text; and
5. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division with a photostatic copy of the check included in the original application.

For a minor amendment application [30 TAC §305.62(c)(2)], submit:

1. an original application, plus two (2) paper copies;
2. the application must include Section I.A through H, the Signature Page, and Section II **plus** any other portion of the application that changes as a result of the minor amendment;
3. if any portion of application Sections IV through IX are revised, include the Technical Report Signature Page;
4. a CD or DVD of the application text; and
5. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division with a photostatic copy of the check included in the original application.

For a minor modification application [30 TAC §305.72], submit:

1. an original application, plus two (2) paper copies;
2. the application must include Section I.A through H and the Signature Page **plus** any other portion of the application that changes as a result of the minor modification;
3. if any portion of application Sections IV through IX are revised, include the Technical Report Signature Page; and
4. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division with a photostatic copy of the check included in the original application.

For a transfer application [30 TAC §305.64], submit:

1. an original application, plus two (2) paper copies;
2. the application must include Section I.A through H, the Signature Page, Section II and Section III;
3. the date of the proposed transfer;
4. if the permittee is filing the application, the name and address of the transferee;
5. if the transferee is filing the application, a sworn statement that the application is made with the full knowledge and consent of the permittee; and
6. a check for payment of permit application fees transmitted directly to the TCEQ Financial Administration Division with a photostatic copy of the check included in the original application.
7. Signatures on Application: Refer to 30 TAC §305.44, “Signatories to Applications.” The application must be signed by the applicant and be verified before a notary public. If another person signs on behalf of the applicant, this person's title or relationship to the applicant should be shown. In all cases, the person signing the form should be authorized to do so by the applicant. The Commission may require a person signing on behalf of an applicant to provide proof of authorization. An application submitted for a corporation must be signed by (or the signatory must be authorized by) a principal executive officer of at least the level of vice president; or for a partnership or sole proprietorship, by a general partner or the proprietor, respectively. For a municipal, state, federal, or other public facility, the application must be signed by either a principal executive officer or ranking elected official.

Please note that the version date in the footer of the application pages should be the same as the date that the signature page is signed.

1. An application will not be processed until all information required to properly consider the application has been obtained. When an application is severely lacking in detail and/or the applicant fails to submit additionally requested information in a timely manner, the application will not be considered to be "filed in accordance with the rules and regulations of the Commission" and may be returned. [30 TAC §281.18] When an application is returned, one copy will be retained to comply with state records laws. [Texas Government Code §441.187]
2. Fees and Costs:

Table 1: Fees and Costs

| Type of Application | Application Fee1 | Rule Cite30 TAC | Notice Fee 30 TAC §305.53(b) |
| --- | --- | --- | --- |
| New Class III Area Permit or PAA | $100 | §305.53(a) | $50 per application |
| Amendment to Class III Area Permit or PAA | $100 | §305.53(a) | $50 per application |
| Renewal of a Class III Area Permit | $100 | §305.53(a)(1) | $50 + $15 per application |
| Transfer2 of a Class III Area Permit or PAA | $100 | §305.64(b)(4) | $50 per application |
| Minor Modification of a Class III Area Permit or PAA | $100 | §305.53(a) | None per 30 TAC §305.72(b) |

1 each Class III area permit and PAA requires a separate application

2 change of ownership of a permitted facility

The applicant for an area permit and PAA are required to bear the cost of publication of notice of the application in a newspaper. [30 TAC §39.651(d)(1)]

Payment of fees and costs should be made at the time the application is submitted. Send payment to:

Financial Administration Division

Texas Commission on Environmental Quality

Mail Code 214

P O Box 13088

Austin Texas 78711-3088

Send with the payment a copy of page 1 of the application form (one copy per injection well); write “New Well” on the page if this is an initial application.

1. Designation of Material as Confidential

The designation of material as confidential is frequently carried to excess. The Commission has a responsibility to provide a copy of each application to other review agencies and to interested persons upon request and to safeguard confidential material from becoming public knowledge. Thus, the Commission requests that the applicant (1) be prudent in the designation of material as confidential and (2) submit such material only when it might be essential to the staff in their development of a recommendation.

The Commission suggests that the applicant **not** submit confidential information as part of the permit application. However, if this cannot be avoided, the confidential information should be described in non-confidential terms throughout the application, and submitted as a document or binder, and conspicuously marked "**Confidential.**"

Reasons of confidentiality include the concept of trade secrecy and other related legal concepts that give a business the right to preserve confidentiality of business information to obtain or retain advantages from its right in the information. This includes authorizations under 5 United States Code (USC) 5552(b)(4), 18 USC 1905, and special rules cited in 40 Code of Federal Regulations (CFR) §§552.301-2.309. Section 361.037 of the Texas Health and Safety Code does not allow an applicant for an industrial and hazardous waste permit to claim as confidential any record pertaining to the characteristics of the industrial solid waste.

Information which deals with the existence, absence or levels of contaminants in drinking water will not be considered confidential [30 TAC §305.46(f)].

The applicant may elect to withdraw any confidential material submitted with the application. However, the permit cannot be issued, amended, or modified if the application is incomplete.

1. All engineering and geoscience plans, specifications, calculations, analyses, reports and other related engineering and geoscience documents must be prepared, sealed, signed, and dated by a Texas professional engineer (P.E.) or a Texas professional geoscientist (P.G.), as appropriate. Please refer to the Texas Engineering Practice Act (Occupations Code Chapter 1001), the rules Concerning the Practice of Engineering and Professional Engineering Licensure (22 TAC Part 6 Chapter 131), the Geoscience Practice Act (Occupations Code Chapter 1002), and the Rules For Geoscientist Licensure And The Practice Of Geoscience (22 TAC Part 39 Chapters 850 and 851). P.E. and P.G. Board rules (22 TAC §131.166 and 22 TAC §851.156) require that all engineering and geoscience pages be sealed, signed and dated unless contained in a bound document, in which case only the original title sheet needs to be sealed. If a single seal is used on a bound document, there must be a note near the seal clearly stating which pages of the document the seal covers. All engineering and geoscience plans and drawings must be individually sealed, signed and dated. If there are subsequent revisions to pages covered by the engineering or geoscience seal, each revised page must be individually sealed. An engineer or geoscientist may not seal a document in a field outside their area of expertise. If more than one P.E. or P.G.’s work is contained in a document, each engineer’s or geoscientist’s seal is required on the document, and the limits of their work must be clearly indicated. See the [Texas Board of Professional Engineers](http://www.tbpe.texas.gov/)[[2]](#footnote-2) and the [Texas Board of Professional Geoscientists](https://tbpg.state.tx.us/)[[3]](#footnote-3) site for more information.
2. Information taken from sources such as publications and public documents should be checked for accuracy and completeness and be properly referenced.
3. The applicant may wish to consider copyrighting the application.
4. UIC program information and an electronic copy of this form are available at the [UIC permits section on the TCEQ website](https://www.tceq.texas.gov/permitting/radmat/uic_permits/UIC_Guidance_Class_3.html)[[4]](#footnote-4)

## Procedural Information

1. Upon receipt of the application for an injection well, the Underground Injection Control (UIC) Permits staff date stamps the application, makes sure that the application fees have been submitted and begins an administrative review. The applicant may be contacted for clarification or additional information at any time during the administrative review.
2. Within 30 days of the date that the application is determined to be administratively complete, the chief clerk mails Notice of Receipt of Application and Intent to Obtain Permit to the applicant, to potentially affected persons, and to others. Sections §39.413 and §39.651(c) describe the mailed notice procedures for this first notice. The applicant is responsible for newspaper publication of notice of the application. The applicant must also place a copy of the administratively complete application in a public place. See §39.405 and §39.418 for a description of these procedures.
3. The UIC Permitting staff begins a technical review as soon as the application is administratively complete. The applicant may be contacted for clarification or additional information at any time during the technical review. Once the technical review is completed, the Executive Director makes a preliminary decision to issue a permit or recommend denial of the permit. The preliminary decision and draft permit are filed with the chief clerk. The chief clerk mails the preliminary decision concurrently with the Notice of Application and Preliminary Decision. The applicant is responsible for newspaper publication of the Notice of Application and Preliminary Decision. See §39.419 and §39.651(d) for a description of the procedures for the second notice.
4. Public comments must be filed with the chief clerk within the time period specified in the notice. The public comment period extends 30 days after the last publication of the Notice of Application and Preliminary Decision, except as provided in §55.152. If comments are received, the Executive Director prepares a response to comments and files the response to comments with the chief clerk within 60 days following the close of the comment period in accordance with §55.156. The chief clerk mails the Executive Director’s decision, the Executive Director’s response to public comments, instructions for requesting that the commission reconsider the Executive Director’s decision, and instructions for requesting a contested case hearing. See §39.420 and §55.156 for additional information on procedures for processing public comment.
5. The Executive Director may act on an uncontested application if public notice requirements have been satisfied and the application meets all relevant statutory and administrative criteria in accordance with §50.133. The chief clerk mails notice of the action and an explanation of the opportunity to file a motion to overturn the Executive Director’s action on the application. A motion to overturn must be filed no later than 20 days after the signed permit is mailed to the applicant in accordance with §50.139.



Texas Commission on Environmental Quality

Application for Permit to Conduct In-situ Sodium Sulfate Mining

1. General Information
2. Type of Permit For Which Application Is Submitted:

1. [ ]  Original Permit Number:       (Will Be Assigned)

1. [ ]  Amendment of Permit Number:
2. Aquifer Exemption

[ ]  Application is made for initial designation of an exempted aquifer to include all portions of the production zone planned to contain in-situ uranium mining solutions.

[ ]  Application is pending Commission and EPA approval for initial designation of an exempted aquifer or amendment of an existing exempted aquifer to include all portions of the production zone planned to contain in-situ uranium mining solutions.

[ ]  Applicant plans to conduct in-situ uranium mining under an existing designated exempted aquifer. Mine name or site name associated with existing exempted aquifer:

[ ]  Application is made for amendment of an existing designated exempted aquifer for planned in-situ uranium mining. Mine name or site name associated with existing exempted aquifer:

Specification of existing or requested exempted aquifer:

Aquifer or Formation Name:

Depth feet above/below mean sea level:

Area acres:       (Attach a map delineating any existing and requested exempted aquifer boundaries relative to lease boundaries, and existing and proposed permit area and production area boundaries with survey points and coordinate system.)

1. Applicant (Individual, Corporation or Other Legal Entity):

Address (Permanent Mailing Address):

City, State and Zip:

Telephone Number:

Mine Name:       County:

Mine Mailing Address (if available):

Ownership Status:

Check one: [ ]  Federal [ ]  State [ ]  Private [ ]  Other Entity

If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.

Charter Number:

If the application is submitted by a corporation or by a person residing out of state, the applicant must register an Agent in Service or Agent of Service with the Texas Secretary of State’s office and provide a complete mailing address for the agent. The agent must be a Texas resident.

Agent:

Address (Permanent Mailing Address):

City, State and Zip:

Telephone Number:

Indicate the ownership status of the facility:

Private:

[ ]  Corporation

[ ]  Partnership

[ ]  Proprietorship

[ ]  Nonprofit organization

Public:

[ ]  Military

[ ]  State

[ ]  Regional

[ ]  County

[ ]  Municipal

[ ]  Federal

Other (specify):

1. List those persons or firms authorized to act for the applicant during the processing of the permit application. Also 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 the complete mailing addresses and phone numbers.
2. Specify the individual who will be responsible for causing notice to be published in the newspaper. Include the complete mailing address, telephone number, and fax number. Please provide an e-mail address as well, if available.
3. For applications for new permits, renewals, and major amendments a copy of the administratively complete application 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 court house, city hall), including the address, where the application will be located.
4. If application is for amendment to an existing permit, please describe all requested permit changes and the reasons for the request:
5. Applicant Compliance History

House Bill 2912, 77th Legislature, 2001, §4.01, amended Texas Water Code, Chapter 5, Texas Natural Resource Conservation Commission, by adding Subchapter Q, Performance-Based Regulation. New Subchapter Q of TWC, §5.753, Standard For Evaluating Compliance History, requires the Commission to “develop a uniform standard for evaluating compliance history.” New 30 TAC Chapter 60 has been adopted to define the components of compliance history.

TWC, Subchapter Q, applies to programs under the jurisdiction of the Commission under TWC, Chapters 26 and 27, and THSC, Chapters 361, 382, and 401. HB 2912, §4.01, as it creates new TWC, §5.754(e), specifies that the agency will utilize compliance history when making decisions regarding: the issuance, renewal, amendment, modification, denial, suspension, or revocation of a permit; enforcement; the use of announced investigations; and participation in innovative programs.

The compliance history period includes the five years prior to the date the permit application is received by the Executive Director; the five-year period preceding the date of initiating an enforcement action with an initial enforcement settlement offer or the filing date of an Executive Director’s Preliminary Report (EDPR), whichever occurs first; for purposes of determining whether an announced investigation is appropriate, the five-year period preceding an investigation; or the five years prior to the date the application for participation in an innovative program is received by the Executive Director. The compliance history period may be extended beyond the date the application for the permit or participation in an innovative program is received by the Executive Director, up through completion of review of the application.

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 owner, operator or applicant in which a violation of environmental law was an element of the crime. [30 TAC §60.2(c)(1)(E) and §60.2(c)(2)(F)] If there have been no such convictions then the application should state in a separate sentence for the owner applicant and operator the following:

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

1. TCEQ Core Data Form

The TCEQ requires that a Core Data Form (Form 10400) be submitted on all incoming applications unless a Regulated Entity and Customer Reference Number has been issued by the TCEQ and no core data information has changed. If no core data information has changed and the TCEQ has issued a RN and CN for your facility, please state these numbers. For more information, see the [Core Data Form[[5]](#footnote-5),](http://www.tceq.texas.gov/permitting/central_registry/guidance.html) on the TCEQ website or call (512) 239-5175. RN      CN

1. Facility Background Information
2. List all existing or pending State and/or Federal permits, licenses or construction approvals that pertain to pollution control, industrial solid waste management, radioactive materials, or other activities conducted by your facility, at your location, or existing at a proposed facility or location.
3. Brief Description of the Nature of the Business, including the activities conducted by the applicant that require a permit.
4. Location
5. Give a description and a map of the location of the facility site with respect to known or easily identifiable landmarks (see Figure 2). Detail the access routes from the nearest U.S. or State Highway to the facility.
6. Is the facility located on Indian lands?

[ ]  Yes [ ]  No

1. Is the facility located within the Coastal Management Program boundary?

[ ]  Yes [ ]  No

For questions regarding the Coastal Management Program, please call 1-800-998-4456 (within Texas) or (512)463-5385.

1. Is the facility 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 (see Texas Health and Safety Code Section 363.112)?

[ ]  Yes [ ]  No

If yes, please provide a copy of the ordinance or order.

1. Legal Description of Facility

Submit as "Attachment A" a legal description(s) of the tract or tracts of land referred to in this permit application.

1. Submit as "Attachment B" drawn-to-scale on a topographic map (or other map if a topographic map is unavailable) of the facility and area extending one mile beyond the facility boundaries. Maps must be of material suitable for a permanent record, and be on sheets 8½ ” by 11” or folded to that size, and be on a scale of not less than one inch equals one mile. The scale should be adequate to depict the following features:
2. the lease boundaries of the tract of land on which mining and related activities will be conducted, with acreage indicated.
3. the proposed permit area boundaries, with acreage indicated. (The permit area boundary may be defined by the operator to coincide with or be within the lease ownership boundaries.);
4. the location of the proposed production and disposal facilities; and
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 in the Area Of Review (AOR, an area that extends to one-quarter mile past the proposed permit boundary), and the purpose for which each water well is used (e.g., domestic, livestock, agricultural, industrial, etc.) [30 TAC §305.45(a)(6)]
6. Information Required To Provide Notice

Submit as "Attachment C" the following lists of landowners and mineral owners, cross-referenced to a map (see attached example). In accordance with 30 TAC §39.405(b), please also submit this mailing list electronically, in MS 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 30 names, addresses, etc. (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. Examples of addresses using the USPS format may be found in other sections of this

application form. Contact the USPS for further instructions on formatting addresses for machine readability.

Alternatively, the applicant may elect to submit pre-printed mailing labels of this mailing list with the application. 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 adjacent landowners and mineral owners list.

1. Identify and provide a complete mailing address for all landowners adjacent to the proposed permit area and other nearby landowners who might consider themselves affected by the activities described by the application.
2. Identify and provide a complete mailing address for all mineral owners within the cone of influence as required by 30 TAC §39.251(d)(2). If the name(s) submitted represents less than 100% mineral ownership, specify the total percentage owned by all persons identified.
3. If the adjacent property ownership or mineral right ownership lists show the State of Texas to be an adjacent landowner and/or mineral rights owner within the cone of influence, as defined by 30 TAC §331.2, your application may affect lands dedicated to the permanent school fund. Refer to Texas Water Code §5.115. To determine whether lands dedicated to the permanent school fund are affected, you may submit a request which includes the property location to the General Land Office at the following address:

General Land Office

Deputy Commissioner Of Asset Acquisition

Steven F Austin Bldg

1700 N Congress

Austin Texas 78701

If it is determined that your application may affect lands dedicated to the permanent school fund, your application must include the following information:

1. state the location of the permanent school fund land to be affected; and
2. describe any foreseeable impact or effect of the proposed permitted action 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 the above-referenced rule is voidable by the School Land Board as to any permanent school fund lands affected by the action or ruling. [Texas Water Code 5.115(g)]

1. 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 also the county judge and the health authority of the county in which the facility is located. [30 TAC §39.251(c)(2)]
2. Financial Assurance

Submit as "Attachment D", information regarding the financial assurance plan as referenced below.

1. Financial Assurance Information Requirements for all Applicants
2. Financial Assurance for Closure

Please refer to 30 TAC §§331.144-147 for the financial assurance requirements for closure, and provide a signed statement from an authorized signatory per 30 TAC §305.44 regarding how the owner or operator will comply with this provision.

1. Provide a complete and accurate description of mine closure costs for the mining facility.

Signature Page

I (Signatory Name) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Title) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Company) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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.

See 30 TAC §305.44 for signatory authority. Hazardous waste permits must be signed by both the owner and operator of the facility. Duplicate this page for additional signatories.

To Be Completed by the Applicant If the Application is Signed

by an Agent for the Applicant

I (Signatory Name) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Title) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Company) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ hereby designate (Agent Name on 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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

Subscribed And Sworn to before me by the said \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

on this \_\_\_\_\_\_\_\_\_\_\_\_ day of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

My commission expires on the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ day of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Notary Public

**Figure 1: Sample Application Map**



**Landowners and Mineral Owners Cross-Referenced To Application Map**

The persons identified below would be considered as affected persons:

1. Mr. and Mrs. Samuel L Davis

11901 Knights Bridge Road

Austin Texas 78759

2. Mr. and Mrs. Edward Sanchez

1405 Craigmont Lane

Waco Texas 76710

3. Mr. and Mrs. Hubert Jason

4240 Line Road

Dallas Texas 77590

4. Mr. and Mrs. Ted Goldsby

3210 20th Street

Waco Texas 76724

5. Mr. and Mrs Hubert Jason

4240 Line Rd

Dallas Texas 77640

6. Plainview CO

6647 Star Blvd

Houston Texas 77590

7. ABC Chemicals Inc

1212 Austin AVE

Dallas Texas 77640

8. Mr. and Mrs. T. R Larson

10024 NW HWY

Bovina Texas 79402

Technical Report Signature Page

(Parts V - IX)

The technical report of the application must be signed by the technical report supervisor. The supervisor must be a Texas licensed professional engineer, a licensed professional geoscientist, or a qualified person who is competent and experienced in the field to which the application relates and thoroughly familiar with the operation or project for which the application is made. Attach a copy of the supervisor's resume.

I, (Technical Report Supervisor Name) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Title) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

SUBSCRIBED AND SWORN to before me by the said\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

on this \_\_\_\_\_\_\_\_\_\_\_\_\_\_ day of\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

My commission expires on the \_\_\_\_\_\_\_\_\_\_\_ day of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_

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Notary Public

Technical Report For In-Situ Sodium Sulfate Mining

Class III Injection Wells

The following shall be submitted as the Permit Application Technical Report. The applicant shall review the information to be developed with commission staff prior to beginning to collect the information because certain conditions may require additional or different information. All technical information shall be prepared in accordance with the appropriate technical guidelines. Clearly mark the chapters with the indicated chapter identification.

All analytical data submitted to the TCEQ must be generated by a lab that the Texas Laboratory Accreditation Program (TLAP) has accredited under the National Environmental Laboratory Accreditation Conference (NELAC) standard for matrices, methods, and parameters of analysis, unless: (1) the lab is an in-house lab and either the lab performs work for its owner, for another company with a unit located on the same site, or without compensation for a governmental agency or charitable organization, or the lab is in another state and is accredited or inspected by that state; (2) the lab is accredited under federal law; (3) the data are needed for emergency-response activities and no TLAP-accredited lab is available; or (4) the lab supplies data for which we do not offer accreditation. Refer to the [list of laboratories](https://www.tceq.texas.gov/downloads/compliance/labs/txnelap-lab-list.pdf)[[6]](#footnote-6) accredited by the State of Texas under the National Environmental laboratory Accreditation Program (NELAP) on the TCEQ website.

Starting July 1, 2008 the TCEQ will accept analytical data only if the lab generating the data is NELCA-accredited by TLAP, the TCEQ has approved an exception as described above, or the data were generated on or before June 30, 2008. Quality Assurance and Quality Control (QA/QC) for all environmental sampling and laboratory analysis performed subject to permit requirements for in-situ uranium mining should be in accordance with [TCEQ Quality Assurance Project Plan](http://www.tceq.texas.gov/permitting/waste_permits/ihw_permits/qapp.html)[[7]](#footnote-7).

1. Geology And Hydrogeology
2. Regional geology and hydrology - Describe the regional stratigraphic and structural geology, lithology, and hydrology pertinent to the proposed injection program. Information must be integrated into a coherent and complete summary, not merely listed. Regional geology should be rendered on a scale capable of accurately depicting the geology of the region (approximately a 20-50 mile radius). Maps and cross-sections from commercial mapping companies may be used, provided that they adequately characterize the geology (including faulting) of the region. Major aquifers, stratigraphic units, confining zones, injection zone and general lithology should be indicated on all cross-sections. Cross-sections should be constructed with well logs and to scale. The proposed permit area should be indicated on all maps and cross-sections. Maps and figures should be referenced in the description, where applicable.
3. Regional geology - Provide a written description of the general geology including regional stratigraphy, regional structural geology, regional seismic activity supported by maps and cross-sections showing geologic units, lithology, structural features and other pertinent information to the extent that this information is reasonably available. Include a regional stratigraphic column.
4. Regional hydrology - Provide a written description of the general hydrology including major aquifers, hydraulic gradients, major water quality indicators (i.e., TDS, U, Ra, SO4) and other pertinent information to the extent that this information is reasonably available. Note any major pumpage centers. Include maps and cross sections indicating the position relative to the injection formation, and the direction of water movement in every underground source of drinking water (USDW), including the injection zone, which may be affected by

the proposed injection. Show the vertical and lateral limits of aquifers with TDS less than 3,000 mg/liter and less than 10,000 mg/liter.

1. Permit Area Geology and Hydrology- Provide detailed cross-sections along dip and strike accurately identifying overlying aquifers and the geologic interval to be mined. The cross-section shall also include the first underlying aquifer. The geologic interval identified as the production zone will be the zone authorized for production by the proposed permit. The lithologic columns shall be supported with electric logs. Show normal water levels (piezometric surface map or on each log or lithologic column) for each aquifer.
2. Permit Area Location - On a county map, locate and identify the lease area, permit area, proposed or existing in-situ or surface mines within five miles, and major water supply wells. Locate the wells in Item E.1. below.
3. Permit Area Topography - Provide a USGS Map (1:24,000 scale), locating the proposed permit area and production areas. Trace surface runoff from the plant and mine areas to regional surface waters. Show the area of review. Within the area of review, the map must show the number or name and the location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, mines, quarries, public water systems, water wells, and other pertinent surface features including residences and roads, to the extent that this information is reasonably available. Show any fault, if known or suspected.
4. Water Supply Wells
5. Wells in Area of Review
6. Provide a list of water supply wells within the appropriate area of review for the area permit. Indicate the type of completion, casing depth, bottom depth, use, average daily volume, distance from the area permit boundary, identity of the aquifer being pumped, water level elevation, and water quality data reported on [Table 2](#Groundwater_Quality_Data) (Groundwater Quality Data Report for Water Supply Wells) to the extent that this information is reasonably available.
7. Provide a map locating and identifying these wells and indicate the hydraulic gradient in the major aquifers.
8. Major Regional Wells - Provide the same information indicated in E.1. above for major water supply wells, such as municipal wells.
9. Hydrologic Testing - Describe in detail the hydrologic testing procedures to be used. This description should include test preparation, test procedures, equipment, schedule, and procedures for analysis of the test results. For guidance, refer to [TCEQ Technical Guidance I – Groundwater Analysis and Technical Guidance II](https://www.tceq.texas.gov/permitting/radmat/uic_permits/UIC_Guidance_Class_3.html)[[8]](#footnote-8) – Hydrologic Testing.
10. determine the degree of hydrologic connection between aquifers;
11. determine and locate boundaries and recharge structures; and
12. verify hydrologic connection between the production zone and the production zone monitor wells.
13. Well Construction And Facility Operation (P.E. seal required for all contents of this section)
14. Well Completion - Describe well completion for injection, recovery, and monitoring wells. This description may include:
15. total depth criteria;
16. completion interval selection criteria;
17. type of completion: perforation, open hole, screen, etc.;
18. casing: size, type, grade, weight, setting depths;
19. tubing/packer (if applicable): size, type, name, model, setting depth of packer;
20. cement: class, volume (sufficient cement should be used to circulate to the surface). Describe and give percent of all cement additives, slurry weight, and cement-water ratio;
21. cementing technique: pump and plug displacement through casing is recommended;
22. cementing equipment: pump and plug displacement through casing is recommended;
23. casing centralizers: location and spacing;
24. sketch of each type of well completion;
25. drift control procedure;
26. installation control (completion certification, etc.); and
27. development procedure (jetting, acid, etc.).
28. Mechanical Integrity Testing

Describe in detail the mechanical integrity testing procedures to be used. This description should include test preparation, test procedures, equipment, time schedule, and procedures for analysis of results. These tests shall be conducted to demonstrate:

1. that there are no significant leaks in the casing; and
2. that there is no significant movement of fluids through fluid channels adjacent to the injection well bore.

These tests shall be conducted in accordance with the rules on Mechanical Integrity Testing (30TAC §331.43).

1. Well Logs - Submit the following log and information.
2. Resistivity and spontaneous potential log
3. Casing depth shown
4. Screened interval marked
5. Centralizers located
6. Aquifers and aquicludes clearly identified
7. Completion log for each well (attached to the above well log).
8. Production Facilities and Procedures - Provide the following information for facilities that will serve the mining activity of the area described in this permit application:
9. Written description of production procedures and supporting facilities:
10. Material balance flow diagram identifying all wastes and their disposition, source, and volume;
11. Schedule for completion or installation of facilities;
12. Typical composition of injected leach fluids, and any other fluids to be injected (tracers, etc.);
13. Detailed construction design of all ponds to include leakage detection, repair procedures and freeboard limits; describe how access to these ponds by stock wildlife, or unauthorized persons will be controlled;
14. Runoff and spill control description supported with plan and cross sectional instructions;
15. Provide a schedule of preventive maintenance inspection for ponds, pipelines, dikes, trenches, storage areas, etc.; and
16. Detailed calculation and tabulation of the volume of fluids to be handled by storage and disposal facilities at their maximum, and comparative capacity of the facilities that will be available. Refer to Technical Guideline III.
17. Proposed operating data to include:
18. average and maximum daily rate and volume of fluid to be injected;
19. average and maximum injection pressure;
20. source of the injection fluids; and
21. analysis, as needed, of the chemical, physical, and radiological characteristics of the injection fluids.
22. Contingency plans to cope with all shut-ins or well failures to prevent the migration of contaminating fluids into fresh water.
23. Closure Plan - Provide a description of closing procedures to be taken to restore affected surface areas to include plugging of wells, removal or adequate cover of wastes, removal of irretrievable pumps, etc. [30 TAC §331.122(4) and 30 TAC §331.46]
24. Initial Mine Plan

Provide an Initial Mine Plan (Figure 3) as a legible and reproducible plan view with the following:

* + - 1. the area permit boundary;
			2. the buffer areas; and
			3. the individual initially proposed mine areas with acreage of the areas, production and disposal facilities, depth to the production zone and mean sea level of the production zone indicated.

Schedule

A schedule with estimated starting and completion dates of production and restoration in the mine areas identified above with a condensed version of the estimated schedule in an 8½” x 11” format suitable for inclusion in the draft permit. The figure may be simplified by showing only the production and restoration phases of operations in each well field. Well fields should be identified according to which PAA each will be in along with the anticipated starting dates of mining and restoration.

1. Excursion Prevention

Provide a detailed description of the procedures to be used to prevent excursions horizontally in the production zone and vertically into non-production zones. These procedures may involve a bleed system, frequent conductivity change evaluation, water level evaluation, production volume evaluation and production adjustment, as well as procedures for maintaining a balanced well field.

1. Aquifer Exemption

Provide a complete delineation using maps and cross-sections of any aquifer or portion of an aquifer for which exempt status will be necessary, and any relevant data demonstrating compliance with aquifer exemption criteria at 30 TAC §331.13 and 30 TAC §305.49(a)(9).

**Figure 2. Sample Mine Location Map**



**Figure 3. Sample Mine Map**



Table 2 - Groundwater Quality Data Report for Water Supply Wells

Well Owner:

Well Number:

Well Location:

Date of Sample:

Date of Water Sample Analysis:

Name of Laboratory Performing Analysis:

Table 2: Groundwater Quality Data

| Parameter | Unit | Analyzed Value |
| --- | --- | --- |
| Calcium | mg/l |       |
| Magnesium | mg/l |       |
| Sodium | mg/l |       |
| Potassium | mg/l |       |
| Carbonate | mg/l |       |
| Bicarbonate | mg/l |       |
| Sulfate | mg/l |       |
| Chloride | mg/l |       |
| Fluoride | mg/l |       |
| Nitrate - N | mg/l |       |
| Silica | mg/l |       |
| pH | std. units |       |
| TDS | mg/l |       |
| Conductivity | μmhos |       |
| Alkalinity | mg/l as CaO3 |       |
| Ammonia | mg/l |       |
| Arsenic | mg/l |       |
| Cadmium | mg/l |       |
| Iron | mg/l |       |
| Lead | mg/l |       |
| Manganese | mg/l |       |
|  Mercury | mg/l |       |
| Molybdenum | mg/l |       |
| Selenium | mg/l |       |
| Uranium | mg/l |       |
| Radium | pCi/l |       |

1. [https://texreg.sos.state.tx.us/public/readtac$ext.ViewTAC?tac\_view=3&ti=30&pt=1](https://texreg.sos.state.tx.us/public/readtac%24ext.ViewTAC?tac_view=3&ti=30&pt=1) [↑](#footnote-ref-1)
2. [www.tbpe.texas.gov/](http://www.tbpe.texas.gov/) [↑](#footnote-ref-2)
3. tbpg.state.tx.us/ [↑](#footnote-ref-3)
4. [www.tceq.texas.gov/permitting/radmat/uic\_permits/UIC\_Guidance\_Class\_3.html](http://www.tceq.texas.gov/permitting/radmat/uic_permits/UIC_Guidance_Class_3.html) [↑](#footnote-ref-4)
5. [www.tceq.texas.gov/permitting/central\_registry/guidance.html](http://www.tceq.texas.gov/permitting/central_registry/guidance.html) [↑](#footnote-ref-5)
6. [www.tceq.texas.gov/downloads/compliance/labs/txnelap-lab-list.pdf](http://www.tceq.texas.gov/downloads/compliance/labs/txnelap-lab-list.pdf) [↑](#footnote-ref-6)
7. [www.tceq.texas.gov/permitting/waste\_permits/ihw\_permits/qapp.html](http://www.tceq.texas.gov/permitting/waste_permits/ihw_permits/qapp.html) [↑](#footnote-ref-7)
8. [www.tceq.texas.gov/permitting/radmat/uic\_permits/UIC\_Guidance\_Class\_3.html](http://www.tceq.texas.gov/permitting/radmat/uic_permits/UIC_Guidance_Class_3.html) [↑](#footnote-ref-8)