Administrative Package Cover Page

This file contains the following documents:

1. Summary of application (in plain language)
   - English
   - Alternative Language (Spanish)
2. First Notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
   - English
   - Alternative Language (Spanish)
3. Application materials

Portada de Paquete Administrativo

Este archivo contiene los siguientes documentos:

1. Resumen en lenguaje sencillo (PLS, por sus siglas en inglés) de la actividad propuesta
   - Inglés
   - Idioma alternativo (español)
2. Primer aviso (NORI, por sus siglas en inglés)
   - Inglés
   - Idioma alternativo (español)
3. Solicitud original

ENGLISH LANGUAGE TEMPLATE FOR CAFO PERMIT APPLICATIONS

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by the TCEQ Public Participation Plan and Language Access Plan. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

1. Applicant's Name: - DEBOER, NICO JAAP
2. Enter Customer Number: CN601180649
3. Name of facility: T & S DAIRY
4. Enter Regulated Entity Number: RN102184405
5. Provide your permit Number: NOT ISSUED YET
6. Facility Business: DAIRY MILK PRODUCTION. THIS FACILITY CONFINES 2621 HEAD DAIRY CATTLE, OF WHICH 2621 HEAD ARE MILKING COWS. THE FACILITY PRODUCTION AREA IS LOCATED at 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110. THE DAIRY FACILITY HAS 7 LAND MANAGEMENT UNITS (LMUS) WITH THE FOLLOWING ACREAGE: LMU #1 - 77, LMU #2 - 77, LMU #3 - 31, LMU #4 – 60, LMU #5 – 78, LMU #6 – 47 AND LMU #7 – 110, AND 4 RETENTION CONTROL STRUCTURES (RCSS), AND A CONCRETE SETTLING BASIN. THE RCSS TOTAL REQUIRED CAPACITIES WITHOUT FREEBOARD (ACRE-FEET) ARE RCS #1 – 14.39, RCS #2 – 10.26, RCS #3 – 7.38, AND RCS #4 – 24.85. THERE ARE ONSITE WATER WELLS (WELLS #1 THROUGH WELL #5). THE FACILITY IS LOCATED IN THE DRAINAGE AREA OF SEGMENT NO. 0409 OF LITTLE CYPRESS BAYOU.
7. Facility Location: 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110
8. Application Type: NEW
9. Description of your request: APPLYING FOR A NEW IP
10. Potential pollutant sources at the facility include (list the pollutant sources): Manure, Wastewater, Dust, lubricants, Feed, Fuel Storage, Medicines, Cleaning Chemicals
11. The following best management practices will be implemented at the site to manage pollutants from the listed pollutant sources (describe the best management practices that are used): MANURE WILL BE STORED WITHIN THE DRAINAGE AREA OF RCS #1. WASTEWATER WILL BE STORED IN RCS #1 THROUGH RCS #4 UNTIL PROPERLY IRRIGATED THROUGH A CENTER PIVOTS IRRIGATION SYSTEMS. MANURE WILL BE HAULED TO THE APPROPRIATE LMU#7, IN ACCORDANCE WITH THE NUTRIENT MANAGEMENT PLAN. RCS #1, AND RCS #4 WILL BE DESIGNED TO STORE AND MAINTAIN THE SLUDGE AND 25YR-24HR RAINFALL. ALL OTHER CLEANERS, LUBRICANTS, FUELS AND MEDICINES WILL BE MAINTAINED AND ALL MANUFACTURERS' DIRECTIONS FOLLOWED. DEAD COWS WILL BE BURIED WITHIN 72 HOURS

Unless otherwise limited, manure, sludge, or wastewater will not be discharged from a land management unit (LMU) or a retention control structure (RCS) into or adjacent to water in the state from a CAFO except resulting from any of the following conditions:

1) a discharge of manure, sludge, or wastewater that the permittee cannot reasonably prevent or control resulting from a catastrophic condition other than a rainfall event;

2) overflow of manure, sludge, or wastewater from a RCS resulting from a chronic/catastrophic rainfall event; or

3) a chronic/catastrophic rainfall discharge from a LMU that occurs because the permittee takes measures to de-water the RCS if the RCS is in danger of imminent overflow.

PLANTILLA DE IDIOMA ESPAÑOL PARA SOLICITUDES DE PERMISO CAFO

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Plan de Participación Pública y el Plan de Acceso al Idioma de la TCEQ. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación federal exigible de la solicitud de permiso.

1. Nombre del Solicitante: DEBOER, NICO JAAP
2. Introduzca el Número de Cliente: CN601180649
3. Nombre de la Instalación: T & S DAIRY
4. Introduzca el Número de Entidad Regulada: RN102184405.
5. Proporcione su Número de Permiso: AÚN NO EMITIDO
6. Negocio de Instalación: PRODUCCIÓN DE LECHE. ESTA INSTALACIÓN CONFINA 2621 CABEZAS DE GANADO LECHERO, DE LAS CUALES 2621 SON VACAS DE ORDEÑO. EL ÁREA DE PRODUCCIÓN DE LA INSTALACIÓN ESTÁ UBICADA EN 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110. LA INSTALACIÓN LÁCTEA TIENE 7 UNIDADES DE GESTIÓN DE TIERRAS (LMUS) CON LA SIGUIENTE SUPERFICIE: LMU N.° 1 - 77, LMU N.° 2 - 77, LMU N.° 3 - 31, LMU N.° 4 - 60, LMU N.° 5 - 78, LMU N.° 6 - 47 Y LMU N.° 7 - 110, Y 4 ESTRUCTURAS DE CONTROL DE RETENCIÓN (RCSS) Y UN DEPÓSITO DE DESENREDO DE CONCRETO. LAS CAPACIDADES TOTALES REQUERIDAS POR EL RCSS SIN FRANCOBORDO (ACRE-PIES) SON RCS N.° 1: 14,39, RCS N.° 2: 10,26, RCS N.° 3: 7,38 Y RCS N.° 4: 24,85. HAY POZOS DE AGUA EN EL LUGAR (POZOS N.° 1 AL N.° 5). LA INSTALACIÓN ESTÁ UBICADA EN EL ÁREA DE DRENAJE DEL SEGMENTO N.° 0409 DE LITTLE CYPRESS BAYOU.
7. Ubicación de la Instalación: 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110.
8. Tipo de Solicitud: NUEVO
9. Descripción de su solicitud: SOLICITUD DE NUEVA IP
10. Las fuentes potenciales de contaminantes en la instalación incluyen (liste las fuentes contaminantes): ESTIÉRCOL, AGUAS RESIDUALES, POLVO, LUBRICANTES, PIENSOS, ALMACENAMIENTO DE COMBUSTIBLE, MEDICAMENTOS, PRODUCTOS QUÍMICOS DE LIMPIEZA
11. Las siguientes mejores prácticas de gestión se implementarán en el sitio para gestionar los contaminantes de las fuentes contaminantes listadas (describa las mejores prácticas de gestión que se utilizan): EL ESTÉRICO SE ALMACENARÁ DENTRO DEL ÁREA DE DRENAJE DEL RCS #1, LAS AGUAS RESIDUALES SE ALMACENARAN DEL RCS #1 AL RCS #4 HASTA QUE SE RIGUEN CORRECTAMENTE A TRAVÉS DE UN SISTEMAS DE RIEGO DE PIVOTES CENTRALES. EL ESTÉRICO SERÁ TRANSPORTADO A LA LMU#7 APROPIADA, DE ACUERDO CON EL PLAN DE MANEJO DE NUTRIENTES. RCS #1 Y RCS #4 ESTARÁN DISEÑADOS PARA ALMACENAR Y MANTENER LOS LODOS Y LAS LLUVIAS DE 25 A 24 HORAS. TODOS LOS DEMÁS LIMPIADORES, LUBRICANTES, COMBUSTIBLES Y MEDICAMENTOS SE MANTENDRÁN

Y SE SEGUIRÁN TODAS LAS INSTRUCCIONES DEL FABRICANTE. LAS VACAS MUERTAS SERÁN ENTERRADAS EN 72 HORAS

A menos que se limite lo contrario, el estiércol, los lodos o las aguas residuales no se descargarán de una unidad de gestión de la tierra (LMU, por sus siglas en inglés) o una estructura de control de retención (RCS, por sus siglas en inglés) hacia o adyacente al agua en el estado de una CAFO, excepto como resultado de cualquiera de las siguientes condiciones:

1) una descarga de estiércol, lodos o aguas residuales que el permisionario no pueda prevenir o controlar razonablemente como resultado de una condición catastrófica que no sea un evento de lluvia;

2) desbordamiento de estiércol, lodo o aguas residuales de un RCS como resultado de un evento de lluvia crónico/catastrófico; o

3) una descarga de lluvia crónica/catastrófica de una LMU que ocurre porque el permisionario toma medidas para desaguar el RCS si el RCS está en peligro de desbordamiento inminente.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN WATER QUALITY PERMIT

PROPOSED PERMIT NO. WQ0005476000

APPLICATION. Nico Jaap DeBoer, 19008 Farm-to-Market Road 3079, Chandler, Texas 75758, has applied to the Texas Commission on Environmental Quality (TCEQ) for proposed Wastewater Permit No. WQ0005476000 (EPA I.D. No. TX0147303) for a Concentrated Animal Feeding Operation (CAFO) to authorize the operation of a 2,621 head count dairy cattle facility. The facility is located at 7880 East State Highway 154, near the city of Winnsboro, in Wood and Upshur Counties, Texas 75494. TCEQ received this application on December 31, 2024. The permit application will be available for viewing and copying at Texas A&M Agrilife Extension Office, 618 South Main Street, Quitman, in Wood County, Texas and at Texas A&M Agrilife Extension Office, 301 East Butler Street, Gilmer, in Upshur County, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/cafo-applications. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For the exact location, refer to the application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.183333,32.766666&level=18

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/cafo-applications. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/pending-permits/cafo-applications.

ADDITIONAL NOTICE. TCEQ's Executive Director has determined the application is administratively complete and will conduct a technical review of the application. After technical review of the application is complete, the Executive Director may prepare a draft permit and will issue a preliminary decision on the application. **Notice of the Application and Preliminary Decision will be published and mailed to those who are on the county-wide mailing list and to those who are on the mailing list for this application. That notice will contain the deadline for submitting public comments.**

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting on this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ will hold a public meeting if the Executive Director determines that there is a significant degree of public interest in the application or if requested by a local legislator. A public meeting is not a contested case hearing.

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a response to all relevant and material, or significant public comments. **Unless the application is directly referred for a contested case hearing, the response to comments, and the Executive Director's decision on the application, will be mailed to everyone who submitted public comments and to those persons who are on the mailing list for this application. If comments are received, the mailing will also provide instructions for requesting reconsideration of the Executive Director's decision and for requesting a contested case hearing.** A contested case hearing is a legal proceeding similar to a civil trial in state district court.

TO REQUEST A CONTESTED CASE HEARING, YOU MUST INCLUDE THE FOLLOWING ITEMS IN YOUR REQUEST: your name, address, phone number; applicant's name and proposed permit number; the location and distance of your property/activities relative to the proposed facility; a specific description of how you would be adversely affected by the facility in a way not common to the general public; a list of all disputed issues of fact that you submit during the comment period and, the statement "[I/we] request a contested case hearing." If the request for contested case hearing is filed on behalf of a group or association, the request must designate the group's representative for receiving future correspondence; identify by name and physical address an individual member of the group who would be adversely affected by the proposed facility or activity; provide the information discussed above regarding the affected member's location and distance from the facility or activity; explain how and why the member would be affected; and explain how the interests the group seeks to protect are relevant to the group's purpose.

Following the close of all applicable comment and request periods, the Executive Director will forward the application and any requests for reconsideration or for a contested case hearing to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period.**

MAILING LIST. If you submit public comments, a request for a contested case hearing or a reconsideration of the Executive Director's decision, you will be added to the mailing list for this specific application to receive future public notices mailed by the Office of the Chief Clerk. In addition, you may request to be placed on: (1) the permanent mailing list for a specific applicant name and permit number; and/or (2) the mailing list for a specific county. If you wish to be placed on the permanent and/or the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

INFORMATION AVAILABLE ONLINE. For details about the status of the application, visit the Commissioners' Integrated Database at www.tceq.texas.gov/goto/cid. Search the database using the permit number for this application, which is provided at the top of this notice.

AGENCY CONTACTS AND INFORMATION. All public comments and requests must be submitted either electronically at **https://www14.tceq.texas.gov/epic/eComment/**, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105,

P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from Nico Jaap DeBoer at the address stated above or by calling Mr. Nico Jaap DeBoer, Owner, at 903-521-3095.

Issuance Date: February 19, 2025

Comisión de Calidad Ambiental del Estado de Texas

AVISO DE RECEPCIÓN DE LA SOLICITUD Y
LA INTENCIÓN DE OBTENER CALIDAD DEL AGUA PERMISO

PERMISO PROPUESTO NO. WQ0005476000

SOLICITUD. Nico Jaap DeBoer, 19008 Farm-to-Market Road 3079, Chandler, Texas 75758, ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para el propuesto Permiso No. WQ0005476000 (N.º EPA TX0147303) que autoriza al solicitante a operar una nueva operación de lecheras en una capacidad máxima de 2,621 animales. La instalación está ubicada en 7880 East State Highway 154, cerca de la ciudad de Winnsboro, en los condados de Upshur y Wood, Texas 75494. La TCEQ recibió esta solicitud el día 31 de diciembre de 2024. La solicitud para el permiso está disponible para leer y copiar e en la Oficina de Extensión Agrilife de Texas A&M, 618 South Main Street, Quitman, en el condado de Wood, Texas y en la Oficina de Extensión Agrilife de Texas A&M, 301 East Butler Street, Gilmer, en el condado de Upshur, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/cafo-applications.
Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud.
https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.183333,32.766666&level=18

AVISO DE IDIOMA ALTERNATIVO. El aviso de idioma alternativo en español está disponible en https://www.tceq.texas.gov/permitting/wastewater/pending-permits/cafo-applications.

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la

TCEQ.

INFORMACIÓN DISPONIBLE EN LÍNEA. Para detalles sobre el estado de la solicitud, favor de visitar la Base de Datos Integrada de los Comisionados en www.tceq.texas.gov/goto/cid. Para buscar en la base de datos, utilizar el número de permiso para esta solicitud que aparece en la parte superior de este aviso.

CONTACTOS E INFORMACIÓN DE LA TCEQ. Todos los comentarios escritos del público y los para pedidos una reunión deben ser presentados a la Oficina del Secretario Principal, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 o por el internet at www.tceq.texas.gov/about/comments.html. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Si necesita más información en Español sobre esta solicitud para un permiso o el proceso del permiso, por favor llame a El Programa de Educación Pública de la TCEQ, sin cobro, al 1-800-687-4040. La información general sobre la TCEQ puede ser encontrada en nuestro sitio de la red: www.tceq.texas.gov.

También se puede obtener información adicional del Nico Jaap DeBoer a la dirección indicada arriba o llamando a Mr. Nico Jaap DeBoer, al 903-521-3095.

Fecha de emisión 19 de febrero de 2025

Responses to comments for Application for Proposed Permit No.: WQ0005476000 (EPA I.D. No. TX0147303) Applicant Name: Nico Jaap DeBoer (CN601180649) Site Name: T&S Dairy (RN102184405)

1. CAFO Application (TCEQ-00728) Section 3, Item D
The customer is an individual type, not a Sole Proprietorship (DBA). Please provide a revised page to indicate the customer type as individual and complete and provide Attachment 1 – Individual Information.

See attached revised page and Attachment 1

2. CAFO Application (TCEQ-00728) Section 12 – Affected Landowner Information
 The affected landowner maps do not clearly show and label the applicant's property boundaries, including onsite and offsite LMUs; and the property boundaries of all landowners within 500 feet of the applicant's property. Please provide an affected landowner map that clearly outlines and labels all applicant property boundaries, the 500-foot radius of their property boundaries, and all adjacent properties.

Please provide the affected landowner list formatted for mailing labels (Avery 5160) in a Microsoft Word document.

See attached word document file and revised maps.

3. CAFO Application (TCEQ-00728) Signature Page
The signature page is missing the notary's seal. Please provide a fully notarized signature page.

See attachment

4. The following is a portion of the NORI which contains information relevant to your application. Please read it carefully and indicate if it contains any errors or omissions. The complete notice will be sent to you once the application is declared administratively complete.

This NORI is correct.

5. The application indicates that public notices in Spanish are required. After confirming the portion of the NORI above does not contain any errors or omissions, please use the attached template to translate the NORI into Spanish. Only the first and last paragraphs are unique to this application and require translation. Please provide the translated Spanish NORI in a Microsoft Word document.

See attached word document file NORI.

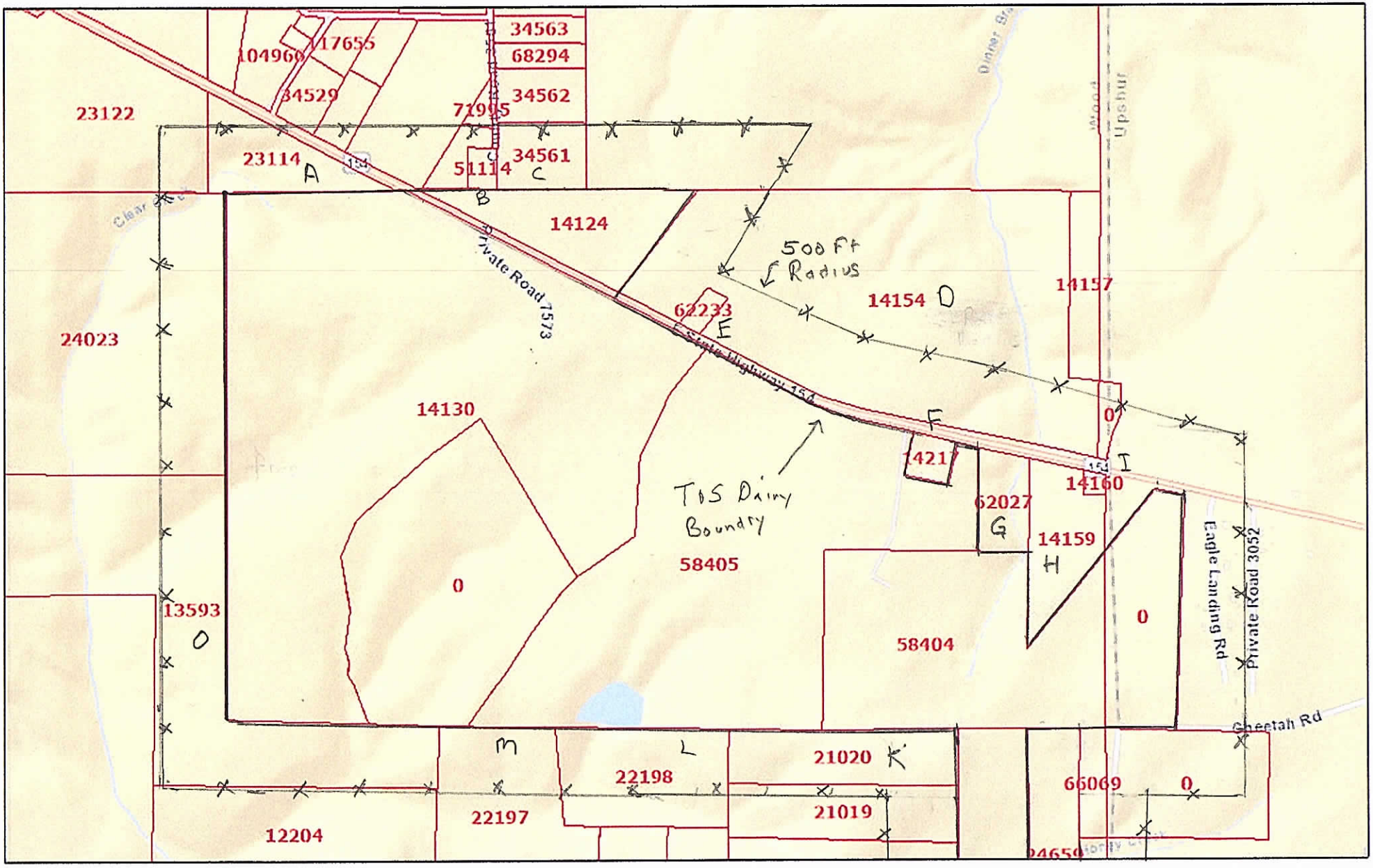
6. Please provide an electronic copy of the complete application in a single PDF file. The electronic copy may be submitted via email (25MB size file or smaller) or via TCEQs file transfer protocol (FTP) server using the following steps.

See file Digital copy emailed

a. Sign in and upload your application as a single PDF file using the TCEQ FTP server: https://ftps.tceq.texas.gov/index.php.

b. Share the uploaded file to the email address: leah.whallon@tceq.texas.gov.
For complete instructions on using the TCEQ FTP server, please visit: https://ftps.tceq.texas.gov/help/.
Please submit the complete response, addressed to my attention by January 24, 2025. If you should have any questions, please do not hesitate to contact me by phone at (512) 239-0084 or by email at leah.whallon@tceq.texas.gov
Sincerely,

Wood CAD Web Map



10/23/2024, 11:10:53 AM

Parcels

1:18,056

0 0.13 0.25 0.5 mi

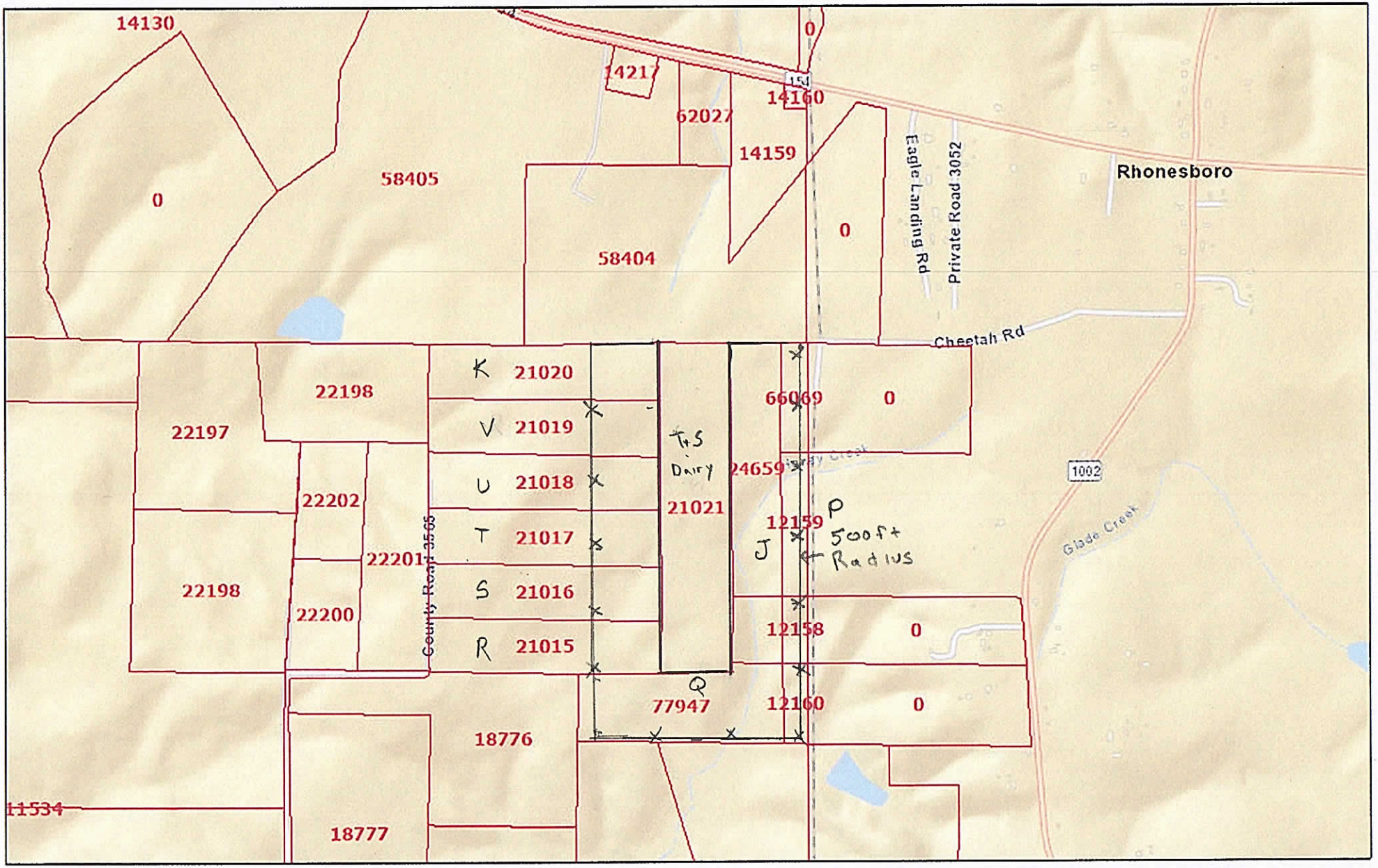
0 0.2 0.4 0.8 km

Esri, HERE, Garmin, INCREMENT P, NGA, USGS

Wood County Appraisal District, BIS Consulting - www.bisconsulting.com

Disclaimer: This product is for informational purposes only and has not been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of boundaries

Wood CAD Web Map B



10/23/2024, 11:47:19 AM

Parcels

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Esri, HERE, Garmin, INCREMENT P, NGA, USGS

Wood County Appraisal District, BIS Consulting - www.bisconsulting.com

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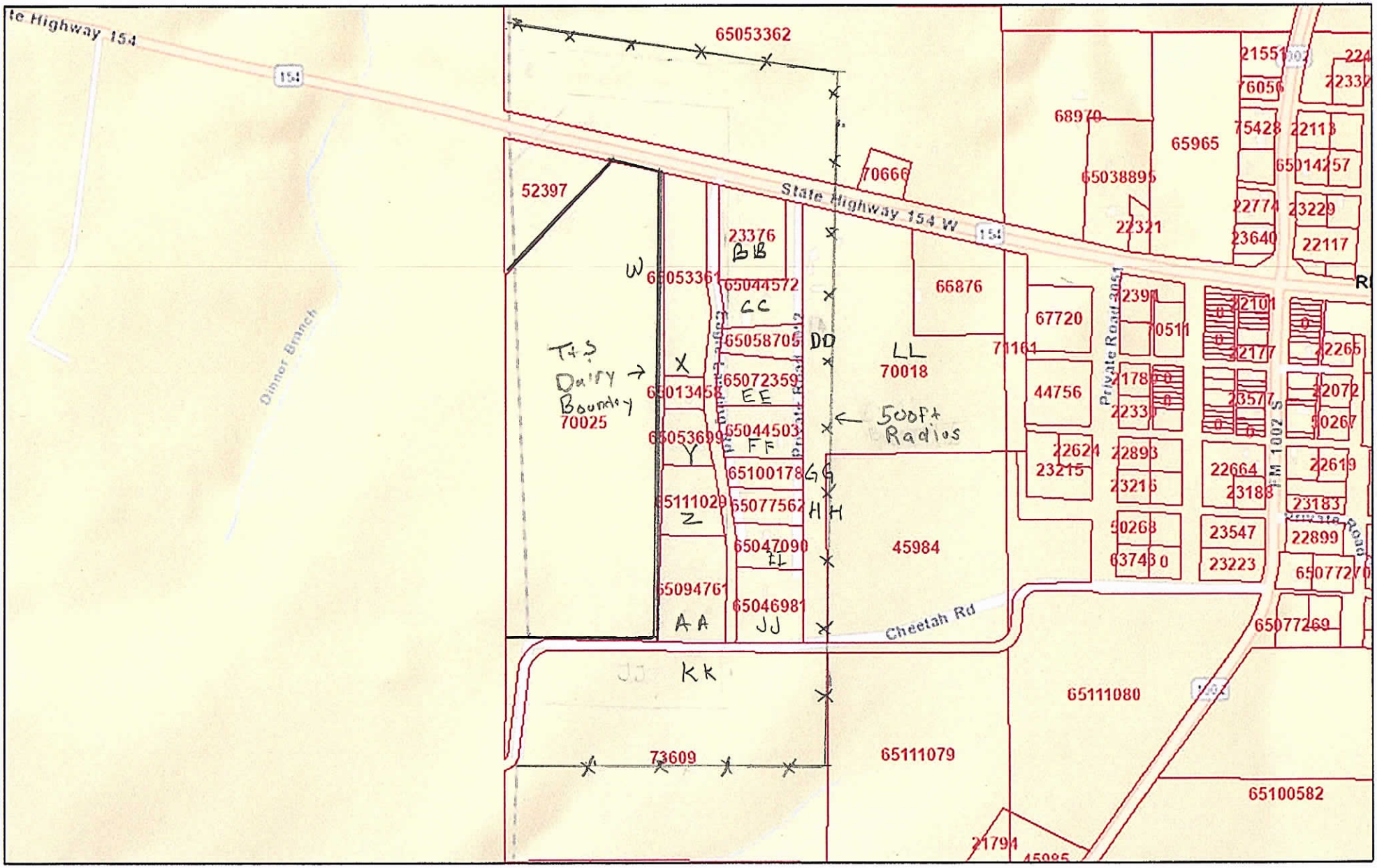
Upshur CAD Web Map



10/23/2024, 2:26:29 PM

Parcels

1:9,028

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Esri, HERE, Garmin, INCREMENT P, Intermap, NGA, USGS

Upshur County Appraisal District, BIS Consulting - www.bisconsulting.com

Disclaimer: This product is for informational purposes only and has not been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of boundaries.

T&S Dary Land Owners Map

A	23114	FREDDIE & SHIRLEY RISINGER 7196 E HWY 154 WINNSBORO TX 75494
B	51114	HILARO PEREZ 274 CR 3581 WINNSBORO TX 75494
C	34561	DORA ALEMAN 3010 COOK LANE LONGVIEW TX 7560
D	14154	T & A FARM LLC 9 SOUTH WEST OAK DR HOUSTON TX 77056
E	62233	GUMARO PEREZ-HERNANDEZ 7649 E STATE HWY 154 WINNSBORO TX 75494
F	14217	ANDREW BOND 620 CR 1750 YANTIS TX 75497
G	62027	RICKEY & JEANNIE MOBLEY 7890 E ST HWY 154 WINNSBORO TX 75494
H	14159	MICHIAL DON SMITH & DANA MISCHELLE SMITH 7990 E SH 154 WINNSBORO TX 75494
I	66069	HERSHELL WINGFIELD 1776 FM 1002 S BIG SANDY TX 75755
J	12159	GEORGE & LISA EAST 278 PR 3807 BIG SANDY TX 75755
K	21020	DONALD C WELLMAN 7236 WALLING LN DALLAS TX 75231
L	22198	HURLIMAN COMPANY LP 385 LUKFATA CEMETERY RD BROKEN BOW OK 74728

T&S Dary Land Owners Map

M	22197	RICHARD BLAKE POLAND 1410 POPPIE LN MIDLOTHIAN TX 76065
O	13593	HURLIMAN COMPANY LP 385 LUKFATA CEMETERY RD BROKEN BOW OK 74728
P	12159 12158	GEORGE & LISA EAST 278 PR 3807 BIG SANDY TX 75755
Q	77947	DAL-HAR DELIVERY SERVICE INC 1801 SANDALWOOD LN GRAPVINE TX 76051
R	21015	JOANN RASOR 3348 KINKAID ST DALLAS TX 75220
S	21016	KEITH & VICTORIA VALENTINE WARNEKE 1935 CLUBVIEW DR ROCKWALL TX 75087
T	21017	SCOTT & ANNETTE ANDERSON 444 CR 3565 BIG SANDY TX 75755
U	21018	VALERIE R LUCIANI & PETE MCFADDEN 530 CR 3565 BIG SANDY TX 75755 TX 75755
V	21019	BRANDON M & STACY L LIEBEL 1060 IRON HORSE DR SAGINAW TX 76131
W	65053361	JAMES & INGRID BREWER 12223 STATE HWY 154 W WINNSBORO TX 75494
X	65013458	PRITCHETT WATER SUPPLY 3670 STATE HWY 155 S GILMER TX 75645
Y	65053699	JOHNNY & JODI MORRIS ELMORE 176 EAGLE LANDING RD WINNSBORO TX 75494
Z	65111029	JOHN H & ALLISON M MOORE 246 EAGLE LANDING RD WINNSBORO TX 75494

T&S Dary Land Owners Map

AA	65094761	BARRY R & AMY E SMITH 157 EAGLE LANDING RD WINNSBORO TX 75494
BB	23376	JAMES & INGRID BREWER 12223 STATE HWY 154 W WINNSBORO TX 75494
CC	65044572	KRIS K & JILL M KUEHNY
DD	65058705	135 EAGLE LANDING WINNSBORO TX 75494
EE	65072359	BARRY R & AMY E SMITH
FF	65044503	157 EAGLE LANDING RD WINNSBORO TX 75494
GG	65100178	2022 TUPCO REVOCABLE TRUST C ADAMS TRUSTEE P O BOX 751 ROWLETT
HH	65077562	TIMOTHY & REBEKAH MORRIS 271 EAGLE LANDING RD WINNSBORO TX 75494
II	65047090	BRIAN P MOORE 339 EAGLE LANDING WINNSBORO TX 75494
JJ	65046981	GASPAR R R BECERRA 351 EAGLE LANDING RD WINNSBORO TX 75494
KK	73609	HERSHELL WINGFIELD 1776 FM 1002 S BIG SANDY TX 75755
LL	70018	WILLIAM D STAHLMAN 12131 STATE HWY 154 W WINNSBORO TX 75494

FREDDIE & SHIRLEY RISINGER
7196 E HWY 154
WINNSBORO TX 75494

DONALD C WELLMAN
7236 WALLING LN
DALLAS TX 75231

PRITCHETT WATER SUPPLY
3670 STATE HWY 155 S
GILMER TX 75645

HILARO PEREZ
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DALLAS TX 75220

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VALERIE R LUCIANI & PETE MCFADDEN
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BIG SANDY TX 75755 TX 75755

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WINNSBORO TX 75494

HERSHELL WINGFIELD
1776 FM 1002 S
BIG SANDY TX 75755

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BIG SANDY TX 75755

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12223 STATE HWY 154 W
WINNSBORO TX 75494

GASPAR R R BECERRA
351 EAGLE LANDING RD
WINNSBORO TX 75494

HERSHELL WINGFIELD
1776 FM 1002 S
BIG SANDY TX 75755

WILLIAM D STAHLMAN
12131 STATE HWY 154 W
WINNSBORO TX 75494

2022 TUPCO REVOCABLE TRUST
C ADAMS TRUSTEE P O BOX 751
ROWLETT TX 75030

Comisión de Calidad Ambiental del Estado de Texas

AVISO DE RECEPCIÓN DE LA SOLICITUD Y LA INTENCIÓN DE OBTENER CALIDAD DEL AGUA PERMISO
NUEVO

PERMISO NO. WQoo05476000

SOLICITUD. NICO JAAP DEBOER, 19008 FM 3079 CHANDLER TX 75758 7667 ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para el propuesto Permiso No. WQoo05476000 que autoriza al solicitante a operar un nuevo operación de lecheras en un capacidad máxima de 2621 animales.

El sitio de aplicación al suelo está ubicado en 13 miles to Gilmer en el Condado de Upshur, Texas. Este enlace a un mapa electrónico de la ubicación general del sitio o de la instalación es proporcionado como una cortesía y no es parte de la solicitud o del aviso. Para la ubicación exacta, consulte la solicitud. *https://www.tceq.texas.gov/permitting/wastewater/pending-permits/cafo-applications*.

La TCEQ recibió esta solicitud el día 12/31/2024 . La solicitud para el permiso está disponible para leer y copiar en Texas A&M AgriLife Extension, 301 E. Butler Street, Upshur Co. and Texas A&M AgriLife Extension, 618 S. Main Street, Quitman, TX 75783-0968, Wood Co . La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/cafo-applications.

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud es administrativamente completa y conducirá una revisión técnica de la solicitud. Después de completar la revisión técnica, el Director Ejecutivo puede preparar un borrador del permiso y emitirá una Decisión Preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar serán publicados y enviado a los que están en la lista de correo de las personas a lo largo del condado que desean recibir los avisos y los que están en la lista de correo que desean recibir avisos de esta solicitud. El aviso dará la fecha límite para someter comentarios públicos.**

COMENTARIO PUBLICO / REUNION PUBLICA. Usted puede presentar comentarios públicos o pedir una reunión pública sobre esta solicitud. El

propósito de una reunión pública es dar la oportunidad de presentar comentarios o hacer preguntas acerca de la solicitud. La TCEQ realiza una reunión pública si el Director Ejecutivo determina que hay un grado de interés público suficiente en la solicitud o si un legislador local lo pide. Una reunión pública no es una audiencia administrativa de lo contencioso.

OPORTUNIDAD DE UNA AUDIENCIA ADMINISTRATIVA DE LO CONTENCIOSO. Después del plazo para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios apropiados y preparará una respuesta a todo los comentarios públicos esenciales, pertinentes, o significativos. **A menos que la solicitud haya sido referida directamente a una audiencia administrativa de lo contencioso, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud serán enviados por correo a todos los que presentaron un comentario público y a las personas que están en la lista para recibir avisos sobre esta solicitud. Si se reciben comentarios, el aviso también proveerá instrucciones para pedir una reconsideración de la decisión del Director Ejecutivo y para pedir una audiencia administrativa de lo contencioso.** Una audiencia administrativa de lo contencioso es un procedimiento legal similar a un procedimiento legal civil en un tribunal de distrito del estado.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, USTED DEBE INCLUIR EN SU SOLICITUD LOS SIGUIENTES DATOS: su nombre, dirección, y número de teléfono; el nombre del solicitante y número del permiso; la ubicación y distancia de su propiedad/actividad con respecto a la instalación; una descripción específica de la forma cómo usted sería afectado adversamente por el sitio de una manera no común al público en general; una lista de todas las cuestiones de hecho en disputa que usted presente durante el período de comentarios; y la declaración "[Yo/nosotros] solicito/solicitamos una audiencia de caso impugnado". Si presenta la petición para una audiencia de caso impugnado de parte de un grupo o asociación, debe identificar una persona que representa al grupo para recibir correspondencia en el futuro; identificar el nombre y la dirección de un miembro del grupo que sería afectado adversamente por la planta o la actividad propuesta; proveer la información indicada anteriormente con respecto a la ubicación del miembro afectado y su distancia de la planta o actividad propuesta; explicar cómo y porqué el miembro sería afectado; y explicar cómo los intereses que el grupo desea proteger son pertinentes al propósito del grupo.

Después del cierre de todos los períodos de comentarios y de petición que aplican, el Director Ejecutivo enviará la solicitud y cualquier petición para reconsideración o para una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración durante una reunión programada de la Comisión. La Comisión sólo puede conceder una solicitud de una audiencia de caso impugnado sobre los temas que el solicitante haya presentado en sus comentarios oportunos que no fueron retirados

posteriormente. Si se concede una audiencia, el tema de la audiencia estará limitado a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas a intereses pertinentes y materiales de calidad del agua que se hayan presentado durante el período de comentarios.

LISTA DE CORREO. Si somete comentarios públicos, un pedido para una audiencia administrativa de lo contencioso o una reconsideración de la decisión del Director Ejecutivo, la Oficina del Secretario Principal enviará por correo los avisos públicos en relación con la solicitud. Ademas, puede pedir que la TCEQ ponga su nombre en una or mas de las listas correos siguientes (1) la lista de correo permanente para recibir los avisos de el solicitante indicado por nombre y número del permiso específico y/o (2) la lista de correo de todas las solicitudes en un condado especifico. Si desea que se agrega su nombre en una de las listas designe cual lista(s) y envia por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

CONTACTOS E INFORMACIÓN DE LA TCEQ. Todos los comentarios escritos del público y los para pedidos una reunión deben ser presentados a la Oficina del Secretario Principal, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 o por el internet at www.tceq.texas.gov/about/comments.html. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia. Si necesita más información en Español sobre esta solicitud para un permiso o el proceso del permiso, por favor llame a El Programa de Educación Pública de la TCEQ, sin cobro, al 1-800-687-4040. La información general sobre la TCEQ puede ser encontrada en nuestro sitio de la red: www.tceq.texas.gov.

También se puede obtener información adicional del NICO JAAP DEBOER a la dirección indicada arriba o llamando a Jim C. Wyrick al 903 521 3095.

Fecha de emisión not issued

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

ELECTRONIC WAIVER REQUEST FOR A CONCENTRATED ANIMAL FEEDING OPERATION (CAFO)

A Large CAFO, as defined in the CAFO rules at 30 TAC 321.32(14)(A), must request a waiver from e-reporting requirements codified in 40 Code of Federal Regulations §127.15 OR be required to submit CAFO annual reports electronically.

Are you requesting a waiver from e-reporting requirements?

☒ Yes, Indicate the type of waiver below.

☒ Temporary Waiver

☐ Permanent Waiver (available to facilities and entities owned or operated by members of religious communities that choose not to use certain modern technologies (e.g., computers, electricity))

☐ No, you must submit your application electronically through TCEQ ePermits system (STEERS) at https://www3.tceq.texas.gov/steers/index.cfm. Check How to Apply through STEERS.

If an electronic waiver request is granted, the Applicant(s) seeking authorization, or an authorized permittee(s) may continue to submit CAFO annual reports to TCEQ in a paper format.

Note:

- An approved waiver is not transferrable.
- Each Owner or Operator must request his own waiver.
- Temporary waiver will not extend beyond five years. However, permittees may re-apply for a new temporary waiver, if needed.

State Only CAFOs are exempt from this requirement.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDIVIDUAL PERMIT APPLICATION FOR A CONCENTRATED ANIMAL FEEDING OPERATION (CAFO)

If you have questions about completing this form, please contact the Applications Review and Processing Team at 512-239-4671.

SECTION 1. APPLICATION FEE

Minor Amendment - $150.00
Renewal - $315.00
New or Major Amendment - $350.00

Mailed — Check/Money Order Number: 05071
Check/Money Order Amount: $350.00
Name Printed on Check: Nico and Erna de Boer

EPAY — Voucher Number:
Copy of Payment Voucher enclosed? Yes ☐

SECTION 2. TYPE OF APPLICATION

A. Coverage: State Only ☐ TPDES ☒

B. Media Type: Water Quality ☐ Air and Water Quality ☒

C. Application Type: New ☒ Major Amendment ☐
Renewal ☐ Minor Amendment ☐

D. For amendments, describe the proposed changes:

E. For existing permits:
What is the permit number?
What is the EPA I.D. Number? TX

SECTION 3. FACILITY OWNER (APPLICANT) INFORMATION

A. What is the legal name of the facility owner?
NICO JAAP DEBOER

B. If the applicant is an existing TCEQ customer, provide the Customer Number (CN) issued to this entity? CN 601180649

C. What is the contact information for the owner?

Mailing Address: 19008 FARM TO MARKET 3079

City, State and Zip Code: CHANDLER, TX 75758 7667

Phone Number: 903 521 3095 Fax Number:

E-mail Address: hilltopjersey@gmail.com

D. Indicate the type of customer:

- ☒ Individual
- ☐ Limited Partnership
- ☐ General Partnership
- ☐ Trust
- ☐ Sole Proprietorship (D.B.A.)
- ☐ Corporation
- ☐ Estate
- ☐ Federal Government
- ☐ County Government
- ☐ State Government
- ☐ City Government
- ☐ Other Government
- ☐ Other, specify:

E. If the customer type is individual, complete Attachment 1.

F. Is this customer an independent entity?

☒ Yes ☐ No government, subsidiary, or part of a larger corporation

G. Number of employees:

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 or higher

H. For Corporations and Limited Partnerships:

What is the Tax Identification Number issued by the State Comptroller:

What is the Charter Filing Number issued by the Texas Secretary of State:

SECTION 4. CO-APPLICANT INFORMATION

Complete this section only if another person or entity is required to apply as a co-permittee.

A. What is the legal name of the co-applicant?

B. If the applicant is an existing TCEQ customer, provide the Customer Number (CN) issued to this entity? CN

C. What is the contact information for the co-applicant?

Mailing Address:

City, State and Zip Code:

Phone Number: Fax Number:

E-mail Address:

D. Indicate the type of customer:

- ☐ Individual
- ☐ Limited Partnership
- ☐ General Partnership
- ☐ Trust
- ☐ Sole Proprietorship (D.B.A.)
- ☐ Corporation
- ☐ Estate
- ☐ Federal Government
- ☐ County Government
- ☐ State Government
- ☐ City Government
- ☐ Other Government
- ☐ Other, specify:

E. If the customer type is individual, complete Attachment 1.

F. Is this customer an independent entity?

☐ Yes ☐ No government, subsidiary, or part of a larger corporation

G. Number of employees:

☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 or higher

H. For Corporations and Limited Partnerships:

What is the Tax Identification Number issued by the State Comptroller:

What is the Charter Filing Number issued by the Texas Secretary of State:

SECTION 5. APPLICATION CONTACT INFORMATION

This is the person TCEQ will contact if additional information is needed about this application.

Prefix (Mr., Ms., Miss): Mr.

Application Contact First and Last Name: Jim Wyrick

Title: Consultant Credentials: Professional Geoscientist

Company Name: East Texas Environmental Services

Mailing Address: 317 Highland Dr,

City, State and Zip Code: Sulphur Springs, TX 75482

Phone Number: 903 243-0400 Fax Number:

E-mail Address: wyrick@suddenlink.net

SECTION 6. PERMIT CONTACT INFORMATION

Provide two names of individuals that TCEQ can contact during the term of the permit.

A. Prefix (Mr., Ms., Miss): Mr.

Permit Contact First and Last Name: Jim Wyrick

Title: Consultant Credentials: PG

Company Name: East Texas Environmental Services

Mailing Address: 317 Highland Dr.

City, State and Zip Code: Sulphur Springs, TX 75482

Phone Number: 903-243-0400 Fax Number: na E-mail Address: wyrick@suddenlink.net

B. Prefix (Mr., Ms., Miss): Mr

Permit Contact First and Last Name: NICO JAAP DEBOER

Title: Owner Credentials:

Company Name: T&S Dairy

Mailing Address: 19008 FARM TO MARKET 3079

City, State and Zip Code: CHANDLER, TX 75758 7667

Phone Number: 903 521 3095 Fax Number: E-mail Address: hilltopjersey@gmail.com

SECTION 7. ANNUAL BILLING CONTACT INFORMATION

Please identify the individual for receiving the annual fee invoices.

Is the billing contact and contact information the same as the Owner or the Co-Applicant identified in Section 3) or Section 4) above?

☒ Yes, specify which applicant on the line below and go to Section 8)

NICO JAAP DEBOER

☐ No, complete this section

Prefix (Mr., Ms., Miss):

First and Last Name:

Title: Credentials:

Company Name:

Mailing Address:

City, State and Zip Code:

Phone Number: Fax Number: E-mail Address:

SECTION 8. LANDOWNER INFORMATION

A. Landowner where the production area is or will be located

Landowner Name: NICO JAAP DEBOER

B. Landowner of the land management units (LMUs)

Landowner Name: NICO JAAP DEBOER

SECTION 9. PUBLIC NOTICE INFORMATION

A. Individual responsible for publishing the notices in the newspaper

Prefix (Mr., Ms., Miss): Mr. First and Last Name: Jim Wyrick

Title: Consultant Credentials: PG

Company Name: East Texas Environmental Services

Mailing Address: 317 Highland Dr.

City, State and Zip Code: Sulphur Springs, TX 75482

Phone Number: 903-243-0400 Fax Number: E-mail Address: wyrick@suddenlink.net

B. Method for receiving the notice package for the Notice of Receipt and Intent

☐ E-mail:

☐ Fax Number:

☒ Regular Mail:

Mailing Address: 317 Highland Dr.

City, State and Zip Code: Sulphur Springs, TX 75482

C. Contact person to be listed in the notice

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: NICO JAAP DEBOER

Title: owner Credentials:

Company Name: T&S Dairy

Phone Number: 903 521 3095

D. Public viewing location

If the facility is located in more than one county, a public viewing location for each county must be provided.

Public Building Name: Texas A&M AgriLife Extension

Physical Address of Building: 301 E. Butler Street

City: Gilmer, TX 75644-0730 County: Upshaw

Phone Number: 903-843-4019

E. Bilingual Notice Requirement

For new, major amendment, and renewal applications. This information can be obtained by contacting the bilingual/ESL coordinator at the nearest elementary or middle school.

1. Is a bilingual education program required by the Texas Education Code at the nearest elementary or middle school to the facility or proposed facility?
Yes ☒ No ☐

(**If No**, alternative language notice publication is not required; skip to Section 10. Regulated Entity (Site) Information.)

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?
Yes ☒ No ☐

3. Do the students at these schools attend a bilingual education program at another location?
Yes ☐ No ☒

4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?
Yes ☐ No ☒

5. If the answer is yes to 1, 2, 3, or 4, public notice in an alternative language is required. Which language is required by the bilingual program? Spanish

6. Complete the CAFO Plain Language Summary Template (English) for CAFO Permit Applications for a new, renewal, major or minor amendment and submit with this application.

If a bilingual education program is required by the Texas Education Code at the nearest elementary or middle school to the facility or proposed facility, also complete the CAFO Plain Language Summary Template (Spanish) or provide a translated copy of the completed English plain language summary in the appropriate alternative language if different from Spanish.

F. **Public Involvement Plan Form**
Complete and attach one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment to a permit.

SECTION 10. REGULATED ENTITY (SITE) INFORMATION

A. Site Name as known by the local community: T&S Dairy

B. If this is an existing permitted site, provide the Regulated Entity Number (RN) issued to this site? RN 102184405

C. Site Address/Location:

If the site has a physical address such as 12100 Park 35 Circle, Austin, TX 78753, complete Item 1.

If the site does not have a physical address, provide a location description in Item 2. Example: located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1.

Item 1: Physical Address of Project or Site:

Street Number and Name: 7880 E STATE HIGHWAY 154

City, State and Zip Code: WINNSBORO TX 75494 7110

Item 2: Site Location Description:

Location description:

City where the site is located or, if not in a city, what is the nearest city:

Zip Code where the site is located:

D. County or counties if more than 1: Wood and Upshur

E. Latitude: 32.761905 Longitude: -95.170065

F. Animal Type:

- ☒ Dairy-0241
- ☐ Beef Cattle- 0211
- ☐ Swine-0213
- ☐ Broiler-0251
- ☐ Laying Hens-0252
- ☐ Sheep/Goats-0214
- ☐ Auction-5154
- ☐ Other, specify:

G. Existing Maximum Number of Animals: 2621

Proposed Maximum Number of Animals: 2621

H. What is the total LMU acreage? 296

SECTION 11. MISCELLANEOUS INFORMATION

A. Did any person who was formerly employed by the TCEQ represent your company and get paid for service regarding this application? Yes ☐ No ☒
If yes, provide the name(s) of the former TCEQ employee(s):

B. Is the facility located on Indian Country Lands? Yes ☐ No ☒
If yes, do not submit this application. You must obtain authorization through EPA Region 6.

C. Is the production area located within the protection zone of a sole source drinking water supply? Yes ☐ No ☒

D. Is any permanent school fund land affected by this application? Yes ☐ No ☒

If yes, provide the location and foreseeable impacts and effects this application has on the land(s).

E. Delinquent Fees and Penalties:

Do you owe fees to the TCEQ? Yes ☐ No ☒

Do you owe any penalties to the TCEQ? Yes ☐ No ☒

If you answered yes to either of the above questions, provide the amount owed, the type of fee or penalty, and an identifying number.

SECTION 12. AFFECTED LANDOWNER INFORMATION

This section must be completed if the application type is new or major amendment. If the application type is renewal or minor amendment, skip to Section 13.

A. Landowner map. Attach a landowner map or drawing, with scale, that includes the following. Each landowner should be designated by a letter or number on both the list and the map.

- The applicant's property boundaries, including onsite and offsite LMUs; and
- The property boundaries of all landowners within 500 feet of the applicant's property.

B. Landowner list. Attach a separate list of the landowners' names and mailing addresses. The list must be cross-referenced to the landowners map.

C. Landowner list media. Indicate the format of the landowners list.

☐ Read/Writeable CD

☒ 4 sets of mailing labels

D. Landowner data source. Provide the source of the landowners' names and mailing addresses.

Wood Co. Tax Appraisal District website and Upshaw Co. Tax Appraisal District website

SECTION 13. ATTACHMENTS

A. All applications

- Supplemental Permit Information Form, if required by instructions on that form
- Current copy of tax records or deed showing ownership of the land
- Lease agreement, if LMUs are not owned by the applicant or co-applicant

B. New, Major amendment, or Renewal

- Completed Technical Information Packet (TCEQ-00760).

C. New and Major amendment

- Public Involvement Plan Form (TCEQ-20960)

D. Minor Amendment

Attach the following items if applicable:

- Current vicinity map, site map, runoff control map, and LMU map
- RCS design calculations
- Nutrient Management Plan or Land application rate calculations
- Other technical documents affected by the proposed amendment

SIGNATURE PAGE

If co-applicants are required, each co-applicant must submit an original, separate signature page.

Permit Number:

Applicant:

I 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.

I further certify that I am authorized under 30 Texas Administrative Code

§305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signatory Name:

Title:

Signature: _____ Date: _____

SUBSCRIBED AND SWORN to before me by the said _____ on

this _____ day of _____, 20_____

My commission expires on the _____ day of _____, 20_____

(Seal)

_____
Notary Public

_____
County, Texas

Attachment 1
Individual Information

Complete this attachment if the facility owner or co-applicant is an individual. Make additional copies of this attachment if both are individuals.

Prefix (Mr., Ms., Miss): Mr.

Full Legal Name, including middle name: Nico Jaap DeBoer

Driver's License or State Identification Number: [redacted]

State that Issued the License or Identification Number: Texas

Date of Birth: [redacted]

Mailing Address: 19008 FARM TO MARKET 3079

City, State and Zip Code: CHANDLER, TX 75758 7667

Phone Number: 903-521-3095 Fax Number: na

E-mail Address: hilltopjersey@gmail.com

For TCEQ Use Only

Customer Number _____
Regulated Entity Number _____
Permit Number _____

TCEQ USE ONLY

Application type:	Renewal Major Amendment Minor Amendment New
County: _____	Admin Complete Date: _____
Agency Receiving SPIF:	Texas Historical Commission U.S. Fish and Wildlife Texas Parks and Wildlife Army Corps of Engineers

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form is required for all TPDES applications

1. Applicant: NICO JAAP DEBOER
2. Permit Number: EPA ID Number:
3. Address of the project (location description that includes street/highway, city/vicinity, and county). 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110
4. Provide the name, address, telephone and fax number of an individual that can be contacted to answer specific questions about the property.

   First and Last Name: Jim Wyrick

   Company Name: East Texas Environmental Services

   Mailing Address: 317 Highland Dr.

   City, State, and Zip Code: 75482

   Phone Number: 903-243-0400 Fax Number:
5. County where the facility is located: Wood and Upshur
6. If the property is publicly owned and the owner is different than the permittee/applicant, please identify the owner.
7. Identify the name of the water body (receiving waters) and TCEQ segment number that will receive the discharge. LITTLE CYPRESS BAYOU
8. Provide a 7.5-minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. (This map is required in addition to the map in the administrative report.)
9. Provide photographs of any structures 50 years or older on the property.
10. Does your project involve any of the following? Select all that apply.
    - ☐ Proposed access roads, utility lines, and construction easements
    - ☐ Visual effects that could damage or detract from a historic property's integrity
    - ☐ Vibration effects during construction or as a result of project design
    - ☐ Additional phases of development that are planned for the future
    - ☐ Sealing of caves, fractures, sinkholes, or other karst features
    - ☐ Disturbance of vegetation or wetlands
11. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves or other karst features): none
12. Describe existing disturbances, vegetation & land use (plowing, other ground disturbances):

no-till of winter pasture, plowing and seeding

The following applies to New TPDES and Major Amendment to TPDES Permits:

13. List construction dates of any buildings or structures on the property: unknown
14. Provide a brief history of the property, and name of the architect/builder, if known: unknown

The following applies to New, Amended and Renewal TPDES applications:

15. List each Retention Control Structure and its required capacity (Acre Feet). SP-.65, RCS#1-13.57, RCS#2-10.26, RCS#3-7.38, RCS#4-24.85
16. Provide the location and number of acres where wastewater and manure are land applied: LMU#1-77, LMU#2-77, LMU#3-31, LMU#4-60, LMU#5-78, LMU#6-47, LMU#7-110
17. List the maximum number of head to be permitted. 2621

WATER QUALITY PERMIT

PAYMENT SUBMITTAL FORM

Use this form to submit you APPLICATION FEE, if you are mailing your payment.

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- Do not mail this form with your application form.
- Do not mail this form to the same address as your application.
- Do not submit a copy of the application with this form as it could cause duplicate permit entries.

Mail this form and your check to:

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

Fee Code: WQP Wastewater Permit Number: WQ000not known

1. Check / Money Order Number: 05071
2. Amount of Check/Money Order: $350.00
3. Date of Check or Money Order: 12/6/24
4. Name on Check or Money Order: Nico and Erna de Boer
5. APPLICATION INFORMATION

   If the check is for more than one application, attach a list of each Project/Site (RE) Name and Physical Address exactly as provided on the application.
   Project/Site (RE) Name: T&S Jerseys

   Project/Site (RE) Physical Address: 7880 E STATE HIGHWAY 154, WINNSBORO TX 75494 7110

Staple Check in This Space

TCEQ - 20134

INSTRUCTIONS FOR CAFO INDIVIDUAL PERMIT APPLICATION

Request for Electronic Reporting Waiver- Applicable to TPDES Large CAFOs Only.

Indicate if you want a waiver, temporary or permanent. If a waiver request is granted, the Applicant(s) seeking authorization or permittees that are authorized may continue to submit annual reports to TCEQ in paper format.

If you select "No", you must submit your and annual reports to TCEQ) electronically through STEERS.

Temporary Waivers

The final rule has the following requirements for temporary waivers from NPDES electronic reporting. The final rule outlines a process for these temporary waiver requests [see 40 CFR 127.15(b)].

1. It is the duty of the owner, operator, or duly authorized representative of the TPDES-regulated entity to initiate the process by submitting a temporary waiver request.
2. Each temporary waiver must not extend beyond five years. However, TPDES-regulated entities may re-apply for a new temporary waiver.
3. An approved temporary waiver is not transferrable to another owner or operator (as defined in 40 CFR 122.2)

Permanent Waivers

The final rule has the following requirements for permanent waivers from TPDES electronic reporting. The final rule outlines a process for these permanent waiver requests [see 40 CFR 127.15(c)].

1. It is the duty of the owner, operator, or duly authorized representative of the TPDES-regulated entity to initiate the process by submitting a permanent waiver request.
2. Permanent waivers are only available to facilities and entities owned or operated by members of religious communities that choose not to use certain modern technologies (e.g., computers, electricity).
3. An approved permanent waiver is not transferrable to another owner or operator (as defined in 40 CFR 122.2).

This application applies to CAFO facilities authorized under 30 TAC Chapter 321.

Who Should Apply?

The owner of the facility must be the applicant. If the owner of the land is a separate entity or individual, then the owner of the land must be included as the co-applicant. For all TPDES applications, the operator must be listed as a co-applicant. A Signature Page must be completed for each applicant.

A permit must be transferred when a change in ownership or operator occurs. A transfer application (TCEQ-20031) must be submitted at least 30 days before the proposed transfer date.

When Is the Application Submitted?

For **new and amendment** applications, the completed application must be submitted at least 180 days before the date of the proposed discharge or disposal. The discharge cannot begin

until a permit is issued.

For **renewal** applications, the completed application must be submitted at least 180 days before the expiration date of the current permit.

Where to Send the Application Form

One original and two copies of the application, including attachments, must be provided to the address below.

Also submit **one copy** of the application to the appropriate **TCEQ Regional Office**. Regional office addresses may be obtained on the TCEQ website at www.tceq.texas.gov. If information is submitted at a later date in response to a TCEQ request for further information, please forward a copy of the requested information to the TCEQ regional office as well.

Regular U.S. Mail:

Texas Commission on Environmental Quality
Applications Review and Processing Team, MC 148
PO Box 13087
Austin TX 78711-3087

For Express Mail or Hand Delivery:

Texas Commission on Environmental Quality
Applications Review and Processing Team, MC 148
Building F Room 2101
12100 Park 35 Circle
Austin TX 78753

TCEQ Contact List

Permit Information and Application Forms:	512-239-4671
Technical Information	512-239-4671
Environmental Law Division:	512-239-0600

Copies of records on file with the TCEQ may be obtained for a minimal fee from the Records Management Office at 512-239-2900.

Section 1. Application Fee

Minor Amendment - $150.00

Renewal - $315.00

New or Major Amendment - $350.00

You must pay the Application Fee to TCEQ for the application to be complete.

Payment and application must be mailed to separate addresses.

Mail the application fee to:

Texas Commission on Environmental Quality
Revenues Section, MC 214
PO Box 13088
Austin TX 78711-3088

You can pay online at http://www.tceq.texas.gov/goto/epay
Select Fee Type: Water Quality

To verify receipt of payment or any other questions you may have regarding payment of fees to the TCEQ, you may call the Revenues Section, Cashiers Office at (512) 239-0357.

Section 2. Type of Application

A. COVERAGE: Texas Pollutant Discharge Elimination System (TPDES) applies to a facility that meets the definition of a Large CAFO as defined in 30 Texas Administrative Code (TAC) §321.32(14)(A). State Only applies to a facility that meets the definition of State-only CAFO, as defined in 30 TAC §321.32(14)(B)-(D). Select the appropriate type of coverage for your facility.

B. MEDIA TYPE: Each authorization may be issued to provide coverage under the Texas Water Code (TWC) and the Texas Health and Safety Code. Select the appropriate media type for your facility.

   Water Quality: All CAFOs are required to seek and obtain authorization under a water quality permit, except for dry litter poultry CAFOs. Select this option if your facility has a separate air quality authorization through a Chapter 116 permit or Chapter 106 Standard Exemption.

   Air and Water Quality: Select this option if you are requesting air quality authorization under the air quality standard permit in lieu of separate air quality authorization through a Chapter 116 permit or Chapter 106 Standard Exemption. The air quality standard permit requirements are described in 30 TAC §321.43.

C. APPLICATION TYPE: There are four alternatives available to the applicant: new applications, major amendments to existing authorizations, minor amendments or modifications to existing authorizations, or renewals of existing authorizations. Each type is described below. Select the appropriate application type for your facility.

   New: For applicants requesting written authorization to operate a CAFO.

   Major Amendment: For applicants that currently operate under written authorization and are requesting to change a substantive term, provision, requirement, or a limiting parameter of the authorization such as to change animal type or head count; add a new RCS; add or increase the acreage of LMUs; change or add crops or yield goals that are not currently authorized.

   Minor Amendment: For applicants that currently operate under written authorization and are requesting to improve or maintain the permitted quality or method of disposal of waste if there is neither a significant increase of the quantity of waste nor a material change in the pattern or place of disposal.

   Renewal: For applicants that currently operate under written authorization and are requesting to renew that authorization.

D. For amendment applications, describe the proposed changes.
E. For renewal and amendment applications, provide the TCEQ permit number and for TPDES Large CAFO, the EPA I.D. number.

Section 3. Facility Owner (Applicant) Information

A. Provide the full legal name of the facility owner. It is the responsibility of the **Facility Owner** to apply for the permit. For all TPDES applications, the **operator** must be listed as a co-applicant.
B. If the facility owner is an existing TCEQ customer, provide the customer number (CN) for the facility owner. The Customer Number is available at the following website: http://www15.tceq.texas.gov/crpub/. If the facility owner is not an existing TCEQ customer,

leave blank.

C. Provide the following contact information for the facility owner: mailing address, phone number, fax number, and email address. The mailing address provided by the applicant should also be an address where permit correspondences can be received. The mailing address provided will be used on the permit.

D. Select the entity type for the facility owner. Identify the number of employees that work for the facility owner.

E. If the facility owner is an individual, complete Attachment 1: Individual Information.

F-H. If the facility owner is a corporation or limited partnership, provide the Tax ID number and Charter number. This information must show the applicant is in good standing with the Comptroller. If the applicant is not registered with the Texas Secretary of State or is not an individual, a copy of the agreement which formed the entity must be submitted. The agreement must be recorded in the county where the project is located. The application cannot be further processed unless the applicant is authorized to do business in the state of Texas. To obtain the certification, applicants may contact the Office of the State Comptroller of Public Accounts at www.cpa.state.tx.us or at 800-252-5555.

Section 4. Co-Applicant Information

A. Provide the full legal name of the co-applicant.

B. If the co-applicant is an existing TCEQ customer, provide the customer number (CN) for the co-applicant. The Customer Number is available at the following website: http://www15.tceq.texas.gov/crpub/. If the co-applicant is not an existing TCEQ customer, leave blank.

C. Provide the following contact information for the co-applicant: mailing address, phone number, fax number, and email address.

D. Select the entity type for the co-applicant. Identify the number of employees that work for the co-applicant.

If the co-applicant is an individual, complete Attachment 1: Individual Information.

F-H. If the co-applicant is a corporation or limited partnership, provide the Tax ID number and Charter number. This information must show the co-applicant is in good standing with the Comptroller. If the applicant is not registered with the Texas Secretary of State or is not an individual, a copy of the agreement which formed the entity must be submitted. The agreement must be recorded in the county where the project is located. The application cannot be further processed unless the applicant is authorized to do business in the state of Texas. To obtain the certification, applicants may contact the Office of the State Comptroller of Public Accounts at www.cpa.state.tx.us or at 800-252-5555.

Section 5. Application Contact Information

Provide the following information regarding the person that TCEQ will contact if additional information is needed about this application: first and last name, company name, mailing address, phone number, fax number, and email address.

Section 6. Permit Contact Information

Provide the following information for two individuals that TCEQ will contact if additional information is needed during the permit term (after the permit is issued): first and last name, company name, mailing address, phone number, fax number, and email address.

Section 7. Annual Billing Contact Information

Provide the following information regarding the person that TCEQ will send annual fee invoices: first and last name, company name, mailing address, phone number, fax number, and email address.

The water quality fee is assessed annually for each permit that is active on September 1.

Pursuant to 30 TAC, Section 305.66, failure to pay fees is good cause for permit denial or revocation. If an applicant has outstanding fees, a proposed permit application will not be considered for approval by the Commission or Executive Director. For account balance information, contact the Financial Administration Division, Revenue Section, at (512) 239-0344.

Section 8. Landowner Information

Provide the name of the landowner of the production area and the land management units.

Section 9. Notice Information

The applicant will be required to publish 2 public notices in a newspaper of largest general circulation in the county where the facility is or will be located (not applicable for minor amendments applications; however, completion of **9.C. Contact in the Notice** is still required). Detailed information may be obtained by referring to TCEQ's web site and *30 TAC Chapters 39, 50, 55, and 281* regarding notice, public comments, and response to comment procedures.

The first notice, the "Notice of Receipt of Application and Intent to Obtain a Water Quality Permit" (NORI) must be published within 30 days of the application being declared Administratively Complete.

The second notice, "Notice of Application and Preliminary Decision" (NAPD) must be published within 30 days of a draft permit being filed with the Office of Chief Clerk (OCC). All information necessary to publish the second notice, as well as proof of publication, will be mailed by the OCC. The address to mail the required information back to the TCEQ will be included in the information from the OCC.

A. Provide the following information for the person that will publish the public notices: first and last name, company name, mailing address, phone number, fax number, and email address. This individual may be contacted by the public to answer general and specific questions about all aspects of the permit application.

B. Select the preferred method for receiving the public notice package for the Notice of Receipt and Intent. Options include email, fax, overnight or priority mail, or regular mail. The day the application is declared Administratively Complete the notice package will be sent to person identified in Section 9.A. via the method selected. The notice package includes the TCEQ declaration of completeness, a notice ready for publication, instructions for publishing the notice, and a publication affidavit.

C. Provide the following information for the person that will be identified in the public notice for the public to contact if they have questions about the permit application: first and last name, company name, and phone number.

D. Identify the public facility (library, courthouse, city hall) where the complete application, draft permit, and Fact Sheet must be made available for viewing and copying by the general public by the date the first notice is published. A location must be identified for each

county where the facility is located. *(Note: This site must be in the county where the proposed activity is or will be located.)* Provide the building name, building address, city, county, and phone number for the public location where the application can be reviewed by the public.

E. For the Bilingual Notice Requirement Section, answer the questions in order to determine if the public notice must be published in an alternative language. Bilingual notice may be required for new, major amendment and renewal applications. Bilingual notice is not required for minor amendment applications.

   Complete the Template and Instructions for the Plain Language Summary for a Concentrated Animal Feeding Operation (CAFO) Permit Application and submit with this application. This template is a guide for developing a plain language summary for a CAFO permit application as required by the TCEQ Public Participation Plan and Language Access Plan. You may modify the template as necessary to accurately describe your facility as long as the summary includes the following information: (1) the function of the proposed site or facility; (2) the expected output of the proposed site or facility; (3) the expected pollutants that may be emitted or discharged by the proposed site or facility; and (4) how the applicant will control those pollutants, so that the proposed or existing CAFO facility will not have an adverse impact on human health or the environment.

   If a bilingual education program is required by the Texas Education Code at the nearest elementary or middle school to the facility or proposed facility also complete the Plain Language Summary Template (Spanish) or provide a translated copy of the completed English plain language summary in the appropriate alternative language if different from Spanish for new, renewal, major and minor amendments.

   Download a copy of the template from the TCEQ website at https://www.tceq.texas.gov/permitting/wastewater/review/maintenance_forms.html.

F. Complete and attach one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment to a permit. This form is not required for renewal or minor amendment applications. Download a copy of this form using the TCEQ Form Lookup feature at

   https://www.tceq.texas.gov/publications/search_forms.html

Section 10. Regulated Entity (Site) Information

A. Provide the name of the site as known by the public in the area where the facility is located.

B. If the site is currently regulated by TCEQ, provide the regulated entity reference number (RN) for the site. The RN is available at the following website: http://www15.tceq.texas.gov/crpub/. If the site is not currently regulated by TCEQ, leave blank.

C. Provide the physical address of the site. If a physical address is not available, provide a location description, the city or nearest city, and zip code where the site is located. An example location description is provided in the application form.

D. Provide the county or counties in which the site is located.

E. Provide the latitude and longitude for the production area.

F. Select the type or types of animals at the site.

G. Provide the maximum number of animals currently authorized at the site and the proposed maximum number of animals that will be authorized at the site. For a new application, provide the maximum number of animals to be authorized.

H. Provide the total acreage of all land management units.

Section 11. Miscellaneous Information

A. Provide the name of each person that was previously employed by TCEQ and who was paid for services regarding this application.

B. Identify if the facility is located on Indian Country Lands. If the answer is yes, TCEQ does not have jurisdiction to process this application. Do not submit this application to TCEQ. Contact EPA Region 6 to obtain authorization.

C. Identify if the production area is located within the protection zone of a sole source drinking water supply.

D. Identify if any permanent school fund land is affected by this application. If yes, provide the location and potential impacts on the school fund land.

E. Indicate if the facility owner or co-applicant(s) owe fees or penalties to TCEQ. If yes, provide the amount owed, the type of fee or penalty, and the account number for fees or the TCEQ Docket number for penalties. Please note: The TCEQ will not issue, amend, or renew permits, registrations, certifications, or licenses to an entity or person who is delinquent on a penalty or fee owed to the TCEQ. The TCEQ will not declare any application administratively complete that is submitted by a person or entity who is delinquent on a fee or penalty until the fee or penalty is paid, or if on an approved installment plan, that payments under the plan are current. The TCEQ will withhold final action on an application until the fee or penalty is paid and the account is current, if after the application is considered administratively complete, we discover that the owner or entity who submitted the application is delinquent on a fee or penalty.

The following TCEQ website will help you determine if you owe any fees or penalties to the TCEQ and how to make a payment: https://www.tceq.texas.gov/agency/fees/delin/index.html. For questions about delinquent fees and penalties, contact the Financial Administration Division, Revenue Section, at 512-239-0354.

Section 12. Affected Landowner Information

This section is only required for new and major amendment applications. If the application is for a renewal or minor amendment, skip to Section 13.

A. Attach a landowner map or drawing, with scale, that shows the applicant's property boundaries, including onsite and offsite LMUs; and the property boundaries of all landowners within 500 feet of the applicant's property. Each landowner should be designated by a letter or number on both the list and the map.

B. Attach a separate list of the landowners' names and mailing addresses. The list must be cross-referenced to the landowners map.

C. Provide the mailing list in one of the following formats: either 1) submit the mailing list electronically on a readable/writeable compact disk (CD-RW) using Microsoft Word or 2) provide four sets of pre-printed labels of the list. Each name and corresponding address

must appear only once on the mailing labels or compact disk even if the entity owns more than one tract of land identified on the landowners map.

If providing the mailing labels on CD-RW, please ensure the names and mailing addresses are in Avery 5160 label format. Please label the CD-RW with the applicant's name and permit number. Within the file stored on the CD-RW, identify the permit number and applicant's name on the top of the document. The mailing list should be the only item on the CD-RW.

If providing the mailing list on pre-printed labels, it must be on Avery 5160 label format (3 columns across, 10 columns down, for a total of 30 labels per page). Provide four (4) complete sets of labels.

Names and addresses must be typed in the format indicated below according to US Postal Service regulations for machine readability. Each letter in the name and address must be capitalized, contain no punctuation, and the appropriate two-character abbreviation must be used for the state. Each entity listed must be blocked and spaced consecutively as shown below.

EXAMPLES:

JANE SMITH	MR AND MRS JOHN DOE
1405 APPLE LN	PO BOX 249
SEA TX 76724 1405	SEA TX 76710-0249

Provide the source of the landowners' names and mailing addresses.

Section 13. Attachments

Provide the attachments based on the application type.

Signature Page

A separate signature page must be provided for the facility owner and each co-applicant. The signature page must bear an original signature and the seal of a notary public. The date signed by the applicant must be the same as the date notarized. The signature page will not be acceptable if the dates are different.

In accordance with 30 Texas Administrative Code §305.44 relating to Signatories to Applications, all applications shall be signed as follows:

For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the

agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

Attachment 1. Individual Information

If the facility owner or co-applicant is an individual, provide the prefix, full legal name (including first, middle, and last name), driver's license number or state identification number, the state that issued the license or identification number, date of birth, mailing address, phone number, fax number, and email address.

Supplemental Permit Information Form

This form, located after the signature page, must be completed and submitted with all TPDES applications. This form will be sent to other agencies. Answers cannot simply refer to information provided on the application form.

PAYMENT SUBMITTAL FORM

Use this form to submit you APPLICATION FEE, if you are mailing your payment.

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- Do not mail this form with your application form.
- Do not mail this form to the same address as your application.
- Do not submit a copy of the application with this form as it could cause duplicate permit entries.

Mail this form and your check to:

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

Fee Code: WQP Wastewater Permit Number: WQ000not known

1. Check / Money Order Number: 05071
2. Amount of Check/Money Order: $350.00
3. Date of Check or Money Order: 12/6/24
4. Name on Check or Money Order: Nico and Erna de Boer
5. APPLICATION INFORMATION

   If the check is for more than one application, attach a list of each Project/Site (RE) Name and Physical Address exactly as provided on the application.
   Project/Site (RE) Name: T&S Jerseys

   Project/Site (RE) Physical Address: 7880 E STATE HIGHWAY 154, WINNSBORO TX 75494 7110

DO NOT CASH IF THIS DOCUMENT DOES NOT HAVE A LARGE PAINT IMAGE OF THE "SECURE DOCUMENT" LOGO OVER A FADING PATTERN OF THE WORDS "SECURE DOCUMENT"

Nico and Erna de Boer
T & S JERSEYS
19008 FM 3079
CHANDLER, TX 75758
(903) 849-6097

American AgCredit
Your future grows here
800-800-4585
Payable through WFB, N.A.

05071
66-156/531
2079980012794

12/6/2024

PAY TO THE ORDER OF TCEQ

$ **350.00

Three Hundred Fifty and 00/100********** DOLLARS

TCEQ
Texas Commision on Environmental Qual
P.O. Box 13089
Austin, TX 78711-3089

MEMO balance

[redacted]

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 601180649		RN 102184405

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	8/15/2024

☐ 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:*

DeBoer, Nico Jaap

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☒ Sole Proprietorship ☐ Other:

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:

19008 FM 3079							
City	Chandler	**State**	TX	**ZIP**	75758	**ZIP + 4**	7667

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)*
(903) 571-3095		( ) -

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.)*

T&S Dalry

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	7880 E State Highway 154							
	City	Winnsboro	**State**	TX	**ZIP**	75494	**ZIP + 4**	7110
24. County								

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			**State**	**Nearest ZIP Code**	
Winnsboro			TX	45494	

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:	32.761905		**28. Longitude (W) In Decimal:**	-95.170065	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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)
0241			

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Milk production

34. Mailing Address:	**19008 FM 3079**							
	City	**Chandler**	**State**	**TX**	**ZIP**	**75758**	**ZIP + 4**	**7110**
35. E-Mail Address:	**hilltopjersey@gmail.com**							

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(903) 571-3095		( ) -

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:	Jim C. Wyrick	**41. Title:**	Consultant

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(903) 243-0400		( ) -	wyrick@suddenlink.net

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:	East Texas Environmental Services	**Job Title:**	Consultant
Name *(In Print):*	Jim C Wyrick	**Phone:**	(903) 243- 400
Signature:		**Date:**	

Texas Commission on Environmental Quality

Template and Instructions for the Plain Language Summary for a Concentrated Animal Feeding Operation (CAFO) Permit Application

This template is a guide for developing a plain language summary for a CAFO permit application as required by the TCEQ Public Participation Plan and Language Access Plan. You may modify the template as necessary to accurately describe your facility as long as the summary includes the following information: (1) the function of the proposed site or facility; (2) the expected output of the proposed site or facility; (3) the expected pollutants that may be emitted or discharged by the proposed site or facility; and (4) how the applicant will control those pollutants, so that the proposed or existing CAFO facility will not have an adverse impact on human health or the environment.

Complete the plain language summary templates in English and Spanish below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements.

If a bilingual education program is required by the Texas Education Code at the nearest elementary or middle school to the facility or proposed facility, and the alternative language is not Spanish, you must provide a translated copy of the completed English plain language summary in the appropriate alternative language as part of your application package for CAFO Permit Applications.

If you have any questions about this template, contact the TCEQ Water Quality Division at (512) 239-4671.

You must submit this template with any of these applications or forms:

1. CAFO General Permit Notice of Intent Application, for a new or significant expansion (form number TCEQ 20111)

2. Notice of Change, for substantial change (form number TCEQ 20511)

3. CAFO Individual Permit Application for new, renewal, or major amendment (form number TCEQ 000728.)

Plantilla e instrucciones para el resumen en lenguaje sencillo para una solicitud de permiso de operación concentrada de alimentación animal (CAFO, sigla en inglés).

Esta plantilla es una guía para desarrollar un resumen en lenguaje sencillo para una solicitud de permiso CAFO según lo requerido por el Plan de Participación Pública y el Plan de Acceso Lingüístico de TCEQ. Puede modificar la plantilla según sea necesario para describir con precisión su instalación, siempre y cuando el resumen incluya la siguiente información: (1) la función del sitio o instalación propuestos; (2) la producción esperada del sitio o instalación propuestos; (3) los contaminantes esperados que pueden ser emitidos o descargados por el sitio o instalación propuestos; y (4) cómo el solicitante controlará esos contaminantes, de modo que la instalación CAFO propuesta o existente no tenga un impacto adverso en la salud humana o el medio ambiente.

Complete las plantillas de resumen en lenguaje sencillo en inglés y español a continuación para describir su instalación y aplicación en lenguaje sencillo. A continuación se proporcionan instrucciones y ejemplos. Realice cualquier otra edición necesaria para mejorar la legibilidad o la gramática y para cumplir con los requisitos de la regla.

Si el Código de Educación de Texas requiere un programa de educación bilingüe en la escuela primaria o intermedia más cercana a la instalación o instalación propuesta, y el idioma alternativo no es el español, debe proporcionar una copia traducida del resumen completo en inglés en el idioma alternativo apropiado como parte de su paquete de solicitud para las solicitudes de permisos CAFO.

Si tiene alguna pregunta sobre esta plantilla, comuníquese con la División de Calidad del Agua de TCEQ al (512) 239-4671.

Debe enviar esta plantilla con cualquiera de estas solicitudes o formularios:

1. Solicitud de Aviso de Intención de Permiso General de CAFO, para una expansión nueva o significativa (número de formulario TCEQ 20111)
2. Aviso de cambio, para cambios sustanciales (número de formulario TCEQ 20511)
3. Solicitud de Permiso Individual CAFO para una enmienda nueva, renovable o importante (número de formulario TCEQ 000728.)

ENGLISH LANGUAGE TEMPLATE FOR CAFO PERMIT APPLICATIONS

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by the TCEQ Public Participation Plan and Language Access Plan. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

1. Applicant's Name: - DEBOER, NICO JAAP
2. Enter Customer Number: CN601180649
3. Name of facility: T & S DAIRY
4. Enter Regulated Entity Number: RN102184405
5. Provide your permit Number: NOT ISSUED YET
6. Facility Business: DAIRY MILK PRODUCTION. THIS FACILITY CONFINES 2621 HEAD DAIRY CATTLE, OF WHICH 2621 HEAD ARE MILKING COWS. THE FACILITY PRODUCTION AREA IS LOCATED at 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110. THE DAIRY FACILITY HAS 7 LAND MANAGEMENT UNITS (LMUS) WITH THE FOLLOWING ACREAGE: LMU #1 - 77, LMU #2 - 77, LMU #3 - 31, LMU #4 – 60, LMU #5 – 78, LMU #6 – 47 AND LMU #7 – 110, AND 4 RETENTION CONTROL STRUCTURES (RCSS), AND A CONCRETE SETTLING BASIN. THE RCSS TOTAL REQUIRED CAPACITIES WITHOUT FREEBOARD (ACRE-FEET) ARE RCS #1 – 14.39, RCS #2 – 10.26, RCS #3 – 7.38, AND RCS #4 – 24.85. THERE ARE ONSITE WATER WELLS (WELLS #1 THROUGH WELL #5). THE FACILITY IS LOCATED IN THE DRAINAGE AREA OF SEGMENT NO. 0409 OF LITTLE CYPRESS BAYOU.
7. Facility Location: 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110
8. Application Type: NEW
9. Description of your request: APPLYING FOR A NEW IP
10. Potential pollutant sources at the facility include (list the pollutant sources): Manure, Wastewater, Dust, lubricants, Feed, Fuel Storage, Medicines, Cleaning Chemicals
11. The following best management practices will be implemented at the site to manage pollutants from the listed pollutant sources (describe the best management practices that are used): MANURE WILL BE STORED WITHIN THE DRAINAGE AREA OF RCS #1. WASTEWATER WILL BE STORED IN RCS #1 THROUGH RCS #4 UNTIL PROPERLY IRRIGATED THROUGH A CENTER PIVOTS IRRIGATION SYSTEMS. MANURE WILL BE HAULED TO THE APPROPRIATE LMU#7, IN ACCORDANCE WITH THE NUTRIENT MANAGEMENT PLAN. RCS #1, AND RCS #4 WILL BE DESIGNED TO STORE AND MAINTAIN THE SLUDGE AND 25YR-24HR RAINFALL. ALL OTHER CLEANERS, LUBRICANTS, FUELS AND MEDICINES WILL BE MAINTAINED AND ALL MANUFACTURERS' DIRECTIONS FOLLOWED. DEAD COWS WILL BE BURIED WITHIN 72 HOURS

Unless otherwise limited, manure, sludge, or wastewater will not be discharged from a land management unit (LMU) or a retention control structure (RCS) into or adjacent to water in the state from a CAFO except resulting from any of the following conditions:

1) a discharge of manure, sludge, or wastewater that the permittee cannot reasonably prevent or control resulting from a catastrophic condition other than a rainfall event;

2) overflow of manure, sludge, or wastewater from a RCS resulting from a chronic/catastrophic rainfall event; or

3) a chronic/catastrophic rainfall discharge from a LMU that occurs because the permittee takes measures to de-water the RCS if the RCS is in danger of imminent overflow.

PLANTILLA DE IDIOMA ESPAÑOL PARA SOLICITUDES DE PERMISO CAFO

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Plan de Participación Pública y el Plan de Acceso al Idioma de la TCEQ. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación federal exigible de la solicitud de permiso.

1. Nombre del Solicitante: DEBOER, NICO JAAP
2. Introduzca el Número de Cliente: CN601180649
3. Nombre de la Instalación: T & S DAIRY
4. Introduzca el Número de Entidad Regulada: RN102184405.
5. Proporcione su Número de Permiso: AÚN NO EMITIDO
6. Negocio de Instalación: PRODUCCIÓN DE LECHE. ESTA INSTALACIÓN CONFINA 2621 CABEZAS DE GANADO LECHERO, DE LAS CUALES 2621 SON VACAS DE ORDEÑO. EL ÁREA DE PRODUCCIÓN DE LA INSTALACIÓN ESTÁ UBICADA EN 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110. LA INSTALACIÓN LÁCTEA TIENE 7 UNIDADES DE GESTIÓN DE TIERRAS (LMUS) CON LA SIGUIENTE SUPERFICIE: LMU N.˚ 1 - 77, LMU N.˚ 2 - 77, LMU N.˚ 3 - 31, LMU N.˚ 4 - 60, LMU N.˚ 5 - 78, LMU N.˚ 6 - 47 Y LMU N.˚ 7 - 110, Y 4 ESTRUCTURAS DE CONTROL DE RETENCIÓN (RCSS) Y UN DEPÓSITO DE DESENREDO DE CONCRETO. LAS CAPACIDADES TOTALES REQUERIDAS POR EL RCSS SIN FRANCOBORDO (ACRE-PIES) SON RCS N.˚ 1: 14,39, RCS N.˚ 2: 10,26, RCS N.˚ 3: 7,38 Y RCS N.˚ 4: 24,85. HAY POZOS DE AGUA EN EL LUGAR (POZOS N.˚ 1 AL N.˚ 5). LA INSTALACIÓN ESTÁ UBICADA EN EL ÁREA DE DRENAJE DEL SEGMENTO N.˚ 0409 DE LITTLE CYPRESS BAYOU.
7. Ubicación de la Instalación: 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110.
8. Tipo de Solicitud: NUEVO
9. Descripción de su solicitud: SOLICITUD DE NUEVA IP
10. Las fuentes potenciales de contaminantes en la instalación incluyen (liste las fuentes contaminantes): ESTIÉRCOL, AGUAS RESIDUALES, POLVO, LUBRICANTES, PIENSOS, ALMACENAMIENTO DE COMBUSTIBLE, MEDICAMENTOS, PRODUCTOS QUÍMICOS DE LIMPIEZA
11. Las siguientes mejores prácticas de gestión se implementarán en el sitio para gestionar los contaminantes de las fuentes contaminantes listadas (describa las mejores prácticas de gestión que se utilizan): EL ESTÉRICO SE ALMACENARÁ DENTRO DEL ÁREA DE DRENAJE DEL RCS #1, LAS AGUAS RESIDUALES SE ALMACENARAN DEL RCS #1 AL RCS #4 HASTA QUE SE RIGUEN CORRECTAMENTE A TRAVÉS DE UN SISTEMAS DE RIEGO DE PIVOTES CENTRALES. EL ESTÉRICO SERÁ TRANSPORTADO A LA LMU#7 APROPIADA, DE ACUERDO CON EL PLAN DE MANEJO DE NUTRIENTES. RCS #1 Y RCS #4 ESTARÁN DISEÑADOS PARA ALMACENAR Y MANTENER LOS LODOS Y LAS LLUVIAS DE 25 A 24 HORAS. TODOS LOS DEMÁS LIMPIADORES, LUBRICANTES, COMBUSTIBLES Y MEDICAMENTOS SE MANTENDRÁN

Y SE SEGUIRÁN TODAS LAS INSTRUCCIONES DEL FABRICANTE. LAS VACAS MUERTAS SERÁN ENTERRADAS EN 72 HORAS

A menos que se limite lo contrario, el estiércol, los lodos o las aguas residuales no se descargarán de una unidad de gestión de la tierra (LMU, por sus siglas en inglés) o una estructura de control de retención (RCS, por sus siglas en inglés) hacia o adyacente al agua en el estado de una CAFO, excepto como resultado de cualquiera de las siguientes condiciones:

1) una descarga de estiércol, lodos o aguas residuales que el permisionario no pueda prevenir o controlar razonablemente como resultado de una condición catastrófica que no sea un evento de lluvia;

2) desbordamiento de estiércol, lodo o aguas residuales de un RCS como resultado de un evento de lluvia crónico/catastrófico; o

3) una descarga de lluvia crónica/catastrófica de una LMU que ocurre porque el permisionario toma medidas para desaguar el RCS si el RCS está en peligro de desbordamiento inminente.

Instructions to Complete the Summary - English

1. Enter the name of applicant in this section. The applicant name should match the name associated with the customer number.
2. Enter the Customer Number in this section. Each Individual or Organization is issued a unique 11-digit identification number called a CN (e.g. CN123456789). You may search for your CN from this web address: Customer Number.
3. Enter the name of the facility in this section. The facility name should match the name associated with the regulated entity number.
4. Enter the Regulated Entity number in this section. Each site location is issued a unique 11-digit identification number called an RN (e.g. RN123456789). You may search for your RN from this web address: Regulated Entity Number
5. Provide the permit number that the TCEQ assigned to your site. GP starts with TXG92 and four numbers. IPs start with WQ000xxxx000.
6. Enter a description of the facility in this section. For example, Dairy cattle milk production facility; dairy heifer replacement production facility; beef cattle production facility; young calves production facility or cow/calf operation; chicken egg laying production facility; chicken broiler production facility; sheep/goat production facility; swine production facility.
7. Enter the location of the facility in this section. If the site has a physical address such as 12100 Park 35 Circle, Austin, TX 78753 enter it in this section, but if not provide the location description in the space.
8. Provide the application type in this section.
1. CAFO general permit authorization: select the applicable type from the following list:
1. New authorization for a facility not currently authorized
2. Significant expansion
3. Substantial change
4. CAFO Individual Permit: select the applicable type from the following list:
    1. New
    2. Renewal
    3. Major Amendment
4. Provide a detailed description of the proposed changes to the site to be authorized if you are already authorized and you are proposing some changes to your permit (IP) or authorization (GP).

    If you are requesting a new permit or authorization, provide the number of animals, the number of acres that will be available for land application, list of main crops, and number of lagoons to be authorized.
5. List all potential pollutant sources expected at the facility in this section. For example, you may refer to page one of the technical information packet in this application.
6. Enter a description of the best management practices used at your facility. Include a description of each process, starting with initial treatment and finishing with the point of

disposal. For example, process generated wastewater and stormwater are stored in a lagoon (RCS) until land applied through irrigation, and manure and sludge are stockpiled in the drainage area of the RCS until land applied or hauled offsite for beneficial use.

Example of a Completed Plain Language Summary - English

Individual Permit Application for a Concentrated Animal Feeding Operation- English

The following summary is provided for this water quality permit application being submitted for review by the Texas Commission on Environmental Quality as required by 30 Texas Administrative Code Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

1. Spotted Cow Dairy, LLC
2. CN600000000
3. Spotted Cow Dairy
4. RN1000000000
5. WQ0000000000
6. This facility confines 4,100 head dairy cattle, of which 3,500 head are milking cows. The facility main production area is located on the west side of County Road 8000, approximately one mile south of the intersection of County Road 60 and Highway 11, east of Hico in Hamilton County, Texas. The dairy facility has twelve (12) land management units (LMUs) with the following acreage: LMU #1 - 25, LMU #1A – 45, LMU #2 - 19, LMU #3 - 15, LMU #4 – 59, LMU #5 – 54, LMU #6 – 48, LMU #7 – 35, LMU #8 – 44, LMU #9 – 7, LMU #10 – 6, and LMU #14 – 26; and two (2) retention control structures (RCSs), one Earthen Slurry Basin, one Concrete Slurry Basin, three Earthen Settling Basins, and two Concrete Settling Basins. The RCSs total required capacities without freeboard (acre-feet) are RCS #1 – 67.84 and RCS #2 – 5.24. There are ten onsite water wells (Wells #1 through #10), of which Wells #1, #5 and #6 are plugged. The facility also owns a calf ranch facility and one retention control structure (RCS) RCS #3. The facility is located in the drainage area of the North Bosque River in Segment No. 1226 of the Brazos River Basin.
7. The facility main production area is located on the west side of County Road 80, approximately one mile south of the intersection of County Road 2361 and Highway 6, east of Hico in Hamilton County, Texas.
8. This application is for a major amendment to the permit.
9. The changes include the increase in the number of milking cows from 3500 to 4100 head, the addition of a cross ventilated barn a pen area.
10. Potential pollutant sources at the site include: manure and manure stockpiles, wastewater, sludge, dust, inorganic fertilizers, fuel storage tanks, and compost.
11. The following best management practices will be implemented at the site to manage pollutants from the listed pollutant sources: process generated wastewater and stormwater are stored in a lagoon (RCS) until land applied through irrigation, and manure and sludge are stockpiled in the drainage area of the RCS until land applied or hauled offsite for beneficial use.

Manure, sludge, and wastewater generated by the CAFO will be retained and used in an appropriate and beneficial manner in accordance with a certified site- specific nutrient management plan; and wastewater will be contained in RCSs properly designed ((25-year frequency 10-day duration (25 year/10 day), constructed, operated and maintained according to the provisions of the permit.

Manure, sludge, or wastewater will not be discharged from a LMU or a retention control structure (RCS) into or adjacent to water in the state except under the following conditions:

1. a discharge of manure, sludge, or wastewater that the permittee cannot reasonably prevent or control resulting from a catastrophic condition other than a rainfall event;
2. overflow of manure, sludge, or wastewater from a RCS resulting from a chronic/catastrophic rainfall event; or
3. a chronic/catastrophic rainfall discharge from a LMU that occurs because the permittee takes measures to de-water the RCS if it is in danger of imminent overflow.

Any discharges initiated under the above conditions will be sampled for the following potential pollutants: 5 Day Biochemical Oxygen Demand (BOD5), Escherichia coli, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Nitrate (N), Total Phosphorus, Ammonia Nitrogen and Pesticides.

Instrucciones para completar el resumen – Español

1) Introduzca el nombre del solicitante en esta sección. El nombre del solicitante debe coincidir con el nombre asociado con el número de cliente.
2) Introduzca el número de cliente en esta sección. A cada individuo u organización se le emite un número de identificación único de 11 dígitos llamado CN (por ejemplo, CN123456789). Puede buscar su CN desde esta dirección web: Número de cliente.
3) Introduzca el nombre de la instalación en esta sección. El nombre de la instalación debe coincidir con el nombre asociado con el número de entidad regulada.
4) Introduzca el número de Entidad Regulada en esta sección. Cada ubicación del sitio recibe un número de identificación único de 11 dígitos llamado RN (por ejemplo, RN123456789). Puede buscar su RN desde esta dirección web: Número de entidad regulada
5) Proporcione el número de permiso que la TCEQ asignó a su sitio. GP comienza con TXG92 y cuatro números. Las direcciones IP comienzan con WQ000____000.
6) Introduzca una descripción de la instalación en esta sección. Por ejemplo, la planta de producción de leche para ganado lechero; instalación de producción de reemplazo de novillas lecheras; instalaciones de producción de ganado vacuno; instalación de producción de terneros jóvenes u operación de vacas/terneros; planta de producción de puesta de huevos de gallina; planta de producción de pollos de engorde; planta de producción de ovino y caprino; planta de producción porcina.
7) Introduzca la ubicación de la instalación en esta sección. Si el sitio tiene una dirección física como 12100 Park 35 Circle, Austin, TX 78753, introdúzcala en esta sección, pero si no proporciona la descripción de la ubicación en el espacio.
8) Proporcione el tipo de aplicación en esta sección.
   a) Autorización de permiso general CAFO: seleccione el tipo aplicable de la siguiente lista:
      - Nueva autorización para una instalación no autorizada actualmente
      - Expansión significativa
      - Cambio sustancial
   b) Permiso Individual CAFO: seleccione el tipo aplicable de la siguiente lista:
      - Nuevo
      - Renovación
      - Modificación importante
9) Proporcione una descripción detallada de los cambios propuestos al sitio que se autorizará si ya está autorizado y está proponiendo algunos cambios a su permiso (IP) o autorización (GP).

   Si está solicitando un nuevo permiso o autorización, proporcione el número de animales, el número de acres que estarán disponibles para la aplicación en tierra, la lista de cultivos principales y el número de lagunas que se autorizarán.
10) Enumere todas las fuentes potenciales de contaminantes que se esperan en la instalación en esta sección. Por ejemplo, puede consultar la página uno del paquete de información técnica de esta aplicación.

11) Introduzca una descripción de las mejores prácticas de gestión utilizadas en sus instalaciones. Incluya una descripción de cada proceso, comenzando con el tratamiento inicial y terminando con el punto de eliminación. Por ejemplo, las aguas residuales y pluviales generadas por el proceso se almacenan en una laguna (RCS) hasta que la tierra se aplica a través del riego, y el estiércol y el lodo se almacenan en el área de drenaje del RCS hasta que la tierra se aplica o se transporta fuera del sitio para un uso beneficioso.

Ejemplo de un resumen completo en lenguaje sencillo - Español

Solicitud de Permiso Individual para una Operación de Alimentación Animal Concentrada-Español

Se proporciona el siguiente resumen para esta solicitud de permiso de calidad del agua que se presenta para su revisión por la Comisión de Calidad Ambiental de Texas según lo requerido por 30 Código Administrativo de Texas, Capítulo 39. La información proporcionada en este sumario puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutable federal de la solicitud de permiso.

1) Spotted Cow Dairy, LLC

2) CN600000000

3) Vaca lechera manchada

4) RN1000000000

5) WQ0000000000

6) Esta instalación confina 4.100 cabezas de ganado lechero, de las cuales 3.500 cabezas son vacas de ordeño. El área de producción principal de la instalación está ubicada en el lado oeste de County Road 8000, aproximadamente una milla al sur de la intersección de County Road 60 y Highway 11, al este de Hico en el condado de Hamilton, Texas. La instalación lechera tiene doce (12) unidades de manejo de tierras (LMU) con la siguiente superficie: LMU # 1 - 25, LMU #1A - 45, LMU # 2 - 19, LMU # 3 - 15, LMU # 4 - 59, LMU # 5 - 54, LMU # 6 - 48, LMU # 7 - 35, LMU # 8 - 44, LMU # 9 - 7, LMU # 10 - 6 y LMU # 14 - 26; y dos (2) estructuras de control de retención (RCS), una cuenca de lodo de tierra, una cuenca de lodo de concreto, tres cuencas de sedimentación de tierra y dos cuencas de sedimentación de concreto. Las capacidades totales requeridas de RCS sin francobordo (acres-pies) son RCS # 1 - 67.84 y RCS # 2 - 5.24. Hay diez pozos de agua en el sitio (pozos # 1 a # 10), de los cuales los pozos # 1, # 5 y # 6 están tapados. La instalación también posee una instalación de rancho de terneros y una estructura de control de retención (RCS) RCS # 3. La instalación está ubicada en el área de drenaje del río Bosque Norte en el Segmento No. 1226 de la Cuenca del Río Brazos.

7) El área de producción principal de la instalación está ubicada en el lado oeste de County Road 80, aproximadamente una milla al sur de la intersección de County Road 2361 y Highway 6, al este de Hico en el condado de Hamilton, Texas.

8) Esta solicitud es para una modificación importante del permiso.

9) Los cambios incluyen el aumento en el número de vacas de ordeño de 3500 a 4100 cabezas, la adición de un establo ventilado cruzado y un área de corral.

10) Las fuentes potenciales de contaminantes en el sitio incluyen: estiércol y estiércol, aguas residuales, lodos, polvo, fertilizantes inorgánicos, tanques de almacenamiento de combustible y compost.
11) Las siguientes mejores prácticas de gestión se implementarán en el sitio para manejar los

contaminantes de las fuentes contaminantes enumeradas: las aguas residuales generadas por el proceso y las aguas pluviales se almacenan en una laguna (RCS) hasta que la tierra se aplica a través del riego, y el estiércol y el lodo se almacenan en el área de drenaje del RCS hasta que la tierra se aplica o se transporta fuera del sitio para un uso beneficioso.

El estiércol, lodo y aguas residuales generados por la CAFO serán retenidos y utilizados de manera apropiada y beneficiosa de acuerdo con un plan certificado de manejo de nutrientes específico del sitio; y las aguas residuales estarán contenidas en RCS debidamente diseñados ((frecuencia de 25 años 10 días de duración (25 años / 10 días), construidos, operados y mantenidos de acuerdo con las disposiciones del permiso.

El estiércol, los lodos o las aguas residuales no se descargarán de una LMU o una estructura de control de retención (RCS) en o adyacentes al agua en el estado, excepto bajo las siguientes condiciones:

·una descarga de estiércol, lodo o aguas residuales que el permisionario no puede prevenir o controlar razonablemente como resultado de una condición catastrófica que no sea un evento de lluvia;

·desbordamiento de estiércol, lodo o aguas residuales de un RCS como resultado de un evento de lluvia crónica / catastrófica; o

·una descarga de lluvia crónica/catastrófica de una LMU que ocurre porque el permisionario toma medidas para deshidratar el RCS si está en peligro de desbordamiento inminente.

Cualquier descarga iniciada en las condiciones anteriores se muestreará para los siguientes contaminantes potenciales: demanda bioquímica de oxígeno (DBO5) de 5 días, Escherichia coli, sólidos disueltos totales (TDS), sólidos suspendidos totales (TSS), nitrato (N), fósforo total, nitrógeno amoniacal y pesticidas.

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.

Application for an Individual Permit.

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.

Quitman

(City)

Wood

(County)

(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

(b) Per capita income for population near the specified location

(c) Percent of minority population and percent of population by race within the specified location

(d) Percent of Linguistically Isolated Households by language within the specified location

(e) Languages commonly spoken in area by percentage

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

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) County Extension Office

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) Local Newspaper

Table 5: Soil Limiting Characteristics and Best Management Practices

Soil Types	Limiting Characteristics	Best Management Practices
ByC-Briley loamy fine sand, 1 to 5 percent slopes	Filtering capacity Too acid	Permanent Vegetation: High residue crop
CbE— Cuthbert fine sandy loam, 8 to 25 percent slopes	Too steep for sprinkler application Slow water movement	Permanent Vegetation: High residue crop
CfE--- Cuthbert fine sandy loam, 8 to 25 percent slopes	Too steep for sprinkler application Slow water movement	Permanent Vegetation: High residue crop
DaC--Darco fine sand, 2 to 5 percent slopes	Filtering capacity Too acid Too steep for surface application	Permanent Vegetation: High residue crop
DaE--Darco fine sand, 8 to 15 percent slopes	Filtering capacity Too acid Too steep for surface application	Permanent Vegetation: High residue crop
DuC-- Duffern sand, 1 to 5 percent slopes	Filtering capacity Too acid Droughty	Permanent Vegetation: High residue crop

T&S Dairy

Too steep for surface application
Droughty
(1.00)
Too acid

Property Details

Account		
Property ID:	14124	**Geographic ID:** 0176-0010-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	7505 HWY 154 E TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0176; DUNCOMBE C G; TRACT 1 TR; 27.762 ACRES	
Abstract/Subdivision:	0176	
Neighborhood:	(0176) DUNCOMBE C.G.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$161,970 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$18,000 (+)
Agricultural Market Valuation:	$231,860 (+)
Market Value:	$411,830 (=)

Agricultural Value Loss:	$227,730 (-)
Appraised Value:	$184,100 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$184,100
Ag Use Value:	$4,130

Information provided for research purposes only. Legal descriptions and acreage amounts are for Appraisal District use only and should be verified prior to using for legal purpose and or documents. Please contact the Appraisal District to verify all information for accuracy.

Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$411,830	$184,100	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$411,830	$184,100	$85.24	
GWD	WOOD COUNTY	$411,830	$184,100	$851.46	
SHR	HARMONY ISD	$411,830	$184,100	$1,942.62	
WDD	WASTE DISPOSAL DISTRICT	$411,830	$184,100	$27.62	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $2,906.94

Estimated Taxes Without Exemptions: $6,502.79

Property Details

Account		
Property ID:	14127	**Geographic ID:** 0178-0070-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	E HWY 154 WINNSBORO, TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0178; DUNCOMBE C G; TRACT 7; 4.0 ACRES	
Abstract/Subdivision:	0178	
Neighborhood:	(0178) DUNCOMBE C.G.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$0 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$80,000 (+)
Agricultural Market Valuation:	$0 (+)
Market Value:	$80,000 (=)

Agricultural Value Loss:	$0 (-)
Appraised Value:	$80,000 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$80,000
Ag Use Value:	$0

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Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$80,000	$80,000	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$80,000	$80,000	$37.04	
GWD	WOOD COUNTY	$80,000	$80,000	$370.00	
SHR	HARMONY ISD	$80,000	$80,000	$844.16	
WDD	WASTE DISPOSAL DISTRICT	$80,000	$80,000	$12.00	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $1,263.20

Estimated Taxes Without Exemptions: $1,263.20

Property Details

Account		
Property ID:	14130	**Geographic ID:** 0176-0060-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	116 HWY 154 E TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0176; DUNCOMBE C G; TRACT 6; 382.57 ACRES	
Abstract/Subdivision:	0176	
Neighborhood:	(0176) DUNCOMBE C.G.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$1,844,740 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$27,500 (+)
Agricultural Market Valuation:	$2,076,640 (+)
Market Value:	$3,948,880 (=)

Agricultural Value Loss:	$2,016,080 (-)
Appraised Value:	$1,932,800 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$1,932,800
Ag Use Value:	$60,560

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Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$3,948,880	$1,932,800	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$3,948,880	$1,932,800	$894.89	
GWD	WOOD COUNTY	$3,948,880	$1,932,800	$8,939.20	
SHR	HARMONY ISD	$3,948,880	$1,932,800	$20,394.91	
WDD	WASTE DISPOSAL DISTRICT	$3,948,880	$1,932,800	$289.92	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $30,518.92

Estimated Taxes Without Exemptions: $62,352.81

Property Details

Account		
Property ID:	21021	**Geographic ID:** 0516-0070-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0516; READ W; TRACT 7; 44.63 ACRES	
Abstract/Subdivision:	0516	
Neighborhood:	(0516) READ W.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$0 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$0 (+)
Agricultural Market Valuation:	$0 (+)
Timber Market Valuation:	$334,730 (+)

Market Value:	$334,730 (=)
Agricultural Value Loss:	($4,280) (-)
Appraised Value:	$4,280 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$4,280
Ag or Timber Use Value:	$4,280

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Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$334,730	$4,280	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$334,730	$4,280	$1.98	
GWD	WOOD COUNTY	$334,730	$4,280	$19.80	
SHR	HARMONY ISD	$334,730	$4,280	$45.16	
WDD	WASTE DISPOSAL DISTRICT	$334,730	$4,280	$0.64	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $67.58

Estimated Taxes Without Exemptions: $5,285.39

Property Details

Account		
Property ID:	24659	**Geographic ID:** 0754-0010-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0754; THOMPSON P; TRACT 1,3 PT; 23.124 ACRES	
Abstract/Subdivision:	0754	
Neighborhood:	(0754) THOMPSON P.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$0 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$0 (+)
Agricultural Market Valuation:	$0 (+)
Timber Market Valuation:	$208,120 (+)

Market Value:	$208,120 (=)
Agricultural Value Loss:	($2,220) (-)
Appraised Value:	$2,220 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$2,220
Ag or Timber Use Value:	$2,220

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Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$208,120	$2,220	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$208,120	$2,220	$1.03	
GWD	WOOD COUNTY	$208,120	$2,220	$10.27	
SHR	HARMONY ISD	$208,120	$2,220	$23.43	
WDD	WASTE DISPOSAL DISTRICT	$208,120	$2,220	$0.33	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $35.06

Estimated Taxes Without Exemptions: $3,286.22

Property Details

Account		
Property ID:	58404	**Geographic ID:** 0178-0060-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	7800 HWY 154 E TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0178; DUNCOMBE C G; TRACT 6,10; 139.683 ACRES	
Abstract/Subdivision:	0178	
Neighborhood:	(0178) DUNCOMBE C.G.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$491,490 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$1,560 (+)
Agricultural Market Valuation:	$766,700 (+)
Market Value:	$1,259,750 (=)

Agricultural Value Loss:	$744,340 (-)
Appraised Value:	$515,410 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$515,410
Ag Use Value:	$22,360

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Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$1,259,750	$515,410	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$1,259,750	$515,410	$238.63	
GWD	WOOD COUNTY	$1,259,750	$515,410	$2,383.77	
SHR	HARMONY ISD	$1,259,750	$515,410	$5,438.61	
WDD	WASTE DISPOSAL DISTRICT	$1,259,750	$515,410	$77.31	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $8,138.32

Estimated Taxes Without Exemptions: $19,891.44

Property Details

Account		
Property ID:	58404	**Geographic ID:** 0178-0060-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	7800 HWY 154 E TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0178; DUNCOMBE C G; TRACT 6,10; 139.683 ACRES	
Abstract/Subdivision:	0178	
Neighborhood:	(0178) DUNCOMBE C.G.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$491,490 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$1,560 (+)
Agricultural Market Valuation:	$766,700 (+)
Market Value:	$1,259,750 (=)

Agricultural Value Loss:	$744,340 (-)
Appraised Value:	$515,410 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$515,410
Ag Use Value:	$22,360

Information provided for research purposes only. Legal descriptions and acreage amounts are for Appraisal District use only and should be verified prior to using for legal purpose and or documents. Please contact the Appraisal District to verify all information for accuracy.

Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$1,259,750	$515,410	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$1,259,750	$515,410	$238.63	
GWD	WOOD COUNTY	$1,259,750	$515,410	$2,383.77	
SHR	HARMONY ISD	$1,259,750	$515,410	$5,438.61	
WDD	WASTE DISPOSAL DISTRICT	$1,259,750	$515,410	$77.31	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $8,138.32

Estimated Taxes Without Exemptions: $19,891.44

Property Details

Account		
Property ID:	58405	**Geographic ID:** 0176-0070-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	HWY 154 E WINNSBORO, TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0176; DUNCOMBE C G; TRACT 7; 147.249 ACRES	
Abstract/Subdivision:	0176	
Neighborhood:	(0176) DUNCOMBE C.G.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$0 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$0 (+)
Agricultural Market Valuation:	$809,870 (+)
Market Value:	$809,870 (=)

Agricultural Value Loss:	$786,250 (-)
Appraised Value:	$23,620 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$23,620
Ag Use Value:	$23,620

Information provided for research purposes only. Legal descriptions and acreage amounts are for Appraisal District use only and should be verified prior to using for legal purpose and or documents. Please contact the Appraisal District to verify all information for accuracy.

Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$809,870	$23,620	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$809,870	$23,620	$10.94	
GWD	WOOD COUNTY	$809,870	$23,620	$109.24	
SHR	HARMONY ISD	$809,870	$23,620	$249.24	
WDD	WASTE DISPOSAL DISTRICT	$809,870	$23,620	$3.54	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $372.96

Estimated Taxes Without Exemptions: $12,787.85

SIGNATURE PAGE

If co-applicants are required, each co-applicant must submit an original, separate signature page.

Permit Number: not issued, T&S Dairy

Applicant: NICO JAAP DEBOER

I 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.

I further certify that I am authorized under 30 Texas Administrative Code §305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signatory Name: NICO JAAP DEBOER

Title: Owner

Signature: _____ Date: 12-6-24

SUBSCRIBED AND SWORN to before me by the said Nico DeBoer on this 6th day of December, 20 24

My commission expires on the 9th day of August, 20 27

(Seal)

_____
Notary Public

Henderson
County, Texas

TECHNICAL INFORMATION PACKET FOR CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFOS)

Submit this Form with your Individual Permit Application (TCEQ – 000728)

Name of Site: T&S Dairy

TCEQ Permit Number, if assigned: WQ000

Date Prepared: 11/26/24

SECTION 1. POLLUTANT SOURCES MANAGEMENT

For each potential pollutant source listed in the table below, provide the management practices utilized or enter "Not Applicable". Management practices should address the collection, storage and final disposition of each potential pollutant source. You may attach your list.

Table 1: Potential Pollutant Sources and Best Management Practices

Potential Pollutant Source	Best Management Practices
Manure and Manure Stockpiles	Manure generated in the freestalls is flushed into the settling basin then into RCS #1 and irrigated to the LMUs with the irrigation water. Very limited amount will be stockpiled at end of the freestalls and hauled to LMUs.
Wastewater	All wastewater gravity flows from the freestalls into the settling basin then into RCS #. Where it is stored until there is a crop demand for water and nutrients, and then applied to LMUs at an agronomic rate
Sludge	Sludge will be cleaned from the RCSs before the sludge volume reaches the designed capacity. A system of irrigation and vacuum tanks will be used to with the sludge from the RCSs
Compost	NA
Feed and Bedding	Feed when spoiled, will be applied to LMUs. When applied it will be applied at a rate similar to that of manure.
Silage stockpiles	Most of the silage is stored under plastic. The plastic will be removed and disposed of in the appropriate waste containers. If the silage is not covered, any ruined silage will be land applied
Dead animals	All dead animals are collected within 24-hours and properly buried within 72 hours of death following TCEQ guidelines.
Dust	Water will be applied to the until the conductions for dust have passed.
Lubricants	All oil and lubricant products will be stored in a covered storage area in covered, waterproof container. Empty containers are to be disposed of following all precautionary guidelines on the container or placing in a commercial garbage

Potential Pollutant Source	Best Management Practices
Pesticides	All pesticides and herbicides application is contracted to an applicator and no chemicals are stored on the property. All pesticides will be used and disposed in accordance with the label rules
Bulk cleaning chemicals	Use and disposal of empty containers will be according to direction on the product label.
Inorganic fertilizers	NA
Fuel storage tanks	All fuels are stored in a properly maintained storage tank, away from wells. Care will be so spills do not occur when equipment is being filled. If a spill occurs, it will be immediately cleaned up and not allowed to flow from the tank area
Other, specify:	NA

SECTION 2. RETENTION CONTROL STRUCTURE DESIGN

A. Design Summary

1) Design Standards, Characteristic, and Values Sources Used

- ☒ Natural Resource Conservation Service
- ☐ American Society of Agricultural and Biological Engineers
- ☐ Other; specify:

2) Total Number of Animals:

In Open Lots: 0 In Buildings: 2621

3) Animal Housing Location, hours/day:

Open Lots: Buildings: 24

4) Average Liveweight, pounds per head: 975

5) Volatile Solids Removed by Separator System: 0

6) Volatile Solids Loading Rate, lbs/day/1000 ft^3: 0

7) Spilled Drinking Water, gallons/day: 13105

8) Water for Cleanup, gallons/day: 20968

9) Water for Manure Removal, gallons/day: 37565

10) Recycled Wastewater, gallons/day: 0

B. Wastewater Runoff

1) Design Rainfall Amount, inches: 8.0

2) Design Rainfall Event:

☒ 25-year, 24 hour

☐ Soil Plant Air and Water (SPAW) Field and Pond Hydrology Model

☐ 25-year, 10 day

☐ Other; specify:

C. Retention Control Structure(s) (RCS) Volume Allocations

Table 2. RCS Volume Allocations (Acre-Feet)

RCS Name	Design Rainfall Event Runoff	Process Generated Wastewater	Minimum Treatment Volume	Sludge Accumulation	Water Balance	Required Capacity	Actual Capacity
RCS#1	0	11.66	0	.39	1.14	13.19	13.57
RCS#2	.53	0	.94	.07	.82	2.36	10.26
RCS#3	.58	0	2.88	.21	0	3.67	7.39
RCS#4	1.63	2.00	9.70	.70	2.12	16.15	24.85

Indicate which RCSs are in-series: RCSs-#1, #2, #3, and #4 are in series

D. RCS Liner or Lack of Hydrologic Connection Certification

Table 3: RCS Hydrologic Connection

RCS Name	Construction Date	Type of Hydrologic Connection Certification
RCS#1	1991	In-situ Soils – Certified 05/24/11
RCS#2	04/16/1999	In-situ Soils – Certified 01/18/96
RCS#3	04/16/1999	In-situ Soils – Certified 04/08/06
RCS#4	6/17/2024	In-situ Soils – Certified 06/17/24

E. Playa Lakes

Are any playa lakes used for RCSs? Yes ☐ No ☒

SECTION 3. MANURE, SLUDGE, AND WASTEWATER HANDLING

A. Manure:

1) Use or Disposal Method:
   - ☒ Land Application to LMUs
   - ☐ Transfer to other persons
   - ☐ Third Party Fields
   - ☐ Other; specify:
2) Land Application Location:
   - ☒ Onsite ☐ Offsite ☐ Not Applicable
3) Composting Location:
   - ☐ Onsite ☐ Offsite ☒ Not Applicable

B. Sludge:

1) Use or Disposal Method:
   - ☒ Land Application to LMUs
   - ☐ Transfer to other persons
   - ☐ Third Party Fields
   - ☐ Other; specify:
2) Land Application Location:
   - ☒ Onsite ☐ Offsite ☐ Not Applicable

C. Wastewater:

1) Use or Disposal Method:

☒ Land Application to LMUs

☐ Total Evaporation

☐ Third Party Fields

☐ Other; specify:

2) Land Application Location:

☒ Onsite ☐ Offsite ☐ Not Applicable

D. Land Application Summary from the Nutrient Management Plan

For each Land Management Unit (LMU), provide the name, acre, crops/yield goals and application rates on Table 4 below. Add rows if needed or attach additional pages.

Table 4: Land Management Unit Summary from the Current NMP

LMU Name	Acre	Crop(s) and Yield Goal(s)	Application Rate (Ac-ft/Ac/Year OR Tons/Ac/Year)
LMU#1	77	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#2	77	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#3	31	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#4	60	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#5	78	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#6	47	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#7	110	Coastal 4 Cut Hay	95.1 Tons/Ac/Year

1) Wastewater production, ac-in/year: 199.92
2) Estimated Wastewater application, ac-in/year: 199.92
3) Manure production, tons/year: 6856
4) Estimated manure application, tons/year: 6856
5) Estimated manure transferred to other persons, tons/year: 0

E. Floodplain Information

1) Is any part of the production area within a 100-year floodplain? Yes ☐ No ☒

If YES, describe management practices to protect the sites.

2) Is land application or temporary storage of manure in a 100-year floodplain or near a water course? Yes ☐ No ☒

If YES, describe management practices.

F. Soil Limitations

Table 5: Soil Limiting Characteristics and Best Management Practices

Soil Types	Limiting Characteristics	Best Management Practices
	See attachments	

G. Well Protection

Table 6: Water Well Status and Protective Measures

Well ID Number	Well Type	Producing or Non-Producing	Open, Cased, or Capped	Protective Measures
1	Domestic	Producing	Cased	Maintain 150' Buffer
2	Domestic	Producing	Cased	Maintain 150' Buffer
3	Domestic	Producing	Cased	Maintain 150' Buffer
4	Domestic	Producing	Cased	Maintain 150' Buffer
5	Domestic	Producing	Cased	Maintain 150' Buffer
6	Domestic	Producing	Cased	Maintain 150' Buffer
7	Domestic	Producing	Cased	Maintain 150' Buffer

Well ID Number	Well Type	Producing or Non-Producing	Open, Cased, or Capped	Protective Measures
8	Domestic	Producing	Cased	Maintain 150' Buffer
9	Domestic	Producing	Cased	Maintain 150' Buffer
10	Domestic	Producing	Cased	Maintain 150' Buffer
11	Domestic	Producing	Cased	Maintain 150' Buffer
12	Domestic	Producing	Cased	Maintain 150' Buffer

SECTION 4. AIR AUTHORIZATION SUMMARY

A. Type of Air Authorization

☒ Air Standard Permit in 30 TAC § 321.43

☐ Permit By Rule in 30 TAC Chapter 106 Subchapter F

☐ Individual Air Quality Permit

If Air Standard Permit is selected, then complete Sections B and C below.

B. Indicate the AFO Status and Buffer Option.

☒ Operation started after August 19, 1998:
- ☐ ½ mile buffer*
- ☒ ¼ mile buffer* and an odor control plan

☐ Operation started on or before August 19, 1998:
- ☐ ¼ mile buffer*
- ☐ odor control plan

*A written letter of consent from an affected landowner may be used in lieu of meeting the buffer distances specified.

C. Odor Receptors

Identify the number of occupied residences or business structures, schools (including associated recreational areas), places of worship, or public parks located within the following distances from permanent odor sources as defined in 30 TAC §321.32(43):

0 - ¼ mile: area 1 - 0 area 2- 0

¼ - ½ mile: area 1 – 3 area 2 - 2

½ - 1 mile: area 1 - 18 area2 - 13

SECTION 5. ATTACHMENTS

A. Maps

1) Site Map
2) Land Management Unit Map
3) Vicinity Map
4) Original United States Geological Survey 7.5 Minute Quadrangle Map
5) 100 Year Floodplain Map (if applicable)
6) Runoff Control Map
7) Natural Resource Conservation Service (NRCS) Soil Survey Map

B. Professional Certifications

1) Recharge Feature Certification Statement and Supporting Documents
2) RCS Design Calculations (Water Nutr, Animal Waste Management (AWM), or equivalent)
3) RCS As-Built Capacity Certifications (if constructed)
4) RCS Hydrologic Connection Certifications (if constructed)

C. Land Application

1) Nutrient Management Plan
2) Nutrient Utilization Plan. If the NUP is already approved, include the approval letter.
3) Copy of Annual Soil Sampling Analyses (used for the NMP that was submitted with the application)

4) Copy of Annual Manure and Wastewater Analyses (used for the NMP that was submitted with the application

D. Air Standard Permit Documentation (if required)

1) Area Land Use Map,
2) Odor Control Plan, if applicable
3) Written Consent Letters, if applicable

E. Groundwater Monitoring (if required)

1) Groundwater Monitoring Plan
2) Groundwater Monitoring Analyses

RECHARGE FEATURE CERTIFICATION STATEMENT

I certify that potential recharge features, as defined in 30 Texas Administrative Code 321, Subchapter B, ☒ EXIST ☐ DO NOT EXIST on properties used in this application. All information presented on this page and the attached supporting documents is true and accurate to the best of my knowledge.

Certification Signature:_____ Seal and Date:_____

INSTRUCTIONS FOR TECHNICAL INFORMATION PACKET

Section 1. Pollutant Sources Management

For each potential pollutant source identified, describe the best management practices that you will use or are using to reduce the potential impact of the pollutant on the environment. If a pollutant source does not apply to your facility enter "Not Applicable".

Section 2. Retention Control Structure Design

A. Identify the design criteria used to calculate the required size of the control facilities (collection ditches, conduits, and swales for the collection of manure, sludge, or wastewater, and all retention control structures (RCS)). Information for completing the section will be found in the design calculations provided by a licensed Texas Professional Engineer.

B. Provide the design rainfall event amount, (inches), and the design rainfall event based on the location of the facility, animal type, and margin of safety (if required). Identify the source of the design rainfall event.

C. Provide the volume allocations for each RCS. This table is a summary of the specific volumes allocated to the sources of inputs to the RCS system. Information to complete this table will be found in the design calculations provided by a licensed Texas Professional Engineer.

   If applicable, identify which RCSs act in-series (i.e. an RCS that has a natural or artificial method of overflowing into another RCS).

D. For each RCS, provide the date that it was constructed and the type of hydrologic connection certification (i.e. liner certification or certification that no hydrologic connection exists).

E. Indicate if playa lakes are used for RCSs. Use of playas as RCSs for operations that were in existence prior to July 10, 1991, and that meet other conditions.

Section 3. Manure, Sludge and Wastewater Handling

A. Provide the method used to manage manure. If land application is used, indicate the location of the land application areas (i.e. on-site or off-site). Off-site is considered to be land that is owned, operated, controlled, rented or leased by the applicant that is detached from the production area. If composting is used, indicate the location of the compost facility.

B. Provide the method used to manage sludge. If land application is used, indicate the location of the land application areas (i.e. on-site or off-site). Off-site is considered to be land that is owned, operated, controlled, rented or leased by the applicant that is detached from the production area.

C. Provide the method used to manage wastewater. If land application is used, indicate the location of the land application areas (i.e. on-site or off-site). Off-site is considered to be land that is owned, operated, controlled, rented or leased by the applicant that is detached from the production area.

D. Complete this section using information from the nutrient management plan (NMP) that was submitted with the application. Provide the acreage, crop, yield goal, and estimated application rate for each land management unit (LMU).

   Provide the estimated amount of wastewater and manure produced, land applied and transferred annually to other persons, including third-party fields. These values should be taken from the RCS design calculations and NMP. The tons of manure generated, land applied and transferred must be represented either in wet or dry basis.

E. Indicate if part of the production area is in a 100-year floodplain. If yes, describe the best management practices used to protect the site from inundation and provide certification by a licensed Texas Professional Engineer that the facility is protected from inundation during a 100-year flood.

   Indicate if land application or temporary storage of solids is in a 100-year floodplain or near a water course. If yes, describe the best management practices used to minimize an impact to water in the state.

F. For each soil type that has limitations to land application of manure or wastewater, provide the name of the soil type, the characteristics of those soils that may limit land application of manure or wastewater, and the best management practice used to mitigate the limitation. Limiting characteristics include, but are not limited to, texture, permeability, depth to high water table, ponding, slope, depth to bedrock, depth to cemented pan, sodium adsorption ratio, flooding, stoniness, and soil pH. For more information on soil limitations, consult the NRCS National Soil Survey Handbook, Part 620.

G. For each on-site well, provide an identification number and the type of well (drinking water, irrigation water, oil, etc.). Indicate if the well is producing or non-producing; open, cased, or plugged; and the best management practice used to minimize impacts to groundwater.

Section 4. Air Authorization Summary

A. Indicate the type of air authorization this facility is seeking. All facilities must have air authorization. To determine if your facility qualifies for the Air Standard Permit, refer to 30 TAC §321.43.

B. If you selected Air Standard Permit, identify when the AFO started or plans to start operations, then select one option for meeting the buffer requirement of the Air Standard Permit.

C. Identify the number of odor receptors within each distance of permanent odor sources at the facility. Those odor sources that may emit odors 24 hours per day. Permanent odor sources include, but are not limited to, pens, confinement buildings, lagoons, retention control structures, manure stockpile areas, and solid separators. Permanent odor sources **do not** include any feed handling facilities, land application equipment, or land management units.

Section 5. Attachments

The following items must be attached to the Technical Information Packet prior to submittal to the TCEQ.

A. Maps

1) Site map. This map must show the layout of the production area and the location of all wells, water in the state, and required buffer zones in the production area.

2) Land Management Unit map. This map must show the location of all LMUs in relation to the production area. Identify the location of all wells, water in the state, and required buffer zones in the LMUs. Indicate the LMU number and the number of acres available for land application in each LMU. The map must show topographical features, such as waterways and roads.

3) Vicinity map. This map must be a general highway map that shows the location of the CAFO in relation to the nearest town or to the nearest intersection of two major (non-county) roads. All roads should be labeled.

4) Original United States Geological Survey 7.5-minute Quadrangle map. This map must show the location of the production area and LMUs in relation to topographic features within 1 mile of the property boundary.

5) 100-year floodplain map. This is a Federal Emergency Management Agency (FEMA) map which shows the extent of a 100-year flood in relation to the production area. If a FEMA map is not available, a licensed Professional Engineer may be required to certify that the production area is not located in or is protected from a 100-year flood.

6) Runoff Control map. This map must show the direction of runoff flow in the production area and how stormwater is diverted from the production area. The runoff flow may be shown in conjunction with the site map.

7) Natural Resource Conservation Service Soil Survey Map. This map must show the location of the production area and LMUs in relation to the soil types located on the facility. This map may be included as part of the Recharge Feature Certification supporting documents.

B. Professional Certifications. The Recharge Feature Certification Statement, RCS Design Calculations, RCS as-built capacity, and RCS hydrologic connection certifications must be certified by a licensed Texas professional engineer or licensed Texas professional geoscientist, in accordance with the 30 TAC 321, Subchapter B.

C. Land Application

1) Nutrient Management Plan (NMP) – Submit a NMP with this application. A plan based on the NRCS Practice Standard Nutrient Management Code 590, to address the amount (rate), source, placement (method of application), and timing of the application of plant nutrients and soil amendments. The NMP must be developed and certified by a Certified Nutrient Management Specialist or other approved person as listed in 30 TAC 321, Subchapter B. This plan must be developed using the NRCS 590 software.

2) Nutrient Utilization Plan (NUP) - A NMP to evaluate and address site specific characteristics of a LMU to ensure that the beneficial use of manure, sludge, or wastewater is conducted in a manner to prevent adverse impacts on water quality. It is required when the soil phosphorus level exceeds 200 ppm phosphorus in zone 1 of an LMU. If a NUP has already been approved by the TCEQ, attach the approval letter only. A NUP must be developed and certified by a Certified Nutrient

Management Specialist or other approved person as listed in 30 TAC 321, Subchapter B. This plan must be developed using the NRCS 590 software.

3) Provide a copy of the annual soil sampling analyses for each LMU that were used to calculate the application rates.

4) Provide a copy of the annual manure and wastewater analyses used to calculate the application rates.

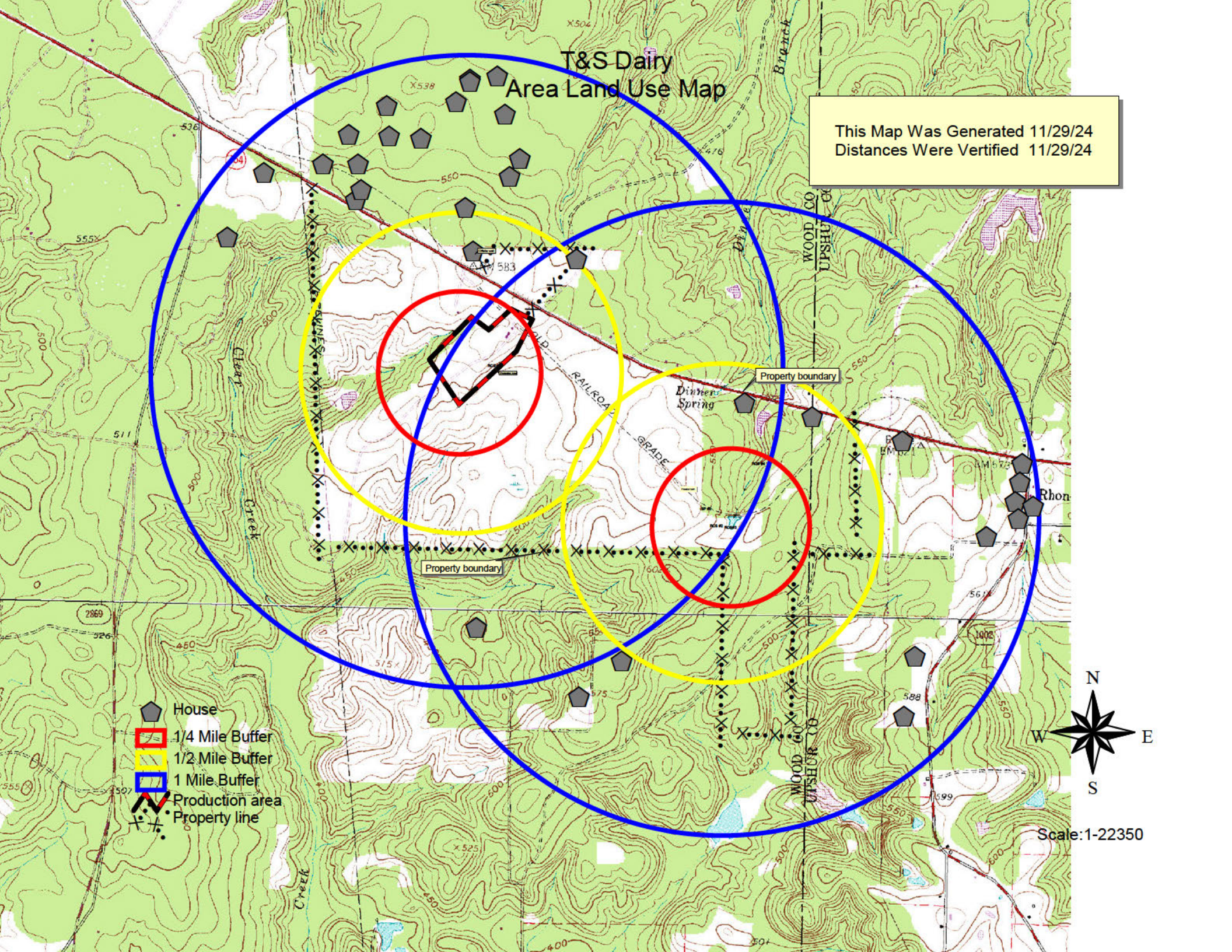
D. Air Standard Permit Documentation. This attachment is only required if you are requesting air authorization under the Air Standard Permit. To determine if you qualify for the Air Standard Permit, refer to 30 TAC 321.43.

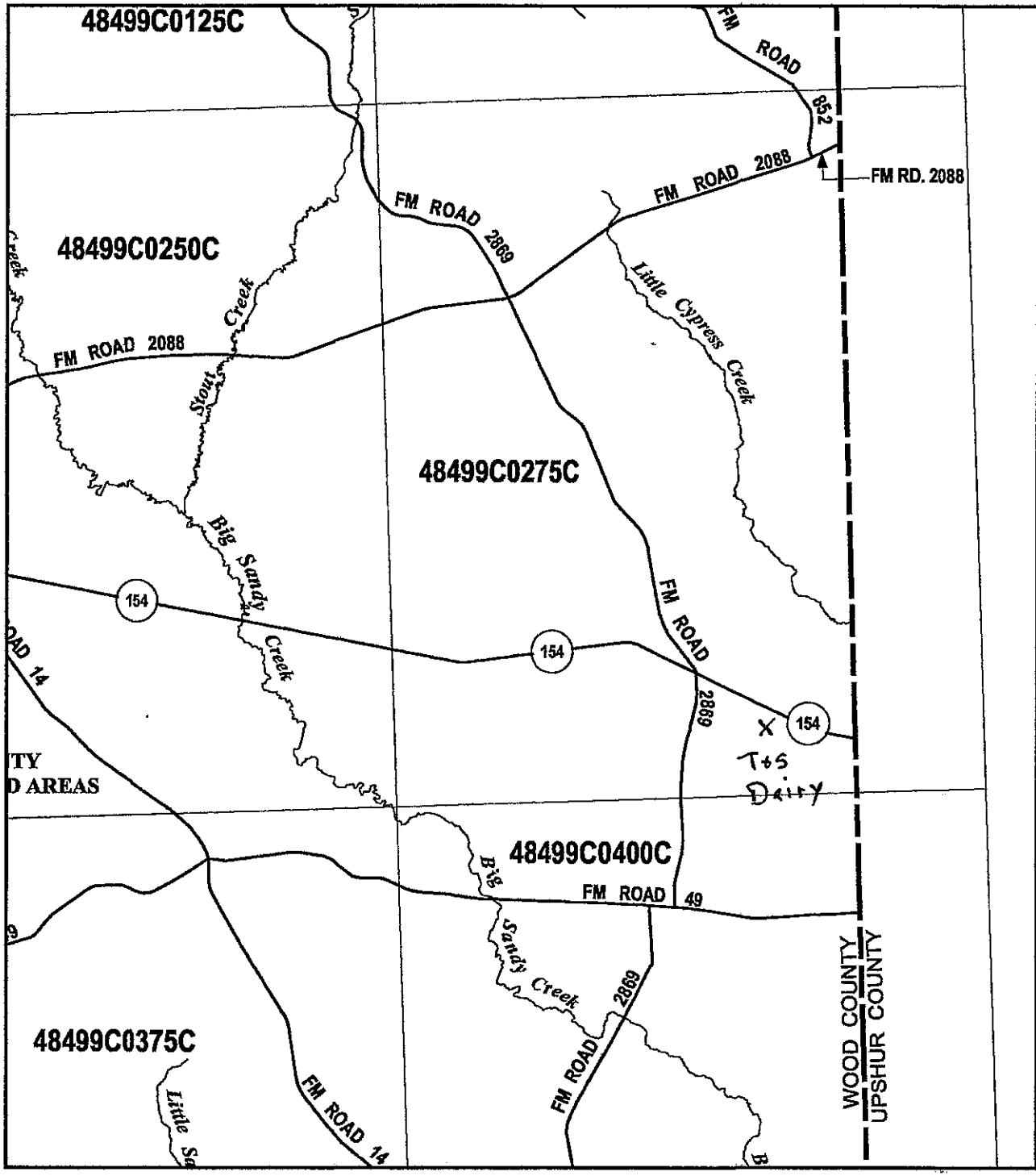
1) Area Land Use map. A map that identifies property lines, permanent odor sources, and distances and direction to any occupied residence or business structure, school (including associated recreational areas), permanent structure containing a place of worship, or public park within a one-mile radius of the permanent odor sources at the AFO. The map must include a north arrow, scale of map, buffer zones, and the date the map was generated and the date the distances were verified.

2) Odor Control Plan. This plan identifies best management practices used by the CAFO to minimize odors and nuisance conditions. It is only required if you choose a buffer option that includes an odor control plan.

3) Written Consent Letters. These letters may be used in lieu of the buffer requirements, in accordance with 30 TAC 321.43.

E. Groundwater Monitoring. If groundwater monitoring is required in the existing authorization, attach the groundwater monitoring plan and the previous year's groundwater sampling analyses.


T&S Dairy
Area Land Use Map
This Map Was Generated 11/29/24
Distances Were Vertified 11/29/24
Property boundary
Property boundary
House
1/4 Mile Buffer
1/2 Mile Buffer
1 Mile Buffer
Production area
Property line
N
W
E
S
Scale:1-22350



NFIP

NATIONAL FLOOD INSURANCE PROGRAM

MAP INDEX

FIRM

FLOOD INSURANCE RATE MAP

WOOD COUNTY,
TEXAS
AND INCORPORATED AREAS

(SEE LISTING OF COMMUNITIES TABLE)

MAP INDEX

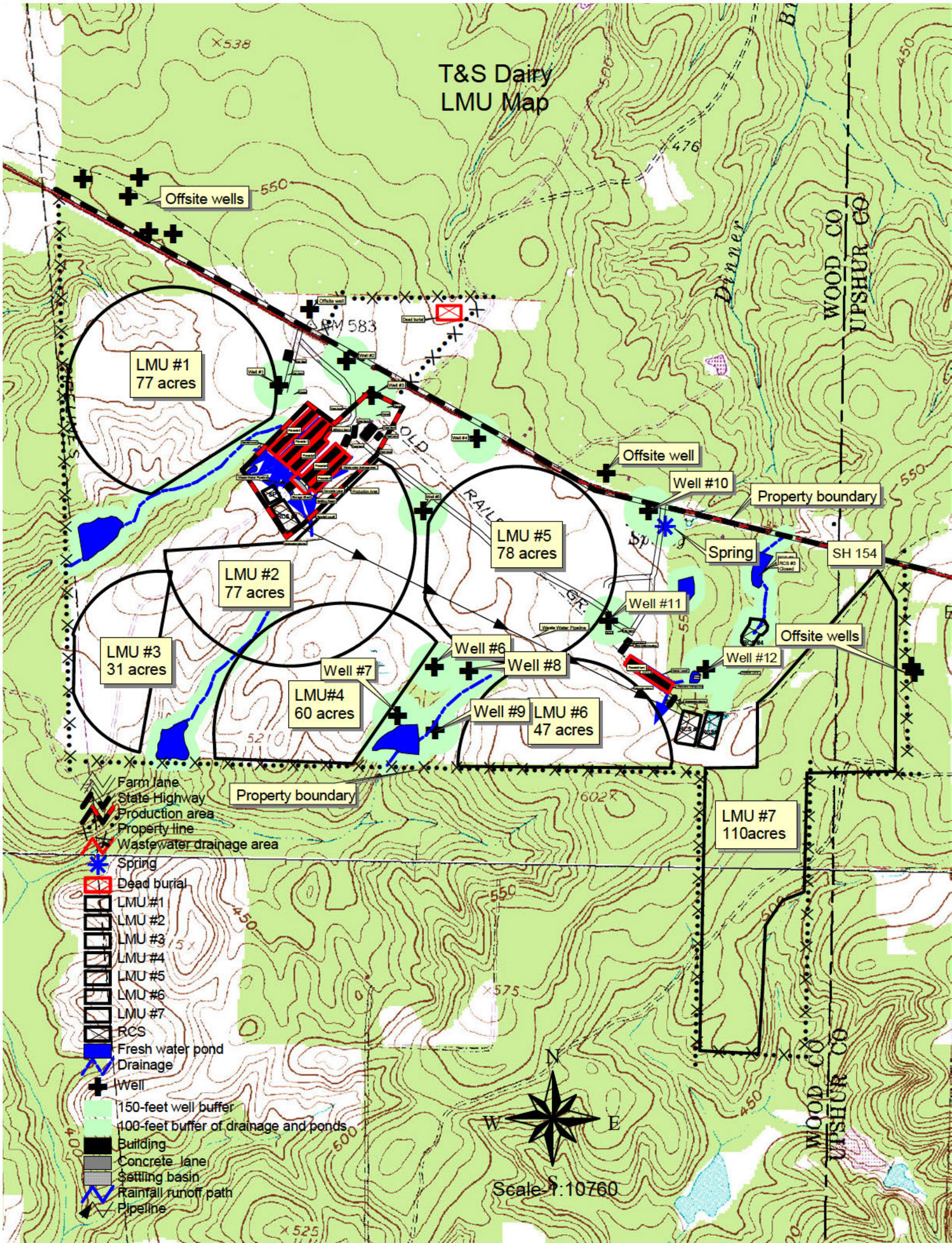
PANELS PRINTED: 25, 50, 75, 100, 125, 150, 175, 200, 215, 220, 225, 250, 275, 300, 325, 330, 340, 350, 375, 400, 425, 450, 475, 500

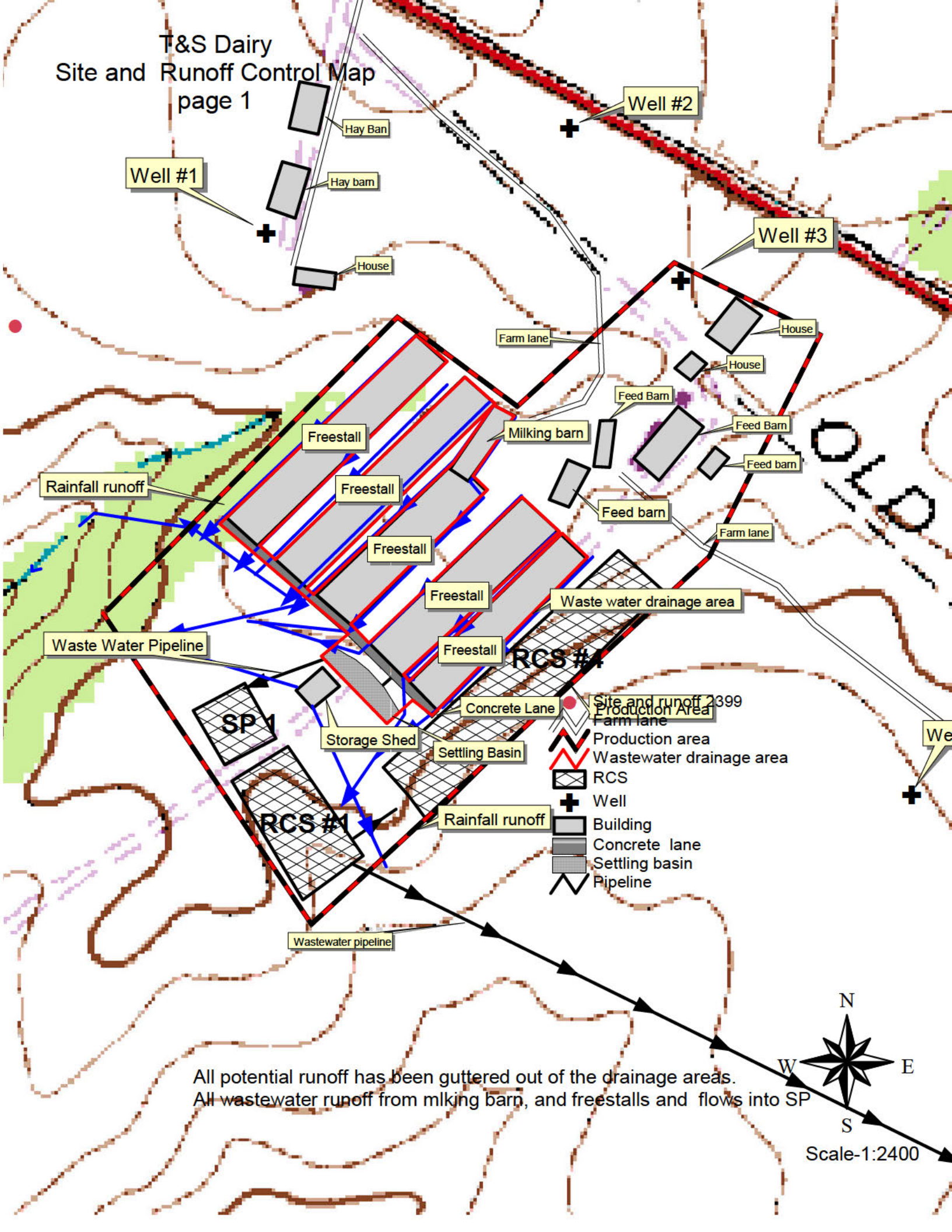
MAP NUMBER
48499CIND0A

EFFECTIVE DATE
SEPTEMBER 3, 2010

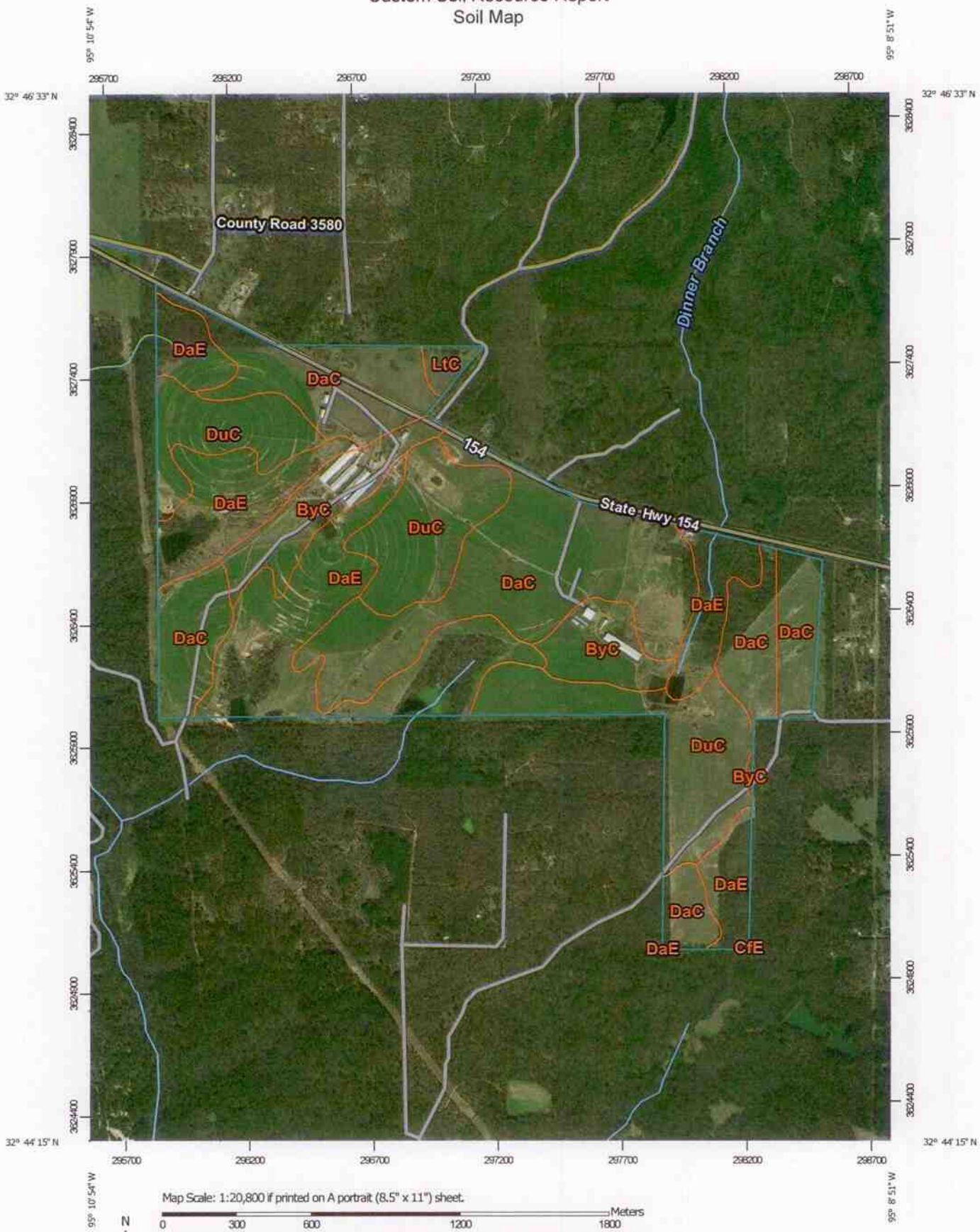
Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map created from the MSC FIRMette Web tool. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For additional information about how to make sure the map is current, please see the Flood Hazard Mapping Updates Overview Fact Sheet available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.


T&S Dairy
LMU Map
Offsite wells
LMU #1
77 acres
LMU #2
77 acres
LMU #3
31 acres
LMU#4
60 acres
LMU #5
78 acres
LMU #6
47 acres
LMU #7
110acres
Offsite well
Well #10
Property boundary
Spring
SH 154
Well #11
Well #6
Well #8
Well #7
Well #9
Well #12
Offsite wells
Property boundary
Farm lane
State Highway
Production area
Property line
Wastewater drainage area
Spring
Dead burial
LMU #1
LMU #2
LMU #3
LMU #4
LMU #5
LMU #6
LMU #7
RCS
Fresh water pond
Drainage
Well
150-feet well buffer
100-feet buffer of drainage and ponds
Building
Concrete lane
Settling basin
Rainfall runoff path
Pipeline
N
W
E
S
Scale-1:10760


T&S Dairy
Site and Runoff Control Map
page 1
Well #2
Hay Ban
Well #1
Hay barn
Well #3
House
Farm lane
House
House
Feed Barn
Feed Barn
Milking barn
Feed barn
Freestall
Freestall
Rainfall runoff
Feed barn
Farm lane
Freestall
Freestall
Waste water drainage area
Waste Water Pipeline
Freestall
RCS #4
SP 1
Concrete Lane
Site and runoff 2399
Production Area
Farm lane
Storage Shed
Settling Basin
Production area
Wastewater drainage area
RCS
Well
RCS #1
Rainfall runoff
Building
Concrete lane
Settling basin
Pipeline
Wastewater pipeline
N
W
E
S
Scale-1:2400
All potential runoff has been guttered out of the drainage areas.
All wastewater runoff from mlking barn, and freestalls and flows into SP

Custom Soil Resource Report
Soil Map



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Upshur and Gregg Counties, Texas
Survey Area Data: Version 13, Oct 9, 2017

Soil Survey Area: Wood County, Texas
Survey Area Data: Version 14, Oct 11, 2017

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 14, 2011—Feb 28, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DaC	Darco fine sand, 2 to 5 percent slopes	27.2	3.2%
Subtotals for Soil Survey Area		**27.2**	**3.2%**
Totals for Area of Interest		**850.3**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ByC	Briley loamy fine sand, 1 to 5 percent slopes	77.4	9.1%
CfE	Cuthbert fine sandy loam, 8 to 25 percent slopes	0.0	0.0%
DaC	Darco fine sand, 2 to 5 percent slopes	309.2	36.4%
DaE	Darco fine sand, 8 to 15 percent slopes	239.7	28.2%
DuC	Duffern sand, 1 to 5 percent slopes	189.5	22.3%
LtC	Lilbert loamy fine sand, 2 to 5 percent slopes	7.3	0.9%
Subtotals for Soil Survey Area		**823.1**	**96.8%**
Totals for Area of Interest		**850.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties

and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Upshur and Gregg Counties, Texas

DaC—Darco fine sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2r7rb
Elevation: 400 to 700 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 63 to 68 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Darco and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Darco

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 3 inches: fine sand
E - 3 to 56 inches: fine sand
Bt - 56 to 80 inches: sandy clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Minor Components

Briley

Percent of map unit: 7 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Lilbert

Percent of map unit: 7 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Duffern

Percent of map unit: 6 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Very Deep Sandy Upland (F133BY010TX)
Hydric soil rating: No

Wood County, Texas

ByC—Briley loamy fine sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2tcnt
Elevation: 200 to 600 feet
Mean annual precipitation: 43 to 60 inches
Mean annual air temperature: 57 to 68 degrees F
Frost-free period: 200 to 275 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Briley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Briley

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 10 inches: loamy fine sand
E - 10 to 22 inches: loamy fine sand
Bt - 22 to 80 inches: sandy clay loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.1 to 0.3 mmhos/cm)
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Minor Components

Bowie

Percent of map unit: 5 percent

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Loamy Upland (F133BY005TX)
Hydric soil rating: No

Kirvin

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Betis

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

CfE—Cuthbert fine sandy loam, 8 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2s62w
Elevation: 150 to 750 feet
Mean annual precipitation: 40 to 56 inches
Mean annual air temperature: 61 to 68 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Cuthbert and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cuthbert

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear

Across-slope shape: Convex
Parent material: Marine deposits

Typical profile

A - 0 to 4 inches: fine sandy loam
E - 4 to 9 inches: fine sandy loam
Bt - 9 to 22 inches: clay
B/C - 22 to 32 inches: clay loam
C - 32 to 80 inches: sandy clay loam

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Minor Components

Sacul

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Kirvin

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Tenaha

Percent of map unit: 5 percent
Landform: Interfluves

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

DaC—Darco fine sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2r7rb
Elevation: 400 to 700 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 63 to 68 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Darco and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Darco

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 3 inches: fine sand
E - 3 to 56 inches: fine sand
Bt - 56 to 80 inches: sandy clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Minor Components

Lilbert

Percent of map unit: 7 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Briley

Percent of map unit: 7 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Duffern

Percent of map unit: 6 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Very Deep Sandy Upland (F133BY010TX)
Hydric soil rating: No

DaE—Darco fine sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2r7rc
Elevation: 400 to 700 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 63 to 68 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Darco and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Darco

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 8 inches: fine sand
E - 8 to 50 inches: fine sand
Bt - 50 to 80 inches: sandy clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Minor Components

Cuthbert

Percent of map unit: 10 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional) Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Tenaha

Percent of map unit: 10 percent
Landform: Interfluves

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

DuC—Duffern sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: mbf5
Elevation: 300 to 650 feet
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 64 to 68 degrees F
Frost-free period: 235 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Duffern and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Duffern

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 9 inches: sand
H2 - 9 to 57 inches: sand
H3 - 57 to 80 inches: sand

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: Very Deep Sandy Upland (F133BY010TX)

Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 20 percent
Hydric soil rating: No

LtC—Lilbert loamy fine sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2s6hr
Elevation: 350 to 600 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 63 to 68 degrees F
Frost-free period: 235 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Lilbert and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lilbert

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy marine deposits and/or loamy marine deposits

Typical profile

A - 0 to 9 inches: loamy fine sand
E - 9 to 23 inches: loamy fine sand
Bt - 23 to 43 inches: sandy clay loam
Btv - 43 to 80 inches: sandy clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Minor Components

Bowie

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Upland (F133BY005TX)
Hydric soil rating: No

Darco

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

AOI Inventory

This folder contains a collection of tabular reports that present a variety of soil information. Included are various map unit description reports, special soil interpretation reports, and data summary reports.

Map Unit Description (Brief, Generated) (T&S Dairy)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated) (T&S Dairy)

Upshur and Gregg Counties, Texas

Map Unit: DaC—Darco fine sand, 2 to 5 percent slopes

Component: Darco (80%)

The Darco component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on interfluves on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY008TX Northern Deep Sandy Upland ecological site. Nonirrigated land capability classification is 3s. Irrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 0 within 30 inches of the soil surface.

Component: Lilbert (7%)

Generated brief soil descriptions are created for major soil components. The Lilbert soil is a minor component.

Component: Briley (7%)

Generated brief soil descriptions are created for major soil components. The Briley soil is a minor component.

Component: Duffern (6%)

Generated brief soil descriptions are created for major soil components. The Duffern soil is a minor component.

Wood County, Texas

Map Unit: ByC—Briley loamy fine sand, 1 to 5 percent slopes

Component: Briley (85%)

The Briley component makes up 85 percent of the map unit. Slopes are 1 to 5 percent. This component is on interfluves on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY006TX Northern Sandy Loam Upland ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Bowie (5%)

Generated brief soil descriptions are created for major soil components. The Bowie soil is a minor component.

Component: Betis (5%)

Generated brief soil descriptions are created for major soil components. The Betis soil is a minor component.

Component: Kirvin (5%)

Generated brief soil descriptions are created for major soil components. The Kirvin soil is a minor component.

Map Unit: CfE—Cuthbert fine sandy loam, 8 to 25 percent slopes

Component: Cuthbert (85%)

The Cuthbert component makes up 85 percent of the map unit. Slopes are 8 to 25 percent. This component is on interfluves on coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY003TX Loamy Over Clayey Upland ecological site. Nonirrigated land capability classification is 7e. Irrigated land capability classification is 7e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Kirvin (5%)

Generated brief soil descriptions are created for major soil components. The Kirvin soil is a minor component.

Component: Sacul (5%)

Generated brief soil descriptions are created for major soil components. The Sacul soil is a minor component.

Component: Tenaha (5%)

Generated brief soil descriptions are created for major soil components. The Tenaha soil is a minor component.

Map Unit: DaC—Darco fine sand, 2 to 5 percent slopes

Component: Darco (80%)

The Darco component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on interfluves on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY008TX Northern Deep Sandy Upland ecological site. Nonirrigated land capability classification is 3s. Irrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 0 within 30 inches of the soil surface.

Component: Briley (7%)

Generated brief soil descriptions are created for major soil components. The Briley soil is a minor component.

Component: Lilbert (7%)

Generated brief soil descriptions are created for major soil components. The Lilbert soil is a minor component.

Component: Duffern (6%)

Generated brief soil descriptions are created for major soil components. The Duffern soil is a minor component.

Map Unit: DaE—Darco fine sand, 8 to 15 percent slopes

Component: Darco (80%)

The Darco component makes up 80 percent of the map unit. Slopes are 8 to 15 percent. This component is on interfluves on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY008TX Northern Deep Sandy Upland ecological site. Nonirrigated land capability classification is 6e. Irrigated land capability classification is 6e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 0 within 30 inches of the soil surface.

Component: Tenaha (10%)

Generated brief soil descriptions are created for major soil components. The Tenaha soil is a minor component.

Component: Cuthbert (10%)

Generated brief soil descriptions are created for major soil components. The Cuthbert soil is a minor component.

Map Unit: DuC—Duffern sand, 1 to 5 percent slopes

Component: Duffern (80%)

The Duffern component makes up 80 percent of the map unit. Slopes are 1 to 5 percent. This component is on interfluves on coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY010TX Very Deep Sandy Upland ecological site. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria.

Component: Unnamed (20%)

Generated brief soil descriptions are created for major soil components. The Unnamed soil is a minor component.

Map Unit: LtC—Lilbert loamy fine sand, 2 to 5 percent slopes

Component: Lilbert (90%)

The Lilbert component makes up 90 percent of the map unit. Slopes are 2 to 5 percent. This component is on interfluves on coastal plains. The parent material

consists of sandy marine deposits and/or loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY006TX Northern Sandy Loam Upland ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Darco (5%)

Generated brief soil descriptions are created for major soil components. The Darco soil is a minor component.

Component: Bowie (5%)

Generated brief soil descriptions are created for major soil components. The Bowie soil is a minor component.

Soil Chemical Properties

This folder contains a collection of tabular reports that present soil chemical properties. The reports (tables) include all selected map units and components for each map unit. Soil chemical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil chemical properties include pH, cation exchange capacity, calcium carbonate, gypsum, and electrical conductivity.

Chemical Soil Properties (T&S Dairy)

This table shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. It is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

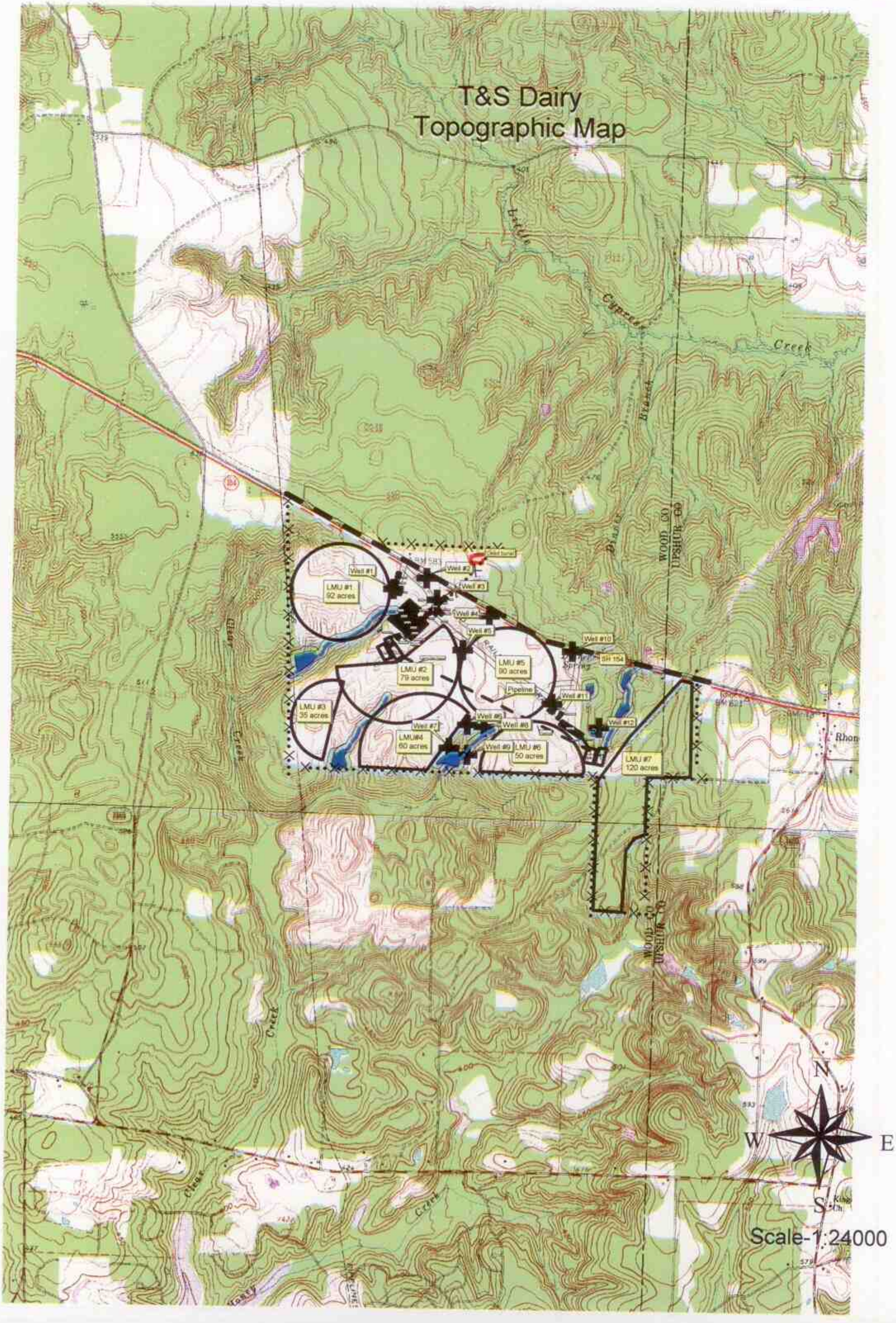
Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

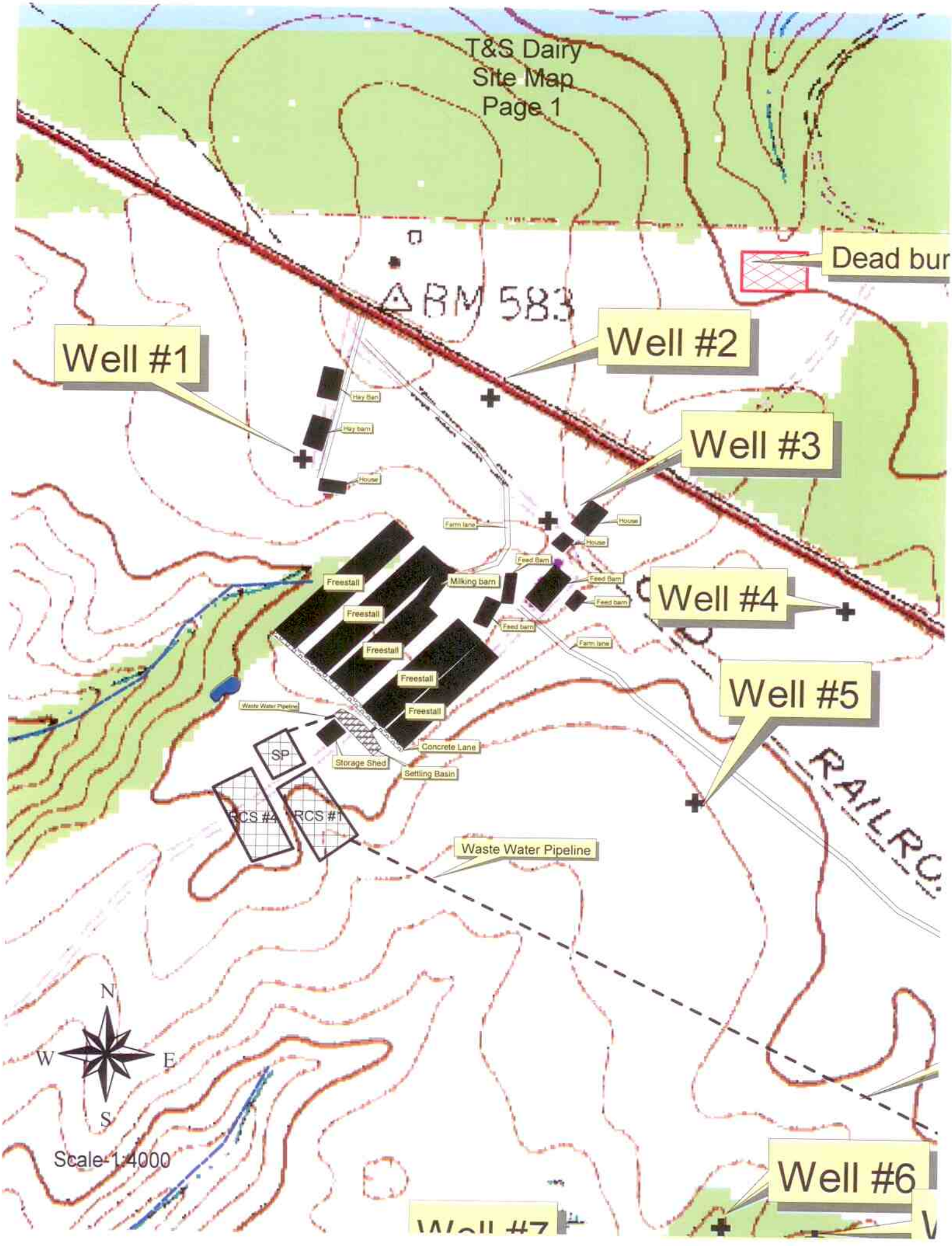
Engineering Properties–Upshur and Gregg Counties, Texas

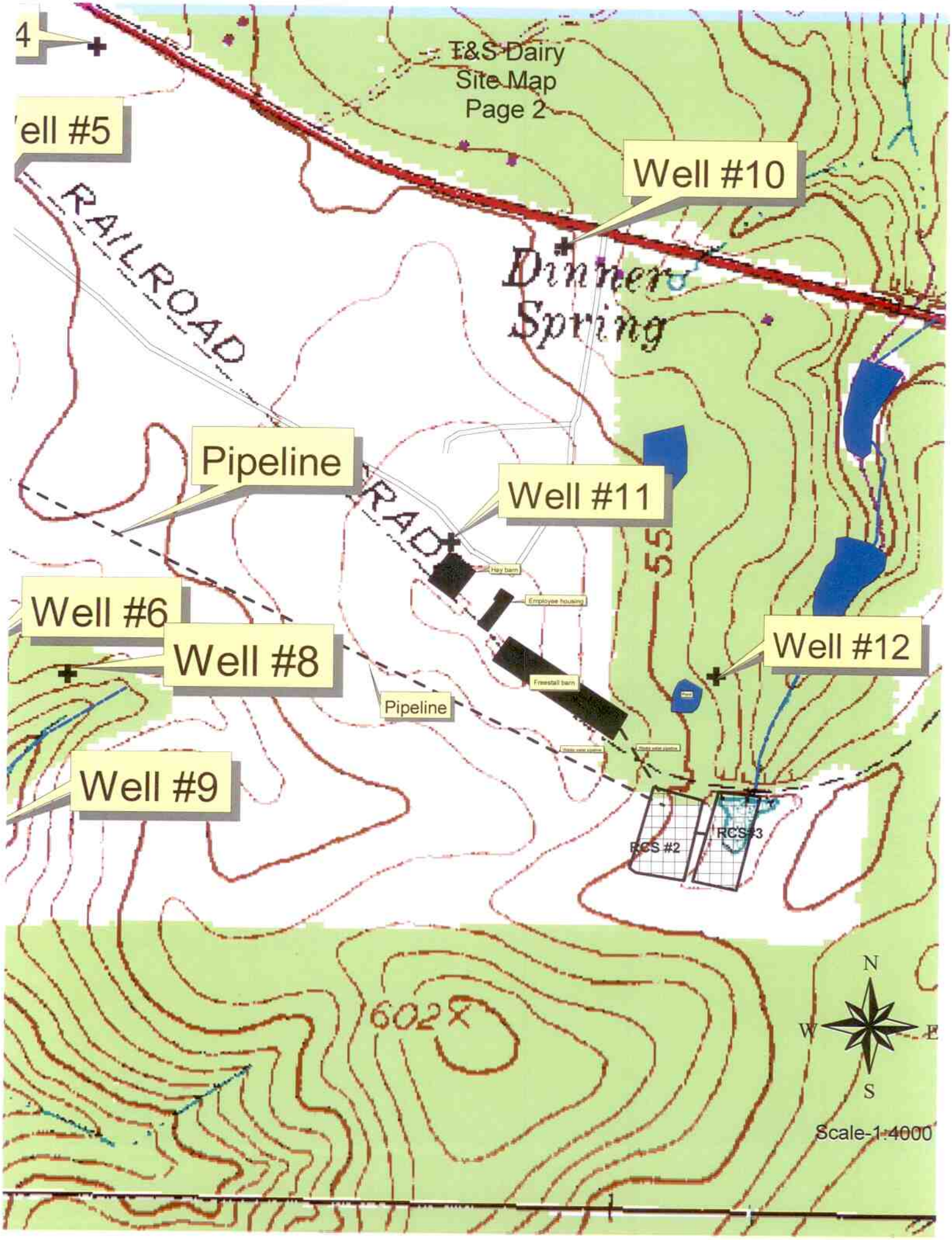
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
DaC—Darco fine sand, 2 to 5 percent slopes														
Darco	80	A	0-3	Fine sand	SM, SC-SM	A-2-4	0- 0- 0	0- 0- 1	94-100-100	88-100-100	81-94-99	13-17-22	0-18 -24	NP-3 -6
			3-56	Loamy fine sand, fine sand	SC-SM, SM, SC	A-2-4	0- 0- 0	0- 0- 1	95-100-100	90-100-100	80-94-100	14-19-29	0-20 -26	NP-5 -9
			56-80	Sandy clay loam, fine sandy loam	CL, SC, SC-SM	A-7-6, A-6, A-2-4	0- 0- 0	0- 0- 0	95-100-100	89-100-100	70-87-98	34-49-63	22-33 -44	7-16-25

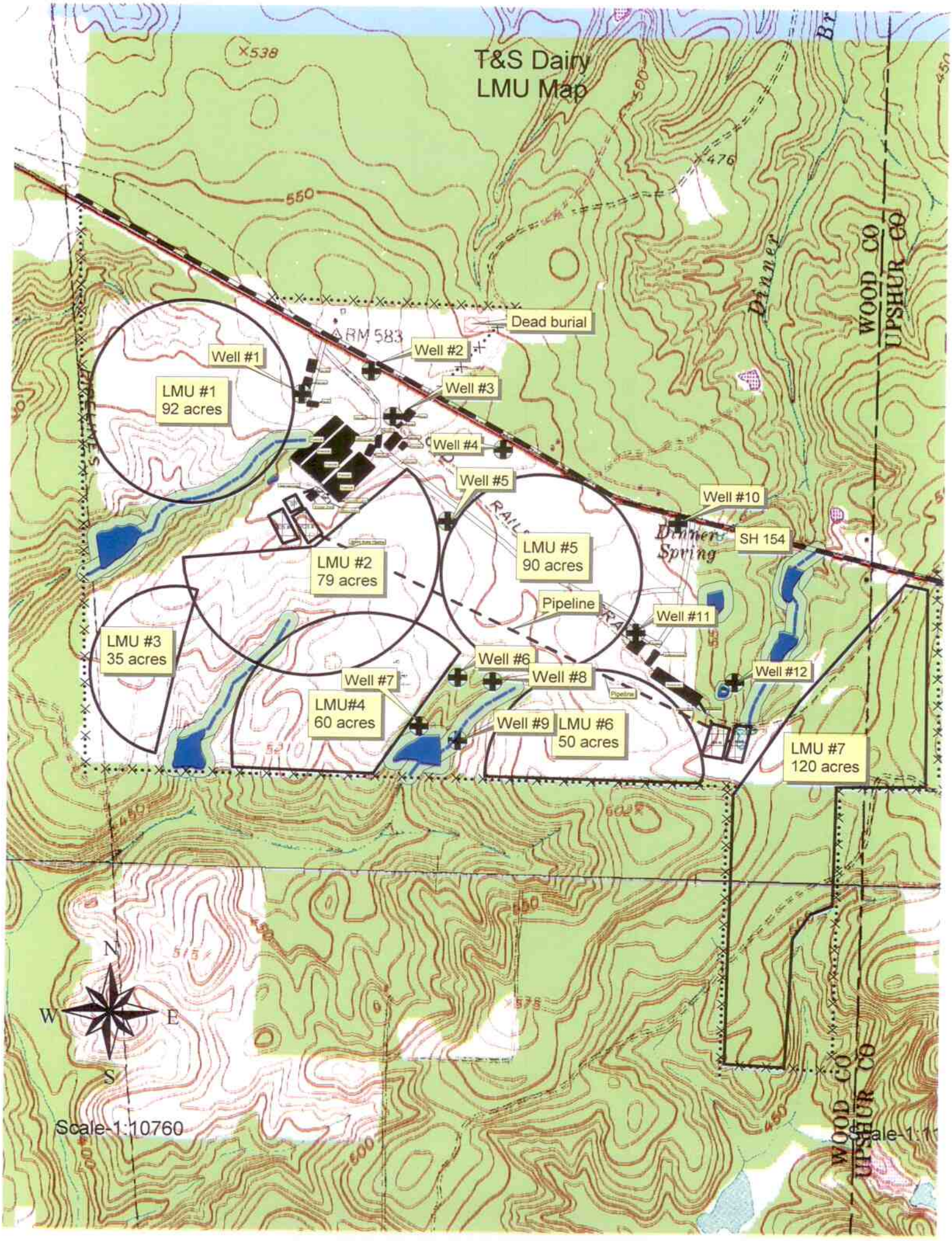
Engineering Properties–Wood County, Texas

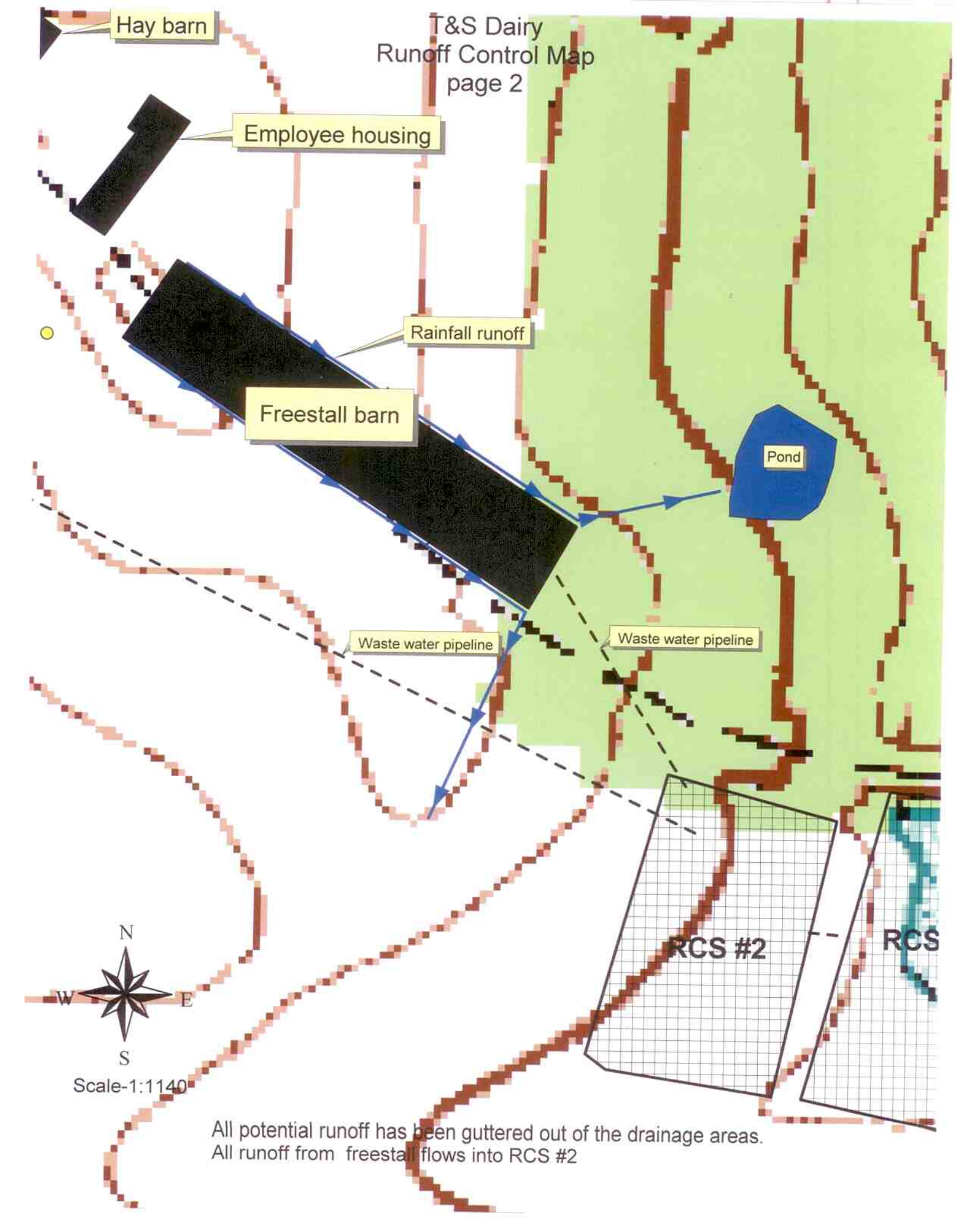
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
ByC—Briley loamy fine sand, 1 to 5 percent slopes														
Briley	85	B	0-10	Loamy fine sand	SM, SC-SM	A-2-4	0- 0- 0	0- 0- 0	95-96-100	89-93-100	82-89-100	20-24-34	12-17 -20	NP-3 -4
			10-22	Loamy fine sand	SM, SC-SM	A-2-4, A-4	0- 0- 0	0- 0- 0	95-98-100	89-95-100	82-90-100	22-27-36	12-17 -20	NP-3 -4
			22-80	Fine sandy loam, sandy clay loam	SC, CL, SC-SM	A-4, A-6	0- 0- 0	0- 0- 0	95-96-100	90-93-100	72-79-95	36-42-55	20-30 -38	4-10-14

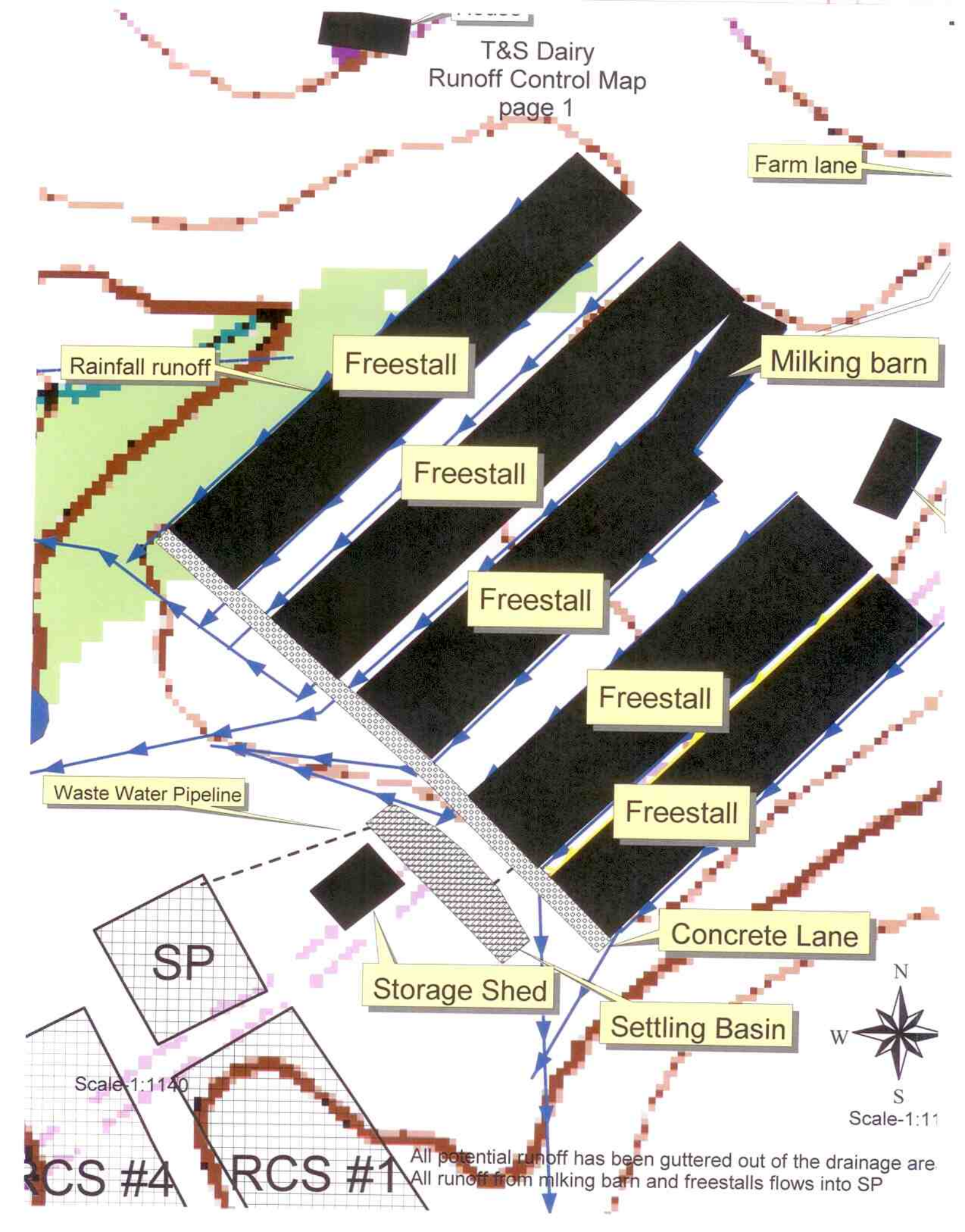

T&S Dairy
Topographic Map
Little
Cypress
Creek
WOOD CO
UPSHUR CO
Well #1
Well #2
Well #3
Well #4
Well #5
LMU #1
92 acres
Well #10
SH 154
LMU #5
90 acres
LMU #2
79 acres
Pipeline
Well #11
LMU #3
35 acres
Well #6
Well #7
Well #8
Well #12
LMU#4
60 acres
Well #9
LMU #6
50 acres
LMU #7
120 acres
N
W
E
S
Scale-1:24000


T&S Dairy
Site Map
Page 1
ARM 583
Dead bur
Well #1
Well #2
Well #3
Well #4
Well #5
Well #6
Well #7
Hay Barn
Hay barn
House
Farm lane
House
House
Feed Barn
Feed Barn
Feed barn
Feed barn
Farm lane
Freestall
Freestall
Freestall
Freestall
Freestall
Milking barn
Waste Water Pipeline
Concrete Lane
Storage Shed
Settling Basin
SP
RCS #4
RCS #1
Waste Water Pipeline
RAILRO
N
W
E
S
Scale 1:4000


T&S Dairy
Site Map
Page 2
Well #5
Well #10
RAILROAD
Dinner
Spring
Pipeline
Well #11
Well #6
Well #8
Well #12
Pipeline
Well #9
Hay barn
Employee housing
Freestall barn
RCS #2
RCS #3
602
N
W
E
S
Scale-1:4000


T&S Dairy
LMU Map
Dead burial
Well #1
Well #2
Well #3
Well #4
Well #5
Well #6
Well #7
Well #8
Well #9
Well #10
Well #11
Well #12
LMU #1
92 acres
LMU #2
79 acres
LMU #3
35 acres
LMU#4
60 acres
LMU #5
90 acres
LMU #6
50 acres
LMU #7
120 acres
Pipeline
SH 154
Dinner Spring
WOOD CO
UPSHUR CO
N
S
E
W
Scale-1:10760


Hay barn
T&S Dairy
Runoff Control Map
page 2
Employee housing
Rainfall runoff
Freestall barn
Pond
Waste water pipeline
Waste water pipeline
RCS #2
RCS
N
W
E
S
Scale-1:1140
All potential runoff has been guttered out of the drainage areas.
All runoff from freestall flows into RCS #2


T&S Dairy
Runoff Control Map
page 1
Farm lane
Rainfall runoff
Freestall
Milking barn
Freestall
Freestall
Freestall
Freestall
Waste Water Pipeline
Concrete Lane
SP
Storage Shed
Settling Basin
N
W
S
Scale-1:1140
Scale-1:11
RCS #4
RCS #1
All potential runoff has been guttered out of the drainage are
All runoff from milking barn and freestalls flows into SP

Professional Service Industries, Inc.

RECORD OF SUBSURFACE EXPLORATION

Boring B-2

Project Name: J & I DAIRY, INC. Date of Boring: September 9, 1991

Site: Winnsboro, Texas Project No.: 336-16314

DESCRIPTION	DEPTH	ELEV.	SAMPLE	N	M_c	REMARKS		
SURFACE						LL	PI	-200
RED CLAYEY SAND			ST-1			38	19	47
	5		ST-2			33	17	51
RED, TAN CLAYEY SAND			ST-3					
	10		ST-4			36	18	45
14.5'			ST-5					
TAN & RED CLAYEY SAND	15		ST-6			32	15	39
20.0'			ST-7					
	20							
End of Boring @ 20.0' Seepage @ 15.0' Dry upon completion								
NOTE: A falling head permeability test was conducted on the undisturbed sample from 15' - 17'. Results: $k = 9.0 \times 10^{-8}$ cm/sec								

Professional Service Industries, Inc.

RECORD OF SUBSURFACE EXPLORATION

Boring B-3

Project Name: J & I DAIRY, INC. Date of Boring: September 9, 1991

Site: Winnsboro, Texas Project No.: 336-16314

DESCRIPTION	DEPTH	ELEV.	SAMPLE	N	M_c	REMARKS		
SURFACE						LL	PI	-200
1.0' GRAY SAND								
LIGHT GRAY, RED CLAYEY SAND	5		ST-1			32	16	40
6.0'			ST-2					
RED CLAYEY SAND			ST-3			31	17	39
	10		ST-4					
			ST-5					
	15		ST-6			39	20	56
			ST-7					
20.0'	20							
End of Boring @ 20.0' Dry upon completion								
NOTE: A falling head permeability test was conducted on the undisturbed sample from 3' - 5'.								
Results: $k = 6.4 \times 10^{-8}$ cm/sec								

HYDROLOGIC CONNECTION INVESTIGATION
Retention Control Structure RCS#1

T&S Dairy
7880 E State Highway 154
Winnsboro, TX 75494

Wood County, Texas

Report for
Nico DeBoer

Prepared By
Jim C. Wyrick, PG
EAST TEXAS ENVIRONMENT SERVICES
315 Highland Dr.
Sulphur Springs, Texas 75482
903-243-0400

TABLE OF CONTENT

INTRODUCTION

This investigation was performed in accordance with request for services and authorization to proceed granted by Nico DeBoer owner of T&S, Wood County, Texas. Field operations were conducted on June 24, 2011.

The purpose of this investigation was to define and evaluate the in-situ soil material in RCS#1 to determine if it meets the minimum criteria for hydraulic conductivity tested at optimal moisture content and thickness as described in General Permit No. TXG920000 Part III.A.6.(g)(3).

Specifically this study was planned to determine the following in-site soil properties:

- Hydraulic Conductivity equal to or less than 1×10^{-7} cm/sec.
- Depth of suitable in-situ soil material has a minimum thickness of 1.5 feet.

PROJECT DESCRIPTION

This investigation was conducted to determine if the soil material in the RCS meet TCEQ requirements as suitable as an in-situ soil material. Also included in this report is a detailed drawing showing the soil sampling location.

INVESTIGATION PROCEDURE

Depth of the in-situ soil material was verified by using a two-inch soil bucket auger, six-foot long with a five-foot extension. Six borings were made to a depth of 1.5 feet below the bottom in RCS#1. On completion the sample holes was backfilled with native soil cuttings. Determining in-place hydraulic conductivity was done by driving a thin-walled tube into the soil mass to obtain a relativity undisturbed sample according to ASTM D1587. The samples were taken in the RCS sidewall just above the wastewater level in the RCS. The soil samples were shipped in the tube sampler and sealed to prevent moisture loss and shipped to ADJ Services, Inc. Lab, Longview, Texas determined the hydraulic conductivity using ASTM D 5084 (see attached report). Samples were collected and analyzed in accordance with TXG920000 part III.A.6(g)(5).

FINDINGS AND CONCLUSION

The in-situ soil material identified during this investigation should be of sufficient thickness and with a hydraulic conductivity of no greater 1×10^{-7} tested at optimun moisture content as detailed in TCEQ TXG920000 Part II.A.(g)(3). Hydraulic conductivity at this rate will insure there will be no significant leakage from the RCS. The in-situ soil material in the RCS also has a thickness of 1.5 feet or greater meeting the thickness requirement in Part III.A.6 (g)(3). The field investigation found no significant leakage from the RCS. Therefore it has been determined that a liner is not needed to prevent a significant hydrologic connection between wastewater and the waters in the state. A 100-foot walkout inspection around the RCSs did not disclose any evidence of water wells, springs, seeps, or water bodies.

LAB RESULTS

Lab results of material tested: (See attached ADJ Services lab report)

Sample ID	Location	Permeability	TCEQ Minimum Requirement
#1	North Side wall	4.63×10^{-8}	1×10^{-7}
#2	East Side wall	3.68×10^{-8}	1×10^{-7}
#3	South Side wall	3.80×10^{-8}	1×10^{-7}
#4	West Side wall	4.45×10^{-8}	1×10^{-7}

FIELD OPERATIONS

Jim Wyrick, Professional Geoscientist, made the soil borings, collected the hydraulic conductivity samples and visually identified the characteristic of the in-situ soil material.

BIOLOGICAL SEALING

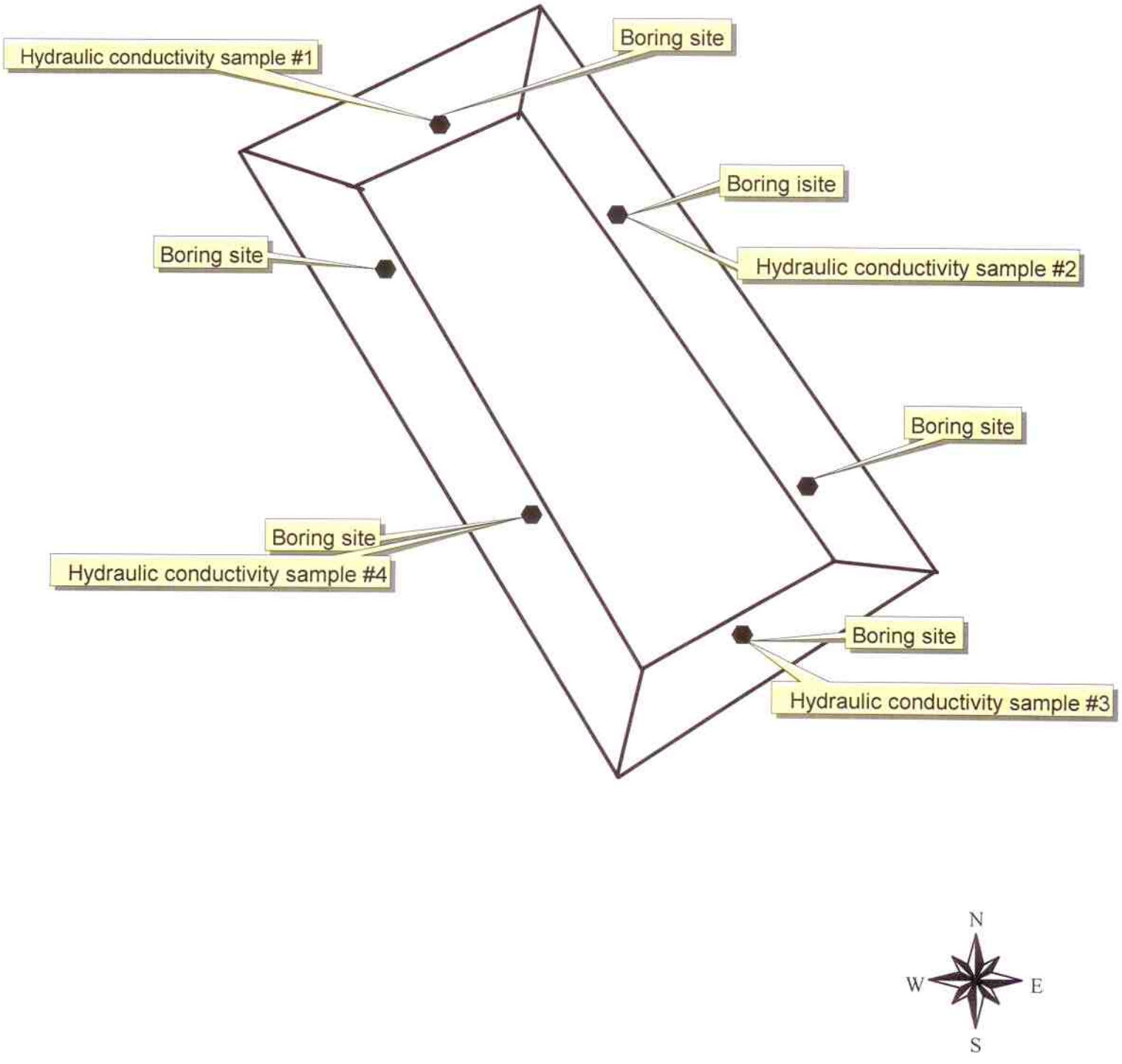
The existing RCS on the dairy have been in service since 2004. Pond sealing from manure storage will reduce the permeability of in-situ soil material in the RCS to meets the minimum criteria of hydraulic conductivity no greater than 1×10^{-7} cm/sec at optimal moisture content. This conclusion is based on research has indicating in-situ soils on the sides and bottom of the RCS will seal and reduce the permeability of the soil-liquid interface at least partially as a result of physical, chemical, and biological processes. The soil structure can also be altered in the process of metabolizing organic material. Suspended solids settle out of suspension and physically clog the pores of the soil mass. Anaerobic bacteria produce by-products that accumulate at the soil-water interface and reinforce the seal. As organic material is metabolized, the soil structure also can be altered. Chemicals in animal waste, such as salts, can disperse soil, which may be beneficial in reducing seepage. Under these conditions the hydraulic conductivity of the soil can be decreased several orders of magnitude in a few weeks following contact with a RCS. The in-situ soil material identified during this investigation has an estimated hydraulic conductivity of less than 1×10^{-7} manure sealing will decrease the hydraulic conductivity.

LIMITATIONS

Geotechnical investigations are characterized by the presence of a calculated risk that soil and groundwater conditions may not have been fully revealed by this exploratory boring investigation. This risk derives from the practical necessity of basing interpretations and design conclusions on a limited sampling of the subsoil stratigraphy at the project site. The observations described in this report are based on the conditions that existed at the boring location at the time it was drilled. It is conceivable that soil conditions throughout the site may vary from those observed in the exploratory boring. ETES is not responsible for the conclusions, opinions, or recommendations made by others based on the contents of this report. My professional services have been performed, findings obtained, and recommendations prepared in accordance with generally accepted geotechnical principles and practices. These warranties are in lieu of other warranties either expressed or implied.

Jim C. Wyrick, Professional Geoscientist

In-place hydraulic conductivity sampling locations



NWW

RCS #2

ADJ SERVICES INC

A Woman Owned Business

705 Coleman Dr.
Longview, Texas 75605
Phone: 903-759-3111
Fax: 903-759-3126
E-mail: adjses@sbcglobal.net

July 25, 2011

Test for Hydraulic Conductivity

To: East Texas Environmental Services
317 Highland Dr.
Sulphur Springs, Texas 75482
Attn: Jim Wyrick

Project No.: 11-6002
Report No.: Wyrick- DeBoer-11-105
P.O. No. verbal

Project: T$S Dairy
RCS#1

Mr. Wyrick;

As requested ADJ Services, Inc. has completed the soil testing for the above referenced project site. The purpose of the testing was to conduct hydraulic conductivity testing on two soil samples shipped to our Longview Office. The soil sample was shipped in a drive ring sampler and sealed to prevent moisture loss.

The sample was prepared and tested in accordance with ASTM D5084 Test Procedure. The test results are as follows;

Sample	1	2
Test Procedure:	ASTM D5084	ASTM D5084
Specimen ID:	T&S #1	T&S #2
Soil Description:	Reddish brown clay loam	Reddish brown clay loam
Specimen Height:	1.45 inches	1.40 inches
Initial Moisture	(%): 20.0	(%): 19.9
Final Moisture	(%): 25.0	(%): 24.8
Surcharge:	Yes psi-25	Yes psi-25
Hydraulic Conductivity (cm/sec)	4.63 -8 (cm/sec)	3.68 x 10 -8 (cm/sec)

Sample	3	4
Test Procedure:	ASTM D5084	ASTM D5084
Specimen ID:	T&S #3	T&S #4
Soil Description:	Red with gray clay	Brown gray clay loam
Specimen Height:	1.50 inches	1.49 inches
Initial Moisture	(%): 20.8	(%): 20.6
Final Moisture	(%): 23.1	(%): 22.9
Surcharge:	Yes psi-25	Yes psi-25
Hydraulic Conductivity (cm/sec)	3.80 x10 -8 (cm/sec)	4.45 x 10 -8 (cm/sec)

Test meets minimum 1.0 x 10 -7 cm/sec; Soil acceptable for lagoon liner as is.

This should provide you with the information needed. Please contact our office if you have any questions.

Very truly yours,
ADJ Services, Inc.
Co. Reg. No. F-1003

James Kim Winn, P.E. On behalf of ADJ Services, Inc.

7/25/11

P.E. Lic. No. 62404

RCS #3

A.C. Lowther
Licensed Professional Geoscientist
P.O. Box 78
Dublin, Texas 76446

April 8, 2006

Texas Commission on Environmental Quality
Applications and Enforcement Section
Agriculture and Rural Assistance Division
P.O. Box 13067
Austin, Texas 78711-3087

Re: DeGoode Dairy

A.C. Lowther has completed sampling and testing of the soil liner for the settling basin on the DeGoode Dairy in Wood County, Texas. The test results including sample thickness, Atterberg limits, permeability, and percent passing the number 200 sieve are tabulated on the attached report. Our findings indicate the soils meet the criteria established by the TCEQ.

Sincerely,

A.C. Lowther, LPGS

STATE OF TEXAS
A. C. Lowther
Soil Science
1132
LICENSED
PROFESSIONAL GEOSCIENTIST

4/10-06

Submitted By:

Signed By:

Date:

A.C. Lowther
Licensed Professional Geoscientist
P.O. Box 78
Dublin, Texas 76446

Name: Johannes DeGoede Dairy
7800 E. State Hwy. 154
Winnsboro, Texas 75494-7110

Pond No. Recertify Settling Basin **Date sampled 2-20-06** **Sampled by:** A.C. Lowther

Test Location	No. 1	No.2	No.3	No.4	Minimum Req.
Soil Description					
Color (Munsell)	Red (2.5 YR) 4/8	Red			
Texture (ASRM D-422	Sandy clay	Sandy clay			
Unified	CL	CL			
Sample Depth	18	18			18
Atterburg Limits (ASTM D-423					
Liquid Limits %	36.0	30.9			30
Plastic Limit %	13.7	15.5			
Plasticity Index %	22.3	15.4			15
Passing No. 200 Seive %	65	54			30
Permeability (ASTM-D-2434)	8.5 X 10 - 8				1 X 10 - 7

In-Place Density
(ASTM D-1556)

Sample No.	Field Moisture %	Optimum Moisture %	Field Density (#/Cu.Ft.)	Maximum Density (#/Cu.Ft.)	Density (% Maximum)

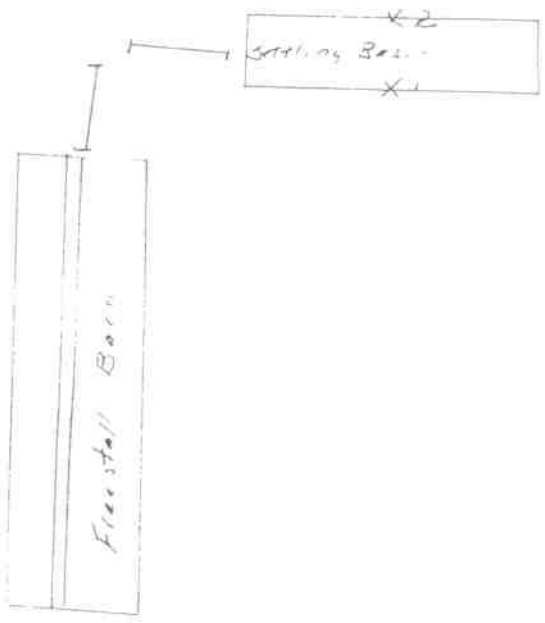
(Vertical side)

SOIL SAMPLE LOCATIONS

Name: DeGoode Dairy

Depth of Samples (BGL): 2.0 feet

Sampled By: A.C. Lowther



RCS 4

W. E. S. T.

WINN ENVIRONMENTAL SERVICES TEAM, INC

RECEIVED
JAN 18 1996
TNRCC - AGRICULTURE SECTION
AGRICULTURE TEAM

FINAL LAGOON LINER EVALUATION

CLIENT: J. H. DeGOEDE
RT. 8, BOX 84799
WINNSBORO, TX 75494

JOB NO: 95-3008
REPORT NO: DG-DWP-95-100
P O NO: VERBAL
DATE: MARCH 27, 1995

PROJECT: J. H. DeGOEDE DAIRY LAGOON, WINNSBORO, TEXAS

As requested by Mr. DeGoede, a Winn Environmental Services Team, Inc. representative was was present on March 17, 1995, at the above referenced project. The purpose of this visit was to obtain samples of the lagoon's clay liner to determine the following:

1. Depth of Clay Liner
2. Atterberg Limits - ASTM D-4318
3. Percent Passing No. 200 Mesh Sieve - ASTM D-1140
4. Moisture Density Relation of Soil - ASTM D-698 and In-Place Density - ASTM D-2922

Depth of the clay liner material was verified by using a pick-ax for digging purposes. Atterberg Limits and Percent Passing No. 200 Mesh Sieve samples were obtained from the soil cuttings created during the depth verification process. All other samples were tested in accordance with applicable ASTM test procedure unless stated otherwise. Upon completion all sample holes were backfilled with a mixture of dry bentonite clay combined with native soil cuttings. Test results and locations are as follows:

1.0. Depth Verification of Lagoon Liner Material

LOCATION	SOIL DESCRIPTION	ACTUAL DEPTH	MINIMUM SPECIFICATIONS
North Bottom	RED & GRAY SANDY CLAY	12" +	12" +
South Bottom	RED & GRAY SANDY CLAY	12" +	12" +
East Bottom	RED & GRAY SANDY CLAY	12" +	12" +
West Bottom	RED & GRAY SANDY CLAY	12" +	12" +
North Sidewall	RED & GRAY SANDY CLAY	12" +	12" +
South Sidewall	RED & GRAY SANDY CLAY	12" +	12" +
East Sidewall	RED & GRAY SANDY CLAY	12" +	12" +
West Sidewall	RED & GRAY SANDY CLAY	12" +	12" +

P.O. BOX 7351 / 1900 SE LOOP 281 / LONGVIEW, TX 75607
(903)758-1171, FAX (903)758-2701, (800) 520-1171, SULPHUR SPRINGS BRANCH (903) 885-5313

2.0. **Atterberg Limits - ASTM D-4318**

3.0. **Percent Passing No. 200 Mesh Sieve - ASTM D-1140**

Atterberg Limits and Percent Passing No. 200 Mesh Sieve samples were obtained from the soil cuttings created during the depth verification process. Test results are as follows:

LOCATION, DEPTH AND SOIL DESCRIPTION	ATTERBERG LIMITS (ASTM D-4318)			PERCENT PASSING NO. 200 SIEVE (ASTM D-1140)
	LIQUID LIMIT (LL)	PLASTIC LIMIT (PL)	PLASTICITY INDEX (PI)	
WEST BOTTOM RED & GRAY SANDY CLAY	34	15	19	47
EAST BOTTOM RED & GRAY SANDY CLAY	32	16	16	40

4.0. **Moisture Density Relation of Soil - ASTM D-698**

Proctor Number:	DG-1
Preparation Used:	MOIST
Test Procedure:	ASTM D-698A
Rammer Type:	MANUAL
Material Description:	RED & GRAY SANDY CLAY
Maximum Dry Density: (lbs/cu.ft.)	100.8
Optimum Moisture: (Percent)	15.8

A copy of the moisture density curve is attached.

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MOISTURE-DRY UNIT WEIGHT CURVE

PROJECT:	J. H. DeGOEDE DAIRY WASTE POND WINNSBORO, TEXAS
PROCTOR NUMBER:	DG-1
TEST PROCEDURE:	ASTM D-698A
SAMPLE LOCATION:	BOTTOM OF LAGOON
MATERIAL DESCRIPTION:	RED & GRAY SANDY CLAY

TEST RESULTS

MAXIMUM DRY UNIT WEIGHT (lbs/cu.ft.):	100.8
OPTIMUM MOISTURE CONTENT (Percent):	15.8

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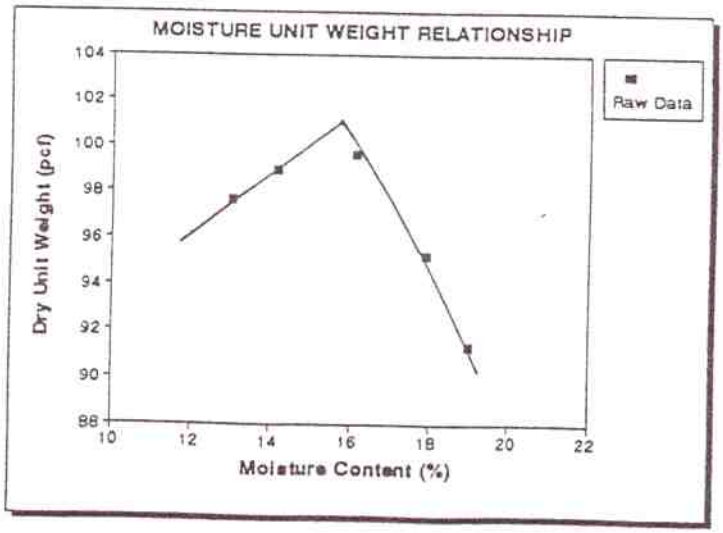
AGRICULTURE TEAM



4.0.a. **In-Place Nuclear Densities - ASTM D-2922**

In-Place Nuclear Densities were obtained with nuclear equipment using back scatter method.

LOCATION	IN-PLACE NUCLEAR DENSITY RESULTS	PERCENT COMPACTION
EAST BOTTOM OF LAGOON	96	98.1%
WEST BOTTOM OF LAGOON	98.9	95.2%

The above in-place nuclear densities were compared with the density obtained from the standard proctor method (ASTM D-698).

All tests meet minimum project specifications unless marked *. The technician for Winn Environmental Services Team, Inc. was Paul McNish.

Review of the test results above indicates that there are adequate clay soils on site to construct the proposed lagoon. A Winn Environmental Services Team, Inc. field engineering technician shall inspect the proposed lagoon bottom and side wall areas to ensure the soils are the same as tested and to verify the in-place density (compaction) of the soil.

At this time no engineering design for the lagoon is expected, pending the field inspection as listed above.

If we can be of further assistance, please contact us at your convenience.

Very truly yours,
WINN ENVIRONMENTAL SERVICES TEAM, INC.

James Kim Winn, P.E.
Project Engineer

Athar Ali Syed
Graduate Geotechnical Engineer

JKW/dw
cc: SCS Office, Mr. Jim Griffin

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AGRICULTURE TEAM

J.H. DeGOEDE
Producer's Name

(WRP Number)

RT. 8, BOX 84799
Producer's Address

(ACP Number)

WINNSBORO, TX 75494

WASTEWATER RETENTION FACILITIES
LINER CERTIFICATION

31 TAC 321.36 stipulates all Wastewater Retention Facilities (WRP) shall be constructed of compacted or in-situ earthen materials which meet the following particle size gradation and Atterberg limits:

(1) 30% or more passing a number 200 mesh sieve;

(2) a liquid limit of 30% or greater; and

(3) a plasticity index of 15 or greater.

Site specific conditions may require a stability analyses of the WRP side slopes for high watertable conditions.

I certify that the wastewater retention facility liner and installation complies with 31 TAC 321.36 and/or CFR 58 IIIB2f2ii or with the requirements stated in the producer's TWC and/or EPA NPDES permit(s). Appropriate stability analyses, as needed, were made to ensure the integrity of the liner. Copies of laboratory and field soil analyses are attached.

(Consultant's Signature)

04/03/95
(Date)

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AGRICULTURE TEAM

CERTIFICATIONS FOR THE AS-BUILT RETENTION CONTROL STRUCTURE (RCS #1)

T&S Dairy
7880 East HWY 154
Winnsboro, Texas 75494

Wood County, Texas

Report for:
Nico DeBoer

Prepared By:

STATE OF TEXAS
NOEL COURTS
GEOLOGY
11241
LICENSED
PROFESSIONAL GEOSCIENTIST

Noel Courts, P.G.
Professional Geoscientist
License No. 11241

M.E. LOWTHER CONSULTING, LLC
ENVIRONMENTAL MANAGEMENT CONSULTANTS

IN COOPERATION WITH:

Gerry Kendall, P.E.
License No. 123674
KENDALL CROSS TIMBERS CONSULTING
Firm Registration No. 18041

February 2, 2018

T&S DAIRY
TXG920108
7880 East HWY 154
Winnsboro, Texas 75494
Wood County

Dear Mr. DeBoer:

Thank you for choosing Kendall Cross Timbers Consulting for your engineering services. The following is the certification required by the TCEQ for the Retention Control Structure #1 (RCS #1).

RCS #1's capacity was measured and calculated by an on-site survey. The RCS is an existing pit-type pond that was constructed prior to 1991 and was resurveyed for current "as-built" capacity. The measured capacity of RCS #1 is 13.57 ac-ft.

Sincerely,

STATE OF TEXAS
NOEL COURTS
GEOLOGY
11241
LICENSED
PROFESSIONAL GEOSCIENTIST

6/6/18

Noel Courts, P.G.
License No. 11241

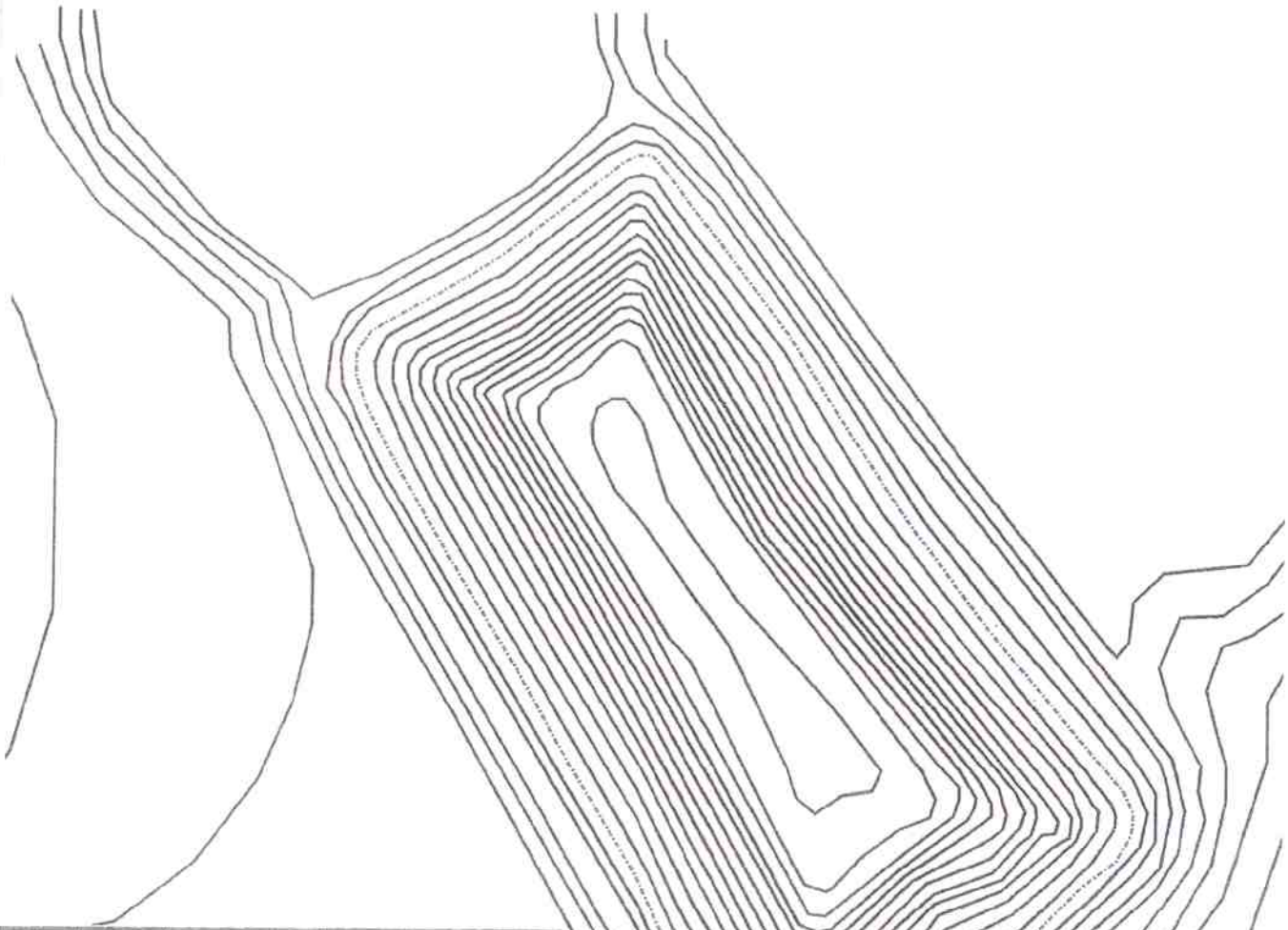
STATE OF TEXAS
GERRY KENDALL
123674
LICENSED
PROFESSIONAL ENGINEER

Gerry Kendall, P.E.
License No. 123674
2/07/18
F-12041

RCS #1 - Survey Map

T&S Dairy
Nico DeBoer
Date: 02/06/2018

M.E. Lowther Consulting, LLC
Noel Courts, P.G.
325-692-5878



Topo	Depth (Ft)	Length (Ft)	Width (Ft)	Volume (Cu yds)	Area (Ac)	Storage (Ac-Ft)
88	0	276	114	0	0.73	0.00
89	1	280	118	1,200	0.76	0.74
90	2	284	122	2,459	0.80	1.52
91	3	288	126	3,777	0.84	2.34
92	4	292	130	5,158	0.87	3.20
93	5	296	134	6,601	0.91	4.09
94	6	300	138	8,108	0.95	5.03
95	7	304	142	9,680	0.99	6.00
96	8	308	146	11,318	1.04	7.02
97	9	312	150	13,023	1.08	8.07
98	10	316	154	14,797	1.12	9.17
99	11	320	158	16,641	1.16	10.31
100	12	324	162	18,555	1.21	11.50
101	13	328	166	20,542	1.25	12.74
101.67	13.67	331	167	21,394	1.26	13.27
102	14	332	170	22,602	1.30	14.01
103	15	336	174	24,737	1.35	15.33
103.83	15.83	339	177	26,157	1.38	16.23

Volume @ Depth =	21,394	cubic yards
Storage @ Depth =	13.27	acre-feet
Surface Area @ Depth =	1.26	acre

STATE OF TEXAS
GERRY KENDALL
123674
LICENSED
PROFESSIONAL ENGINEER

F-10041 2/07/18

Noel Courts, P.G. Gerry Kendall, P.E.

Goode

INLAND ENGINEERING AND SURVEYING

Telephone (512) 302-1750
Fax (512) 302-1751

2304 HANCOCK DRIVE #1A
AUSTIN, TEXAS 78756

April 16, 1999

Job No. 99151

Johannes DeGoede Dairy
Rt. 2, Box 84 - B3
Winnsboro, Texas 75494

Pond #1: RCS #3
Pond #2: RCS #4

Re: Certification of Waste Storage Ponds
Johannes DeGoede Dairy

Mr. DeGoede,

Measurements and calculations of the waste storage ponds at your dairy site has been completed. The maximum storage capacity for pond # 1 is 10.26 ac-ft. The maximum storage capacity for pond # 2 is 7.38 ac-ft.

Certification by

Jerry E. Holligan

Jerry E. Holligan, P.E.
Registered Professional Engineer, No. 29146
State of Texas

STATE OF TEXAS
JERRY E. HOLLIGAN
29146
REGISTERED
PROFESSIONAL ENGINEER

99151 .wps

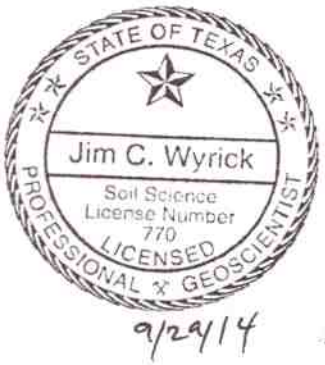
CAFO ANIMAL WASTE STORAGE POND
CLOSURE PLAN

FOR
RCS#3

Degoede Dairy
TXG921238

Nico Deboer
7800E State Highway 154
Winnsboro, TX 75494

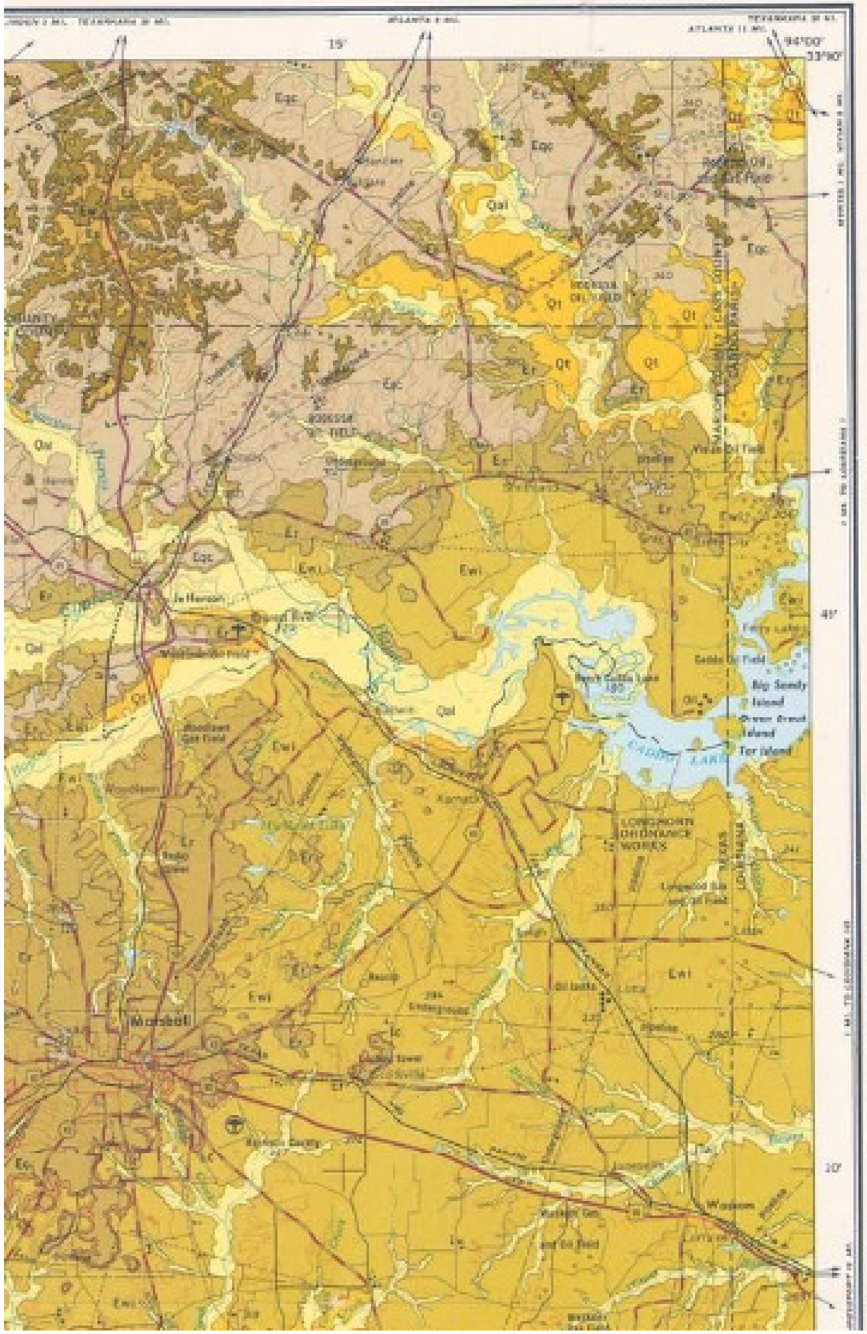
Prepared by: Jim C Wyrick, PG
License No. 770
East Texas Environmental Services
Firm No. 50471
317 Highland Dr.
Sulphur Springs, TX 75482
903-246-0400
e-mail wyrick@suddenlink.net



9/29/14

September 29, 2014

GEOLOGIC ATLAS OF TEXAS
TYLER SHEET



EXPLANATION

SEDIMENTARY ROCKS

QUATERNARY

Recent

Qal

Alluvium

Flood-plain deposits

Pleistocene

Qt

Fluviatile terrace deposits undivided

TERTIARY

Eocene

Etg / Es

Sparta Sand

Quartz sand, fine to medium grained, light gray to cinnamon gray, slightly cohesive from silt and clay matrix, massive, locally cross-bedded, interbeds of sandy clay more abundant upward, locally carbonaceous; weathers various shades of light gray, at base hard, brown, ferruginous sandstone; lower part 110± feet thick, upper part absent. Locally includes Tyus Greensand Member, Etg, quartz-glauconite greensand, grayish green, massive, locally cross-bedded; weathers dark reddish brown, abundant ironstone concretions

Ew

Weches Formation

Glauconite and quartz sand, grayish green to grayish olive green, thin bedded, locally cross-bedded to lenticular, clay interbeds light brown to moderate light gray, silty, muscovitic, thin bedded; weathers moderate to dark reddish brown, locally forms limonitic and sideritic iron ore and clay ironstone concretions; marine megafossils in southern part; 51± feet thick, range 0–70 feet

Eqc

Queen City Sand

Quartz sand, fine grained to locally medium grained, light gray to brownish gray, locally carbonaceous, and clay, gray to brown, silty, slightly lignitic, sand most abundant to west; weathers red and white mottled, ironstone concretions and ledges common; local beds of glauconite-quartz greensand, cross-bedded, weathers to ferruginous ledges and rubble; 100–400 feet thick, thins southeastward

Er

Reklaw Formation

Upper 180± feet, clay, brownish black to brownish gray, silty, muscovitic, carbonaceous, laminated, interbeds of moderate reddish-brown clay; weathers light brown, ironstone concretions common; a few marine fossils. Lower 15± feet, quartz sand, fine to very fine grained, grayish green, glauconitic, argillaceous, massive, locally cross-bedded; weathers moderate brown to dark yellowish orange with clay ironstone ledges and rubble; fossils, clay ironstone, and clay decrease northward

Ec

Carrizo Sand

Upper part, very fine sand, silt, clayey silt, silty clay, medium to dark gray, carbonaceous; weathers moderate yellowish brown to dark reddish brown, indurated ledges of dark brownish-gray ironstone common. Lower part, quartz sand, fine to medium grained, light brownish gray, weakly cohesive, massive, locally cross-bedded; weathers light gray to various shades of red. Thickness 50–200 feet

Ewi

Wilcox Group undivided

Mostly silts and sandy clay, various shades of gray, local beds of clay, lignite, silt, and quartz sand, in part carbonaceous, laminated to massive, locally cross-bedded, weathers to various shades of gray, brown, yellow, and red. Calcareous siltstone and ironstone concretions common; abundant plant fossils, a few marine fossils in southeastern part; 800–1,000 feet thick

E-PE

Eocene and Paleocene rocks undivided

Reklaw Formation, Carrizo Sand, Wilcox Group, and Midway Group on Brooks dome not separately shown

Paleocene

PEwp

Wills Point Formation

Clay, medium bluish gray, greenish gray, grayish green, brownish gray, silt increases upward, laminated to locally massive, glauconitic near base, rough calcareous siltstone concretions common in upper part, locally lignitic in upper part, thin bed of rusty limestone near middle; weathers medium gray to

RECHARGE FEATURE CERTIFICATION
for
T&S Dairy
Winnsboro, Texas

GENERAL REMARKS:

T&S Dairy is applying for a TCEQ Individual Permit for a concentrated animal feeding operation. T&S Dairy is operating at 2621 total dairy cows of which 2621 are milking. Dairy cows are in confinement. The property is located at 7880 E State Highway 154 Winnsboro TX 75494 7110 in Wood County. This recharge feature evaluation and associated certification was conducted by Jim C. Wyrick, Professional Geoscientist, compiled the findings and recommendations, contained herein.

PURPOSE OF REPORT:

The purpose of this report is to determine if the subject property has any natural or artificial features, either on or beneath the ground surface, which would provide a significant pathway for wastewater from the retention control structure or land application site into the underlying aquifer as according to TCEQ requirements. The following records and maps from the following agencies were reviewed to locate any recharge features: (a) Texas Railroad Commission, (b) well driller, (c) TCEQ, (d) Natural Resource Conservation Service, (e) owner of site, and (f) an on-site inspection.

AREA OF EVALUATION

The property is located at 7880 E State Highway 154 Winnsboro TX 75494 7110 in Wood County. Latitude: 32.762046° N and Longitude: -95.170505°W. This property consists of about 877.76 acres. The facility is a freestall dairy operation and dry cows are kept on pastureland. The storm water runoff generally draining via overland flow and shallow concentrated flows the east side of the dairy flows north to unnamed drain and then into Dinner Creek and the west side of the dairy flow south into unnamed drain and then into Clear Creek. The elevation of the dairy property ranges from approximately 500 to 550 feet above mean sea level (AMSL). The current land use of the property is agricultural (pasture and forage crops). All waste application areas are located on the property. The site plan shows the location of the houses, dairy barn, freestalls, wells, and RCSs. The LMU map identifie*s* the waste application areas. The USGS topographic map shows the general topography of the area.

TREATMENT/DISPOSAL SYSTEM:

The treatment system consists of settling pond and four retention control structures (RCS), catches wastewater from the freestalls barns and the milking parlor. All wastewater gravity flows from the freestall barns into SP then flows to RCS#1 and RCS#4 in series. Then pumped to RCS#2 and RCS #3 through an 8-inch pipeline. SP was constructed in 1991, RCS#1 was constructed in 2004, RCS#2 was constructed in 1996, RCS#3 was constructed in 2006, RCS#4 was constructed in 2024. The RCSs will catch and contain all wastewater and manure generated from the dairy barn, freestalls The RCSs will be dewatered using a big gun sprinkler and center pivot system. Rainfall runoff will be prevented from entering the RCSs. The wastewater application areas are LMU#1, LMU#2, LMU#3, LMU#4, LMU#5, and LMU#6. LMU#7 will be used for application of manure.

GEOLOGY:

The facility is constructed on the Queen City Geologic Formation (Eqc). Formations in descending order include the Reklaw (Er), Carrizo Sand (Ec) and the Wilcox (Ewi) formations. The aquifer is Queen City Sand and the Wilcox Formation. However, all formations contain varying amounts and quality of ground water. The 12 wells on the dairy are developed at approximately 400 feet in the Wilcox Formation. These features are considered to be artificial recharge features. These features will be protected from any pollutants by:

(A.) Wells are buffered and no wastewater application is applied within 150 feet of any well.

(B.) A certified well driller following TCEQ rules and regulations drilled all the water wells on the dairy.
(C.) By using best management practices, which include limiting application rates of chemical and organic fertilizers and maintaining vegetation in the buffer zones.

The primary source of ground water in this area is infiltration of rainfall either directly into the outcrop or indirectly as seepage from stream flows. Dinner Springs is located in the northeast side of the dairy also there are several seeps on the facility.

SOILS:
The RCS are constructed in these soils:
ByC—Briley loamy fine sand, 1 to 5 percent slopes
The soil is on interfluves on coastal plains. The parent material consists of sandy marine deposits. Soils are very deep. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

DaE—Darco fine sand, 8 to 15 percent slopes
The soil is on interfluves on coastal plains. The parent material consists of sandy and loamy marine deposits. Soils are very deep. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

DuC—Duffern sand, 1 to 5 percent slopes
The soil is on interfluves on coastal plains. The parent material consists of marine deposits. Soils are very deep. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

The waste storage ponds have been tested and certified to meet the minimum criteria for hydraulic conductivity tested at optimal moisture content and thickness as described in General Permit No. TXG920000 Part III.A.6. (g)(3).

The wastewater application fields are on these soils:
DaC—Darco fine sand, 2 to 5 percent slopes
The soil is on interfluves on coastal plains. The parent material consists of marine deposits. Soils are very deep. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

ByC—Briley loamy fine sand, 1 to 5 percent slopes
The soil is on interfluves on coastal plains. The parent material consists of sandy marine deposits. Soils are very deep. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

DaE—Darco fine sand, 8 to 15 percent slopes

The soil is on interfluves on coastal plains. The parent material consists of sandy and loamy marine deposits. Soils are very deep. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

DuC—Duffern sand, 1 to 5 percent slopes
The soil is on interfluves on coastal plains. The parent material consists of marine deposits. Soils are very deep. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

Buffer zones will be maintained 100 feet from all-natural waterways and 150 feet from any wells. These buffer zones must be strictly maintained to prevent any discharge of pollutants to watercourses. Based on construction methods, pond liner certification, and adherence to best management practices listed in TXG92000, this facility should not pose a hazard to regional ground or surface water.

DEFINITION OF RECHARGE ZONE FEATURE

For the purpose of this report, the definition of "recharge feature" shall be the same as the definition presented in 30 TAC subchapter B: §§321.31-321.47. *Recharge feature is defined as those natural or artificial features either on or beneath the ground surface at the site under evaluation that provide or create significant hydrologic connections between the ground surface and the underlying groundwater within an aquifer. Significant artificial features include, but are not limited to wells and excavation or material pits. Significant natural hydrologic connection includes, but are not limited to: faults; fractures; sinkholes or other macro pores that allow direct surface infiltration; a permeable or a shallow soil material that overlies an aquifer; exposed geologic formations that are identified as an aquifer; or a water course bisecting an aquifer*

GROUND WATER

The Wilcox Group undivided is a multi-aquifer system, composed of fluvial channel sand distributed within the lower permeability interchannel sands and clays. (Kaiser, 1990). Wilcox group is considerate the primary and most productive aquifer in the area. The aquifer is tapped by most of the local moderate to large-capacity wells. Locally, this aquifer is tapped by wells between about 240 and 1,250 feet deep. The aquifer is recharged as part of the precipitation that falls on the outcrops and infiltrates the soil layers and percolates to the generally shallow water table. Water also moves between overlying alluvial and terrace aquifers according to hydraulic head differences. Recharge to the deeper sands is generally limited to areas where these sands outcrop. In other areas, movement of groundwater into the deeper portions of the Wilcox Aquifer is insignificant because of the very low vertical permeability of the interbedded clay layers found in the Wilcox Group (Hall Southwest, 1990b). Water level fluctuations are mostly seasonal.

EVALUATIONS OF LOCAL RECHARGE POTENTIAL

T&S Dairy is located on a Recharge Area. The facility is located on the Queen City Sand Formation. These are deep, moderately permeable and rapidly permeable soils. A 50-foot clay strata located approximately 36 feet below the surface will prevent deep percolation of pollutants into the aquifer. RCSs are located on the Queen City Sand Formation and are designed so that no seepage will occur. There are 12 wells located on the facility. Certified well drillers constructed the wells. They are all producing wells. Surface completion was according to Specified Steel Sleeve (Rule 338.44 (3) (A", Specified Surface Slab (Rule 287.44 (2) (A)) and the Approved Alternate Method (Rule 319.71). There are no evident surface features, such as karstified rock, continuous fractured limestone bedrock, intermittent seeps, or thick sandy surfaces, which would indicate the percolation of pollutants into the ground water. An intermittent

unnamed tributary of Clear Creek is located on the west part of the facility. A thick sandy surface is a feature that needs special attention to avoid percolation into the ground water. This concern will be corrected by the following best management practices:

(1.) Application of wastes will be done at agronomic rates of less than 1 inch or less per application.
(2.) Strict observance of buffer zones around wells and natural waterways.
(3.) Careful monitoring of wastes water levels.
(4.) Maintenance of berms and waterways.
(5.) Monitoring of nutrient level in the soils.
(6.) Maintain a vigorous vegetative cover in at application fields.

A buffer zone of 100 feet is maintained to prevent any surface contaminants from entering the drainage. The facility is on a recharge zone. There are no features that would indicate pollution of the underground water if all best management practices were strictly adhered to. The SP and RCSs were constructed in soil materials that meet the minimum requirements of the General Permit No. TXG920000 Part III.A.6. (g)(3).

Recharge from Precipitation

According to the National Weather Service (NOAA), the average annual precipitation rate in Wood County is about 38.1 inches per year. A significant quantity of water that infiltrates to the water table moves slowly down the local hydraulic gradient and discharges through evapotranispiration or via seeps and springs into the surface drainage system. This rejected recharge supplies a major fraction of the base flow for streams in the area. The balance of the water is available to move downdip into the confined portions of the Wilcox Aquifer.

Retention Control Structures

All water contaminated with animal waste from the dairy operation is directed to the RCSs. A Texas Licensed Professional Geoscientist or Engineer certified the pond liner in the RCSs. (See liner certification documents) as meeting the minimum requirements considered protective of groundwater as established by the TCEQ. The RCSs are designed to hold all runoff water from the facility, including a 25 year- 24-hour rainfall event. During the inspection no evidence was found to show any mechanical or structural damage to the liner. The RCSs are being properly maintained and there was no indication of seepage or leakage. The embankments are free of trash, brushes or trees and walls are stabilized and no erosion or deterioration has taken place. Based on these facts, there is little or no potential for hydraulic connection between the RCSs and the underlying aquifer.

Wastewater Application Area

Sustaining and maintaining the vegetative cover and applying wastewater at agronomic rates will prevent nutrient build-up in the soil profile**.** Soils are sampled annually to determine Phosphorus levels and the wastewater application rates are adjusted according to the soil test analysis.

ARTIFICIAL RECHARGE FEATURE EVALUATION

Texas Railroad Commission Records

An inventory of oil and gas wells located on the property was conducted for this report. No wells are on the facility.

Local Water District

Wood County does not have a local groundwater district. There are no public water supply wells known to exist on the subject property.

Texas Water Development Board

Texas Water Development (TWDB) Ground Water Database Report Record of Wells and Test Holes Hopkins County, June 7, 2000, and Texas Water Development Board Water Data Interactive (TWDB WDI), was reviewed for registered wells within a 1-mile radius of the faculty site. A registered public well is located north of the dairy across SH 154.

Current and Previous Landowners

Mr. DeBoer stated there are no abandoned or operating oil or gas wells are located on or near the facility. Twelve private water wells are located on the facility. A certified well driller constructed the wells. Surface completion was in accordance with a Specified Surface Slab (Rule 287.44 (2) (A). The wells are 1250 feet deep and surface casing was cemented to a depth of 60 feet below ground level. The water wells are identified on the site map. The previous owner was not available to interview

USDA Natural Resources Conservation Service (Wood County)

An inquiry was made to the USDA-NRCS office in Quitman relating to artificial or natural recharge features, which may be present on the site. They were not aware of any additional features.

On-Site Inspection

A ground reconnaissance inspection was made on the property comprising T&S Dairy. A search for signs or features that could be adversely affected due to the operation of the facility was made. Other than the areas identified within the attached maps, no other suspect areas were observed.

METHODS USED

Natural and artificial recharge features were identified by the following techniques: on-site inspection of the dairy site, interviews with the landowner, review of Texas Railroad Commission records, review of published maps and reports (refer to bibliography), review of Soil Survey of Wood County, Texas, NRCS information, review of Texas Water Development Board Water Data Interactive (TWDB WDI), well driller's logs, the Geologic Atlas of Texas Texarkana and personal knowledge of the area. The previous owner was interviewed regarding recharge features**.**

CONCLUSIONS

1) The Wilcox Aquifer is the major water-bearing unit beneath the area. Deep Wilcox sand aquifers (greater than 100 feet deep) provide an important source groundwater to the area. It is highly unlikely the operations at the dairy will affect these deeper aquifers because of file presence of frequent low permeability clay beds in the Wilcox Group

2) The shallow fine-grained sand units present at the site do not represent a classic recharge feature for the regional aquifer system. A significant pathway between ground surface and the regional aquifers does not appear to exist at the site; however, a percentage of the annual precipitation will infiltrate through the unsaturated zone to the shallow aquifers underlying the site. Therefore, protective measures as Best Management Practices (BMPs) should be carried out to prevent any potential negative impacts to the underlying aquifer.

3) There are 12 producing private water wells located on the facility. A search of records and on-site inspection were made and no other wells were found. Other water wells not identified during this investigation could be near the site.

4) The existing RCSs were constructed prior to this application and meets 30 TAC subchapter B: §§321.31-321.47 requirements for in-situ soil material with a lack of hydrologic connection. The SP and RCSs are designed to hold all runoff water from the facility, including a 25 Year - 24-

hour rainfall event.

RECOMMENDATIONS

Since a percentage of the annual precipitation will infiltrate through the unsaturated zone to the shallow, local aquifers underlying the site, the facility will employ BMPs, which are protective of the local aquifer underlying the site. These protective measures will be taken to prevent the possible migration of contaminants from, the RCSs and the wastewater application areas to the underlying groundwater. As a minimum, these protective measures will include the following BMPs:

- Operations in and around the RCSs will take care not to damage the in-situ soil material. If the ponds are cleaned by a dragline, front-end loader or the waste storage pond liner disturbed, the dairy operator will request the pond liner be inspected and certified by a Texas Licensed Professional Engineer or Texas Licensed Professional Geoscientists
- Vegetative barriers will be utilized following the guidelines of NRCS codes 393 and 601.
- The operator will prohibit livestock entry into the RCSs.
- Pond marker will be used to monitored determine water level and avoid a discharge.
- Annual soil sampling to monitor nutrient levels in the soil
- Land application of wastewater will be applied on designated application areas and at agronomic rates as an organic fertilizer. Wastewater application rates will not exceed the infiltration rates of the soil.
- Over watering of wastewater will be avoided to prevent leaching of nutrients below the crop root zone.
- Wastewater will not be applied when the ground is frozen or saturated or during rainfall events.
- Irrigation practices will be managed to minimize ponding and puddling of wastewater
- Wastewater and manure will be applied at agronomic rates and not allowed to runoff. Diversions or terraces will be constructed if necessary, to prevent wastewater from leaving the application areas.
- Vegetative cover should be maintained on application fields**.**
- Wastewater will not be applied closer than 150 feet from any active water well. Wastewater will not be applied closer than 100 feet to waters of Texas. In addition, a vegetative buffer strip will be maintained between all waste application areas and waters of Texas.
- Dead animals will be properly buried in the designated burial area as identified on LMU Map according to 30 TAC subchapter B: §§321.31-321.47 requirements.
- Pesticides and other chemicals will not be stored near the water wells or disposed of in the waste storage pond.
-
- Soils in the waste application areas will be sampled annually in accordance with 30 TAC subchapter B: §§321.31-321.47.
- Thorough inspections of the RCSs, transport, treatment and disposal system will take place on regular intervals. If problems are encountered during these inspections, corrective action plans will be developed to address the specific problems encountered
- Strict observance of buffer zones around the wells, drainage ways and fresh water ponds should be maintained
- The existing water wells will receive regular inspections to protect the wells from contamination if required by this document. If deterioration of the wells is detected, prompt corrective action is required.
- Any abandoned wells encountered will be reported, inspected and properly sealed to prevent possible point source contamination to the underlying aquifer. A 150-foot buffer zone will be maintained between any future water supply wells drilled and the waste storage facilities and other potential pollutants. The water wells will be properly cemented, cased and protected

from inundation.

- If public water well is drilled on the dairy site, a 500 feet buffer will be maintained around the well and waste application areas.
- DOPA training provided by AgriLife Extension Service will be attended.

CERTIFICATION

The undersigned hereby certifies that natural recharge features and one potential artificial recharge feature exists as defined in 30 TAC subchapter B: §§321.31-321.47 Part I on tracts operated or controlled by T&S Dairy and utilized under this application. See Aquifer Protection Plan for the natural and artificial recharge features impact on the Aquifer.

_____ _____

Jim C. Wyrick Date
Professional Geoscientist, License Number 770

AQUIFER PROTECTION PLAN

The artificial recharge features are 12 private water wells. The wells are used exclusively for private water supply. The well locations are shown on the Site Map. A licensed well driller drilled the wells. A buffer of at least 150 feet will be maintained between the wells and retention control structures, holding pens, and land management units.

The natural recharge features include surface water bodies, creeks, and tributaries. Structural and non-structural controls that will be used to protect the natural recharge features are as follows:

- Vegetative filter strips of Bermuda grass will filter, contain, and prevent the lateral movement of wastewater irrigation and manure.
- A water wellhead backflow prevention device has been added to the wells.
- Waste will be applied only where the LMU cover vegetation is growing and has crop demand for nutrients.
- Waste will be applied at the nutrient requirements of the vegetative cover at an agronomic application rate.
- Wastewater will be applied at a rate less than the permeability of the soil to prevent ponding and runoff.
- Wastewater application will be at rate that ensures that wastewater will be used by the vegetative cover.
- Vegetative buffers of 150 feet for will be maintained around any newly drilled private water wells.
- 100 feet of vegetative cover buffer between waste and wastewater application areas and surface water and watercourses will be maintained.
- Dead animals will not be buried near the wells
- The following potential pollutants will not be stored or applied with 150 feet of the wells: Manure, sludge, wastewater, dust, fuel storage tanks, pesticide and lubricants storage shed.

These controls will provide adequate protective measures for the natural recharge features.

Based on construction methods, in-situ soil material certification, and adherence to best management practices, this facility should not pose a hazard to ground water aquifer

_____ _____

Jim C. Wyrick Date
Professional Geoscientist, License Number 770

REFERENCES

Ashworth J. B., and J. Hopkins, 1995. *Aquifers of Texas*. Texas Water Development Board, Report 345.

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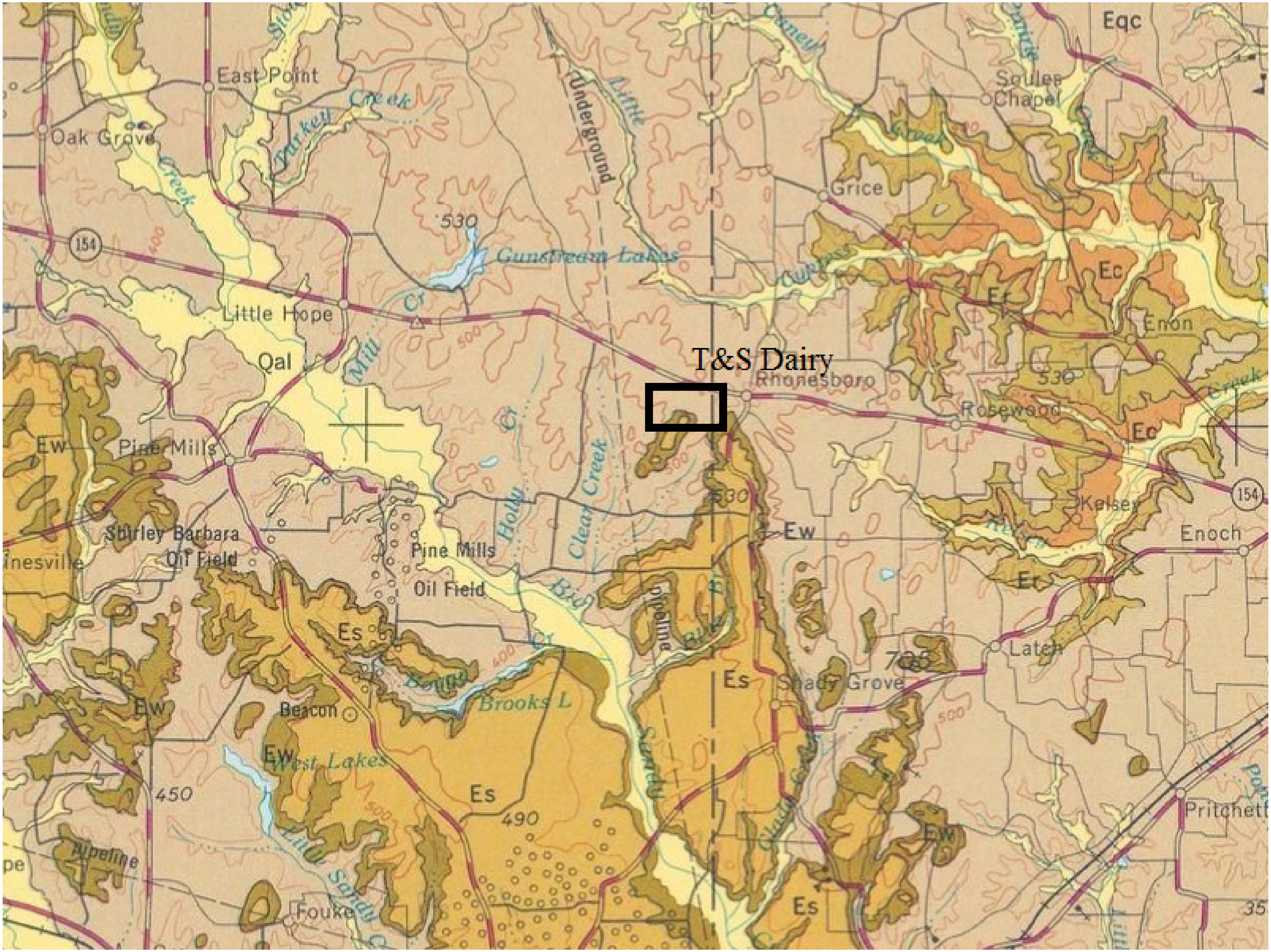
Geology of Northeast Texas, C. Miller Drilling Co.

Water Well Drilling logs

On-Site Inspection

Local Information

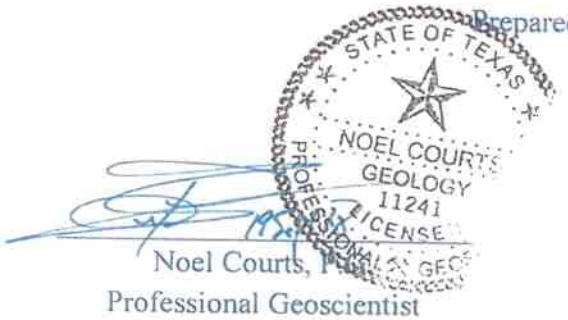

T&S Dairy
Rhonesboro
East Point
Oak Grove
Little Hope
Qal
Pine Mills
Shirley Barbara
Oil Field
Pine Mills
Oil Field
Gunstream Lakes
Grice
Soules
Chapel
Enon
Rosewood
Kelsey
Enoch
Latch
Shady Grove
Beacon
Brooks L
West Lakes
Fouke
Pritchett
Eqc
Ec
Ew
Es
Underground
154
530
490
450

T&S DAIRY - (Total - Milk Cows)

AGRICULTURAL WASTE MANAGEMENT PLAN

WOOD COUNTY

Prepared by:



Noel Courts, P
Professional Geoscientist
M.E Lowther Consulting, LLC

Gerry Kendall, P.E.
Professional Engineer
Kendall Cross Timbers Consulting - F-18041

IN COOPERATION WITH:

NATURAL RESOURCES CONSERVATION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

MANURE PRODUCTION DATA FOR CONFINED ANIMAL FEEDING OPERATIONS

TYPE OF ANIMAL (Dairy=0, Swine=1, Laying Hens=2, Beef Feedlot=3, Sheep Feedlot=4, Horses=5, Turkeys=6, Broilers=7) => 0

Feeding Facilities For: Dairy

	Buildings, Concrete Pens & Alleys	Open Lots	Total
Number of Animals	2,621	0	
Average Liveweight per Head, lbs/hd	975	0	
Total Liveweight,lbs	2,555,475	0	
Confinement Period, hours/hd/day	24.0	0.0	24.0
Adjusted Total Liveweight, lbs	2,555,475	0	2,555,475
Wet Manure Production, lbs/day	260,658	0	260,658
Dry Manure Production, lbs/day	37,565	0	37,565
Dry Manure Production, tons/year	6,856	0	6,856
Volatile Solids (VS) Production, lbs/day	27,574	0	27,574
Total Nitrogen Production, lbs/day	1,398	0	1,398
Total Phosphorus (P2O5), lbs/day	690	0	690
Total Potassium (K2O), lbs/day	1,183	0	1,183
Sodium Production, lbs/day	199	0	199
COD Production, lbs/day	34,243	0	34,243
BOD5 Production, lbs/day	5,315	0	5,315

Engineering Job Approval Authority Job Class for Ag. Waste Management System: _____
This practice, Ag. Waste Management System, meets specifications, signed by:

_____ Date: _____
Remarks

Gerry Kendall
9/25/18
F-12074

VOLUME OF MANURE & WASTEWATER FROM CONFINEMENT BUILDINGS

Wet Manure Production	=	31254	gal/day
Water Used for Manure Removal			
a. Dry Manure Production	=	37565	lbs/day
b. Water Volume Required for Manure Removal			
1. Flush Systems:			
(Enter gallons water per pound of dry manure production, range 8-12 gal/lb)	=>	0	
Total flush water	=	0	gal/day
2. Manual Scrape/Wash System (Enter gallons of water per pound of dry manure production, Range: 3 - 6 gal/lb)	=>	3	
Total manual wash water	=	112696	gal/day
Cleanup and Washwater (Default=10 gal/hd/day)	=>	8	gal/hd/day
	=	20968	gal/day
Other Water That Enters Wastewater System	=>	5	gal/hd/day
[e.g. drinking water, etc.(12 gal/hd/day)]	=	13105	gal/day
Total Process Generated Wastewater Volume			
Daily Volume	=	178023	gal/day
Less Volume of Recycled Wastewater Used for Manure Removal	=>	0	gal/day
Design Wastewater Storage Volume, Minimum Allowable			
Minimum Storage Days (Use Exhibit 2)*	=>	25	days
Minimum Design Storage Volume	=	13.66	ac-ft
Net Manure and Wastewater Volume for Land Application			
Monthly Volume	=	16.62	ac-ft/month
Annual Sludge Accumulation Rate, ac-ft	=	1.37	
Desired Sludge Storage Volume in Pond	=>	1.37	ac-ft
Sludge Cleanout Interval	=	1.0	years
Design Sludge Accumulation Storage Volume (Not to be less than 1 Year accumulation)	=	1.37	ac-ft

* Use Exhibit 2 of Texas Water Commission regulations for your particular location.

Gerry Kendall
9/20/18
F-19041

ESTIMATED VOLUME OF RUNOFF FROM OPEN LOTS

Total area draining into Runoff Control Structure (RCS)				
a. Area of open lot surface		=>	0.00	acres
b. Area between open lot surface and RCS		=>	0.66	acres
c. Surface area of RCS		=>	3.59	acres
d. Total area (#1.a + #1.b + #1.c)		=	4.25	acres
Design rainfall (25-year frequency, 24-hour duration storm), inches (Use Exhibit 1)	1)	=>	8.00	inches
Design runoff depth, inches (Use exhibit 3)				
a. For Open Lot Surface * CN		=>	0	
			0.00	inches
b. For Area Between Lots and RCS ** CN		=>	85	
			6.21	inches
c. For Surface Area of RCS		=	8.00	inches
Design runoff volume from 25-year, 24-Hour storm				
a. For Open Lot Surface		=	0.0	ac-ft
b. For Area Between Lots and RCS		=	0.3	ac-ft
c. For Surface Area of RCS		=	2.4	ac-ft
d. Total Design Runoff Volume		=	2.7	ac-ft

NOTE: Runoff Control Structures must be capable of storing Design Runoff Volume plus Design Storage Volume, if runoff and process generated wastewater streams are combined.

* Use NRCS soil cover complex curve No. 90 for unpaved (soil) lots and curve No. 95 for concrete surfaces.

** Use appropriate NRCS soil cover complex curve number for particular type of cover. Contact local Natural Resources Conservation Service field office for assistance.

SUMMARY OF REQUIRED AND DESIGNED STORAGE PONDS

Minimum Design Wastewater Storage Volume	13.66	ac-ft
Minimum Design Runoff Storage Volume	2.74	ac-ft
MTV & Sludge Accumulation Storage Volume	14.89	ac-ft
Additional Capacity Allowance	4.08	ac-ft
Total Capacity Designed	35.37	ac-ft

Primary Anaerobic Manure Treatment Lagoons, Sheet 5 of 10., Use Where Applicable.

Gerry Kendall
9/25/18
F-14041

DESIGN BASIS FOR PRIMARY ANAEROBIC MANURE TREATMENT LAGOONS

(WHERE APPLICABLE)

Design Factor		Dairy	
Adjusted Total Liveweight Contributing Manure to Lagoon	=	238937	lbs
Recommended Unit Treatment Volume (see footnote)	=>	0.00	
(RUTV), cubic feet/pound liveweight	=	3.00	
Total Treatment Volume	=	16.5	
Design checks (see footnotes):			
a. Volatile Solids (VS) Loading Rate, lbs/1000 cu ft	=	0.0385	
b. Hydraulic Retention Time (HRT),	=	30	days
c. Estimated Sludge Cleanout Interval,			
1. Sludge Accumulation Rate, cu ft/year/lb liveweight	=	0.250	
2. Sludge Cleanout Interval	=	6.0	years
Additional Capacity Allowance for:			
a. Design Runoff Volume, (one stage logoons o	=>	0.0	ac-ft
b. Sludge storage	=>	0.0	ac-ft
c. Additional Storage	=>	0.0	ac-ft
Total Primary Lagoon Capacity	=	16.5	ac-ft

THIS PAGE IS NOT APPLICABLE TO THIS PLAN

Notes: 2. If user entry area equals 0, then default values are used (dairy=3, swine=1.75, poultry,laying hens=2.5, beef=2, sheep=2, horses=2). User may specify alternate value which will override template default.

4.a. VS Loading Rate--Volatile Solids Production (Worksheet I, #10) / Total Treatment Volume. Desired range is 0.0025-0.0040 lbs VS/day/cu ft for odor control.

4.b. Hydraulic Retention Time--Total Treatment Volume / Total Manure and Wastewater Volume. Desired range is 160-400 days for good treatment.

4.c. Sludge Cleanout Interval (when half full)

$$\text{Interval} = \frac{\text{Total Treatment Volume (cuft)} \times 0.5}{\text{Adj. Total Live Wt.} \times \text{Sludge Accum. Rate}}$$

LAND AREA FOR DISPOSAL OF MANURE OR EFFLUENT FROM TREATMENT LAGOONS,

BASED ON PLANT-AVAILABLE NITROGEN (PAN)

			Buildings		Open Lots	
Total Daily Nitrogen Production		=	1398	more->	0	lbs/day
Total Annual Nitrogen Production		=	510213	more->	0	lbs/yr
Percent Nitrogen Loss from manure storage or treatment system*		=>	20	more->	50	percent
Annual Nitrogen Loss from manure storage or treatment system		=	102043	more->	0	lbs/yr
Total Annual Nitrogen Remaining		=	408171	more->	0	lbs/yr
Availability of Nitrogen in Manure or Effluent,% (Normal range is 80-95% in lagoon effluent; 50-80% in fresh or pit-stored manure; or 40-50% in feed lot manure)		=>	80	more->	50	percent
Annual Plant-Available Nitrogen (PAN) Applied to Soil			326537	more->	0	lbs/yr
PAN Losses from Soil Surface Application**	**	=>	20	more->	20	percent
PAN Losses from Soil Surface Application		=	65307	more->	0	lbs/yr
PAN Entering Soil		=	261229	more->	0	lbs N/yr

Land Required for Various PAN Application Rates:

Assumed PAN Application Rate, lbs/ac/yr	Buildings Acres		Open Lots Acres		Total Acres
100	2612	+	0	=	2612
150	1742	+	0	=	1742
200	1306	+	0	=	1306
300	871	+	0	=	871
400	653	+	0	=	653

* Nitrogen Loss from Lagoon Surface--Normal loss is 40-65% for primary treatment lagoons with 200 days or more storage; 10-20% from liquid manure settling basins or storage pits, and 40-50% from open feedlot surface.

** Normal range of nitrogen loss from soil surface is 15-35% for surface application or 5% for soil injection. Losses are highest in warm weather and on high pH soils.

STATE OF TEXAS
GERRY KENDALL
123674
LICENSED
PROFESSIONAL ENGINEER

Gerry Kendall
9/25/18
F-13041

WATER BUDGET ANALYSIS

DRAINAGE AREA	4.25	ACRES
MANURE PROD. RCS AREA	3.59	ACRES
SLUDGE ACCUMULATION	14.89	AC-FT
MIN. WASTEWATER STORE	13.66	AC-FT
ADDITIONAL STORAGE	4.08	AC-FT
SUBTOTAL	32.63	AC-FT
25YR-24HR RUNOFF	2.74	AC-FT
TOTAL POND CAPACITY	35.37	AC-FT

RUNOFF CONTROL STRUCTURE DATA

LOCATION NO. 29

FIELD OFFICE QUITMAN

COUNTY WOOD

30-DAY CURVE NUMBERS

POND	79.0
FIELD	49.0
IRRIG. EFFICIENCY, %	75.00
IRRIGATION DEPTH, IN/YR	9.73
EVAPORATION. COEFF.	71.75

CROPS FOR WATER DEMAND

Bermudagrass	0.00	AC
Bermuda/SmGr	185.00	AC
Sorghum/SmGr	0.00	AC
Small Grain	0.00	AC
Assumed Seepage	0.0	ACFT

MONTH	RAINFALL (1) IN	RUNOFF (2) IN	INFLOW TO POND (3) AC-FT	OTHER INFLOW (3a) AC-FT	EFFECTIVE RAINFALL (4) IN	GROSS EVAP (5) IN	NET POND EVAP (8) AC-FT	CROP DEMAND (10) AC-FT	ACTUAL WITHDRAWL (10b) AC-FT	STORAGE at E.O.M. (11) AC-FT	SURF AREA at E.O.M. (12) AC	SPILL (13) AC-FT
										32.61	3.50	0.00
JAN	3.12	0.09	0.45	16.62	3.03	2.05	0.01	20.57	20.57	29.09	3.39	0.00
FEB	3.44	0.16	0.54	16.62	3.28	2.52	0.11	29.24	29.24	16.89	3.00	0.00
MAR	3.83	0.25	0.65	16.62	3.58	3.94	0.41	71.86	18.86	14.89	2.93	0.00
APR	4.29	0.39	0.78	16.62	3.90	4.61	0.53	97.53	16.87	14.89	2.93	0.00
MAY	4.98	0.63	0.99	16.62	4.35	4.94	0.57	95.60	17.03	14.89	2.93	0.00
JUN	3.88	0.26	0.66	16.62	3.62	6.33	0.93	75.77	16.35	14.89	2.93	0.00
JUL	2.48	0.01	0.29	16.62	2.47	7.37	1.25	72.38	15.66	14.89	2.93	0.00
AUG	2.42	0.01	0.28	16.62	2.41	7.25	1.23	67.69	15.66	14.89	2.93	0.00
SEP	3.26	0.12	0.49	16.62	3.14	5.72	0.83	32.53	16.28	14.89	2.93	0.00
OCT	4.10	0.33	0.72	16.62	3.77	4.65	0.54	28.64	16.80	14.89	2.93	0.00
NOV	3.85	0.26	0.65	16.62	3.59	3.11	0.21	11.82	11.82	20.13	3.11	0.00
DEC	3.86	0.26	0.66	16.62	3.60	2.30	0.03	4.77	4.77	32.61	3.50	0.00
TOTALS	43.51	2.77	7.16	199.41	40.74	54.79	6.65	608.41	199.92		Reset:	0
	43.51					54.79			199.92	Checks		

STORAGE-AREA TABLE FOR RUNOFF CONTROL STRUCTURE

STORAGE DATA TYPE R (C - CIRCULAR, R - RECTANGULAR, or S - STAGE DATA)

CIRCULAR

DEPTH, FT	0.0
SIDE SLOPE, RATIO	0.00
TOP DIAMETER, FT	0.00
FREE BOARD, FT	0.00
BOTTOM DIAMETER, FT	0.00
SURFACE AREA, AC	0.00
VOLUME, ACFT	0.00

RECTANGULAR

DEPTH, FT	11.9
SIDE SLOPE, RATIO	3.00
END SLOPE, RATIO	3.00
TOP WIDTH, FT	376.00
TOP LENGTH, FT	416.00
FREE BOARD, FT	2.00
BOTTOM WIDTH, FT	304.60
BOTTOM LENGTH, FT	344.60
SURFACE AREA, AC	3.59
VOLUME, ACFT	35.47

THIS WATER BUDGET VERIFIES THAT 25YR - 24HR STORM RUNOFF STORAGE ALLOCATION IS MAINTAINED THROUGHOUT THIS CLIMATIC CYCLE.

NOTE: USER INPUT VALUES FOR NUTRIENTS USED IN NUTRIENT BALANCE WORKSHEET!

DEPTH, FT 0.0 **STAGE**

FREE BOARD, FT 0.00

Leave Extra Rows at Bottom with Blanks or Zeros.

ROW #	DEPTH FT	AREA AC
BOTTOM	0.00	0.00
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

STAGE STORAGE DATA SUMMARY

METHOD: RECTANGULAR

ROW #	DEPTH FT	AREA AC	STORE ACFT	WIDTH FT	LENGTH FT
0	0.00	2.41	0.00	304.60	344.60
1	1.19	2.52	2.93	311.74	351.74
2	2.38	2.63	5.98	318.88	358.88
3	3.57	2.74	9.18	326.02	366.02
4	4.76	2.85	12.54	333.16	373.16
5	5.95	2.97	16.08	340.30	380.30
6	7.14	3.09	19.80	347.44	387.44
7	8.33	3.21	23.73	354.58	394.58
8	9.52	3.34	27.23	361.72	401.72
9	10.71	3.46	31.29	368.86	408.86
10	11.90	3.59	35.47	376.00	416.00
11	12.90	3.70	39.12	382.00	422.00
12	13.90	3.81	42.87	388.00	428.00
BOT. 25YR-10DAY	11.09	3.50	32.63	368.86	408.86
SPILLWAY	11.90	3.59	35.47	376.00	416.00
FREE BOARD	13.90	3.81	42.87	388.00	428.00

STATE OF TEXAS
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PROFESSIONAL ENGINEER

Gerry Kendall
9/28/18
F-10041

WATER BUDGET ANALYSIS

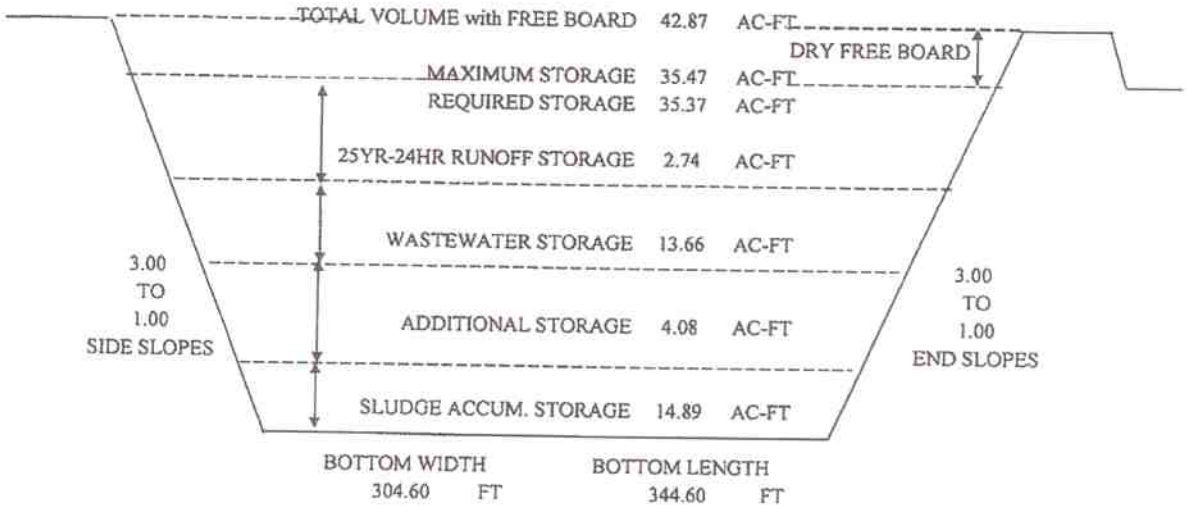

DIAGRAM OF RUNOFF CONTROL STRUCTURE

CONSUMPTIVE USE FOR SPECIFIC CROP AREAS (IN/MONTH)

FIELD	0	1,2,3	3	0	0	0
VEGETATION	Bermudagrass Pastureland	Bermuda/SmGr Pastureland	Sorghum/SmGr Cropland	Small Grain Cropland	Grain Sorghum Cropland	Alfalfa Pastureland
JAN	1.92	4.36	2.44	2.44	0.00	0.90
FEB	2.31	5.18	2.87	2.87	0.00	1.20
MAR	3.76	8.24	4.48	4.48	0.00	3.00
APR	4.81	10.23	8.74	5.42	3.32	3.70
MAY	5.50	10.55	10.49	5.05	5.44	6.60
JUN	6.27	8.53	9.40	2.26	7.14	6.90
JUL	7.16	7.16	7.82	0.00	7.82	7.60
AUG	6.80	6.80	1.75	0.00	1.75	5.30
SEP	5.25	5.25	0.00	0.00	0.00	5.50
OCT	4.47	5.63	1.16	1.16	0.00	3.80
NOV	2.54	4.36	1.82	1.82	0.00	1.70
DEC	1.98	3.91	1.93	1.93	0.00	1.00

NET CROP DEMAND (C.U.-EFF.RAINFALL) (IN/MONTH)

FIELD	0	1,2,3	3	0	0	0
VEGETATION	Bermudagrass Pastureland	Bermuda/SmGr Pastureland	Sorghum/SmGr Cropland	Small Grain Cropland	Grain Sorghum Cropland	Alfalfa Pastureland
JAN	0.00	1.33	0.00	0.00	0.00	0.00
FEB	0.00	1.90	0.00	0.00	0.00	0.00
MAR	0.18	4.66	0.90	0.90	0.00	0.00
APR	0.91	6.33	4.84	1.52	0.00	0.00
MAY	1.15	6.20	6.14	0.70	1.09	2.25
JUN	2.65	4.91	5.78	0.00	3.52	3.28
JUL	4.69	4.69	5.35	0.00	5.35	5.13
AUG	4.39	4.39	0.00	0.00	0.00	2.89
SEP	2.11	2.11	0.00	0.00	0.00	2.36
OCT	0.70	1.86	0.00	0.00	0.00	0.03
NOV	0.00	0.77	0.00	0.00	0.00	0.00
DEC	0.00	0.31	0.00	0.00	0.00	0.00

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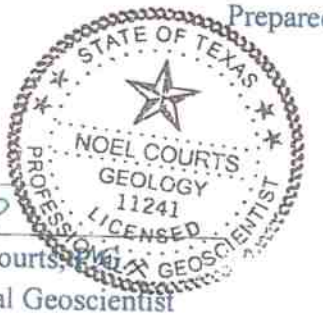
T&S DAIRY - (Covered Feedlane - Replacement Heifers / Dry Cows)

AGRICULTURAL WASTE MANAGEMENT PLAN

WOOD COUNTY

Prepared by:



Noel Courts, P.G.
Professional Geoscientist
M.E Lowther Consulting, LLC

Gerry Kendall, P.E.
Professional Engineer
Kendall Cross Timbers Consulting - F-18041

IN COOPERATION WITH:

NATURAL RESOURCES CONSERVATION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

MANURE PRODUCTION DATA
FOR CONFINED ANIMAL FEEDING OPERATIONS

TYPE OF ANIMAL (Dairy=0, Swine=1, Laying Hens=2, Beef Feedlot=3, Sheep Feedlot=4, Horses=5, Turkeys=6, Broilers=7) => 0

Feeding Facilities For: Dairy

	Buildings, Concrete Pens & Alleys	Open Lots	Total
Number of Animals	400	0	
Average Liveweight per Head, lbs/hd	975	0	
Total Liveweight,lbs	390,000	0	
Confinement Period, hours/hd/day	4.2	0.0	4.2
Adjusted Total Liveweight, lbs	68,250	0	68,250
Wet Manure Production, lbs/day	6,962	0	6,962
Dry Manure Production, lbs/day	1,003	0	1,003
Dry Manure Production, tons/year	183	0	183
Volatile Solids (VS) Production, lbs/day	736	0	736
Total Nitrogen Production, lbs/day	37	0	37
Total Phosphorus (P2O5), lbs/day	18	0	18
Total Potassium (K2O), lbs/day	32	0	32
Sodium Production, lbs/day	5	0	5
COD Production, lbs/day	915	0	915
BOD5 Production, lbs/day	142	0	142

Engineering Job Approval Authority Job Class for Ag. Waste Management System: _____
This practice, Ag. Waste Management System, meets specifications, signed by:

_____ Date: _____
Remarks

Gerry Kendall
9/25/18
F-18041

VOLUME OF MANURE & WASTEWATER FROM CONFINEMENT BUILDINGS

Wet Manure Production	=	835	gal/day
Water Used for Manure Removal			
a. Dry Manure Production	=	1003	lbs/day
b. Water Volume Required for Manure Removal			
1. Flush Systems:			
(Enter gallons water per pound of dry manure production, range 8-12 gal/lb)	=>	0	
Total flush water	=	0	gal/day
2. Manual Scrape/Wash System (Enter gallons of water per pound of dry manure production, Range: 3 - 6 gal/lb)	=>	3	
Total manual wash water	=	3010	gal/day
Cleanup and Washwater (Default=10 gal/hd/day)	=>	0	gal/hd/day
	=	0	gal/day
Other Water That Enters Wastewater System	=>	5	gal/hd/day
[e.g. drinking water, etc.(12 gal/hd/day)]	=	2000	gal/day
Total Process Generated Wastewater Volume Daily Volume	=	5845	gal/day
Less Volume of Recycled Wastewater Used for Manure Removal	=>	0	gal/day
Design Wastewater Storage Volume, Minimum Allowable			
Minimum Storage Days (Use Exhibit 2)*	=>	25	days
Minimum Design Storage Volume	=	0.45	ac-ft
Net Manure and Wastewater Volume for Land Application			
Monthly Volume	=	0.55	ac-ft/month
Annual Sludge Accumulation Rate, ac-ft	=	0.08	
Desired Sludge Storage Volume in Pond	=>	0.08	ac-ft
Sludge Cleanout Interval	=	1.0	years
Design Sludge Accumulation Storage Volume (Not to be less than 1 Year accumulation)	=	0.08	ac-ft

* Use Exhibit 2 of Texas Water Commission regulations for your particular location.

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ESTIMATED VOLUME OF RUNOFF FROM OPEN LOTS

Total area draining into Runoff Control Structure (RCS)				
a. Area of open lot surface		=>	0.00	acres
b. Area between open lot surface and RCS		=>	0.55	acres
c. Surface area of RCS		=>	3.67	acres
d. Total area (#1.a + #1.b + #1.c)		=	4.22	acres
Design rainfall (25-year frequency, 24-hour duration storm), inches (Use Exhibit 1)	1)	=>	8.00	inches
Design runoff depth, inches (Use exhibit 3)				
a. For Open Lot Surface * CN		=>	0	
			0.00	inches
b. For Area Between Lots and RCS ** CN		=>	85	
			6.21	inches
c. For Surface Area of RCS		=	8.00	inches
Design runoff volume from 25-year, 24-Hour storm				
a. For Open Lot Surface		=	0.0	ac-ft
b. For Area Between Lots and RCS		=	0.3	ac-ft
c. For Surface Area of RCS		=	2.4	ac-ft
d. Total Design Runoff Volume		=	2.7	ac-ft

NOTE: Runoff Control Structures must be capable of storing Design Runoff Volume plus Design Storage Volume, if runoff and process generated wastewater streams are combined.

* Use NRCS soil cover complex curve No. 90 for unpaved (soil) lots and curve No. 95 for concrete surfaces.

** Use appropriate NRCS soil cover complex curve number for particular type of cover. Contact local Natural Resources Conservation Service field office for assistance.

SUMMARY OF REQUIRED AND DESIGNED STORAGE PONDS

Minimum Design Wastewater Storage Volume	0.45	ac-ft
Minimum Design Runoff Storage Volume	2.73	ac-ft
MTV & Sludge Accumulation Storage Volume	0.85	ac-ft
Additional Capacity Allowance	13.61	ac-ft
Total Capacity Designed	17.64	ac-ft

Primary Anaerobic Manure Treatment Lagoons, Sheet 5 of 10., Use Where Applicable.

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DESIGN BASIS FOR PRIMARY ANAEROBIC MANURE TREATMENT LAGOONS

(WHERE APPLICABLE)

Design Factor		Dairy	
Adjusted Total Liveweight Contributing Manure to Lagoon	=	13650	lbs
Recommended Unit Treatment Volume (see footnote) =>		0.00	
(RUTV), cubic feet/pound liveweight	=	3.00	
Total Treatment Volume	=	0.9	
Design checks (see footnotes):			
a. Volatile Solids (VS) Loading Rate, lbs VS/day/1000 cu ft	=	0.0180	
b. Hydraulic Retention Time (HRT),	=	52	days
c. Estimated Sludge Cleanout Interval,			
1. Sludge Accumulation Rate, cu ft/year/lb liveweight	=	0.250	
2. Sludge Cleanout Interval	=	6.0	years
Additional Capacity Allowance for:			
a. Design Runoff Volume, (one stage logoons o	=>	0.0	ac-ft
b. Sludge storage	=>	0.0	ac-ft
c. Additional Storage	=>	0.0	ac-ft
Total Primary Lagoon Capacity	=	0.9	ac-ft

THIS PAGE IS NOT APPLICABLE TO THIS PLAN

Notes: 2. If user entry area equals 0, then default values are used (dairy=3, swine=1.75, poultry,laying hens=2.5, beef=2, sheep=2, horses=2). User may specify alternate value which will override template default.

4.a. VS Loading Rate--Volatile Solids Production (Worksheet I, #10) / Total Treatment Volume. Desired range is 0.0025-0.0040 lbs VS/day/cu ft for odor control.

4.b. Hydraulic Retention Time--Total Treatment Volume / Total Manure and Wastewater Volume. Desired range is 160-400 days for good treatment.

4.c. Sludge Cleanout Interval (when half full)

$$\text{Interval} = \frac{\text{Total Treatment Volume (cuft)} \times 0.5}{\text{Adj. Total Live Wt.} \times \text{Sludge Accum. Rate}}$$

LAND AREA FOR DISPOSAL OF MANURE OR EFFLUENT FROM TREATMENT LAGOONS,

BASED ON PLANT-AVAILABLE NITROGEN (PAN)

		Buildings		Open Lots	
Total Daily Nitrogen Production	=	37	more->	0	lbs/day
Total Annual Nitrogen Production	=	13626	more->	0	lbs/yr
Percent Nitrogen Loss from manure storage or treatment system*	=>	20	more->	50	percent
Annual Nitrogen Loss from manure storage or treatment system	=	2725	more->	0	lbs/yr
Total Annual Nitrogen Remaining	=	10901	more->	0	lbs/yr
Availability of Nitrogen in Manure or Effluent,% (Normal range is 80-95% in lagoon effluent; 50-80% in fresh or pit-stored manure; or 40-50% in feed lot manure)	=>	80	more->	50	percent
Annual Plant-Available Nitrogen (PAN) Applied to Soil		8721	more->	0	lbs/yr
PAN Losses from Soil Surface Application**	** =>	20	more->	20	percent
PAN Losses from Soil Surface Application	=	1744	more->	0	lbs/yr
PAN Entering Soil	=	6977	more->	0	lbs N/yr

Land Required for Various PAN Application Rates:

Assumed PAN Application Rate, lbs/ac/yr	Buildings Acres		Open Lots Acres		Total Acres
100	70	+	0	=	70
150	47	+	0	=	47
200	35	+	0	=	35
300	23	+	0	=	23
400	17	+	0	=	17

* Nitrogen Loss from Lagoon Surface--Normal loss is 40-65% for primary treatment lagoons with 200 days or more storage; 10-20% from liquid manure settling basins or storage pits; and 40-50% from open feedlot surface.

** Normal range of nitrogen loss from soil surface is 15-35% for surface application or 2% for soil injection. Losses are highest in warm weather and on high pH soils.

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WATER BUDGET ANALYSIS

DRAINAGE AREA	4.22	ACRES
MANURE PROD. RCS AREA	3.67	ACRES
SLUDGE ACCUMULATION	0.85	AC-FT
MIN. WASTEWATER STORE	0.45	AC-FT
ADDITIONAL STORAGE	13.61	AC-FT
SUBTOTAL	14.91	AC-FT
25YR-24HR RUNOFF	2.73	AC-FT
TOTAL POND CAPACITY	17.64	AC-FT

RUNOFF CONTROL STRUCTURE DATA

LOCATION NO.	29
30-DAY CURVE NUMBERS	
POND	79.0
FIELD	49.0
IRRIG. EFFICIENCY, %	75.00
IRRIGATION DEPTH, IN/YR	0.38
EVAPORATION. COEFF.	71.75

FIELD OFFICE QUITMAN
COUNTY WOOD
CROPS FOR WATER DEMAND

Bermudagrass	0.00	AC
Bermuda/SmGr	185.00	AC
Sorghum/SmGr	0.00	AC
Small Grain	0.00	AC
Assumed Seepage	0.0	ACFT

MONTH	RAINFALL (1) IN.	RUNOFF (2) IN.	INFLOW TO POND (3) AC-FT	OTHER INFLOW (3a) AC-FT	EFFECTIVE RAINFALL (4) IN.	GROSS EVAP (5) IN.	NET POND EVAP (8) AC-FT	CROP DEMAND (10) AC-FT	ACTUAL WITHDRAWL (10b) AC-FT	STORAGE at E.O.M. (11) AC-FT	SURF AREA at E.O.M. (12) AC	SPILL (13) AC-FT
										0.85	2.95	0.00
JAN	3.12	0.09	0.45	0.55	3.03	2.05	0.01	20.57	0.98	0.85	2.95	0.00
FEB	3.44	0.16	0.53	0.55	3.28	2.52	0.10	29.24	0.98	0.85	2.95	0.00
MAR	3.83	0.25	0.64	0.55	3.58	3.94	0.40	71.86	0.79	0.85	2.95	0.00
APR	4.29	0.39	0.77	0.55	3.90	4.61	0.53	97.53	0.79	0.85	2.95	0.00
MAY	4.98	0.63	0.98	0.55	4.35	4.94	0.58	95.60	0.95	0.85	2.95	0.00
JUN	3.88	0.26	0.66	0.55	3.62	6.33	0.94	75.77	0.27	0.85	2.95	0.00
JUL	2.48	0.01	0.29	0.55	2.47	7.37	0.84	72.38	0.00	0.85	2.95	0.00
AUG	2.42	0.01	0.28	0.55	2.41	7.25	0.82	67.69	0.00	0.85	2.95	0.00
SEP	3.26	0.12	0.49	0.55	3.14	5.72	0.83	32.53	0.20	0.85	2.95	0.00
OCT	4.10	0.33	0.72	0.55	3.77	4.65	0.55	28.64	0.72	0.85	2.95	0.00
NOV	3.85	0.26	0.65	0.55	3.59	3.11	0.21	11.82	0.98	0.85	2.95	0.00
DEC	3.86	0.26	0.65	0.55	3.60	2.30	0.03	4.77	1.17	0.85	2.95	0.00
TOTALS	43.51	2.77	7.10	6.55	40.74	54.79	5.82	608.41	7.83		Reset:	0
	43.51					54.79			7.83	Checks		

STORAGE-AREA TABLE FOR RUNOFF CONTROL STRUCTURE

STORAGE DATA TYPE R (C - CIRCULAR, R - RECTANGULAR, or S - STAGE DATA)

CIRCULAR

DEPTH, FT	0.0
SIDE SLOPE, RATIO	0.00
TOP DIAMETER, FT	0.00
FREE BOARD, FT	0.00
BOTTOM DIAMETER, FT	0.00
SURFACE AREA, AC	0.00
VOLUME, ACFT	0.00

RECTANGULAR

DEPTH, FT	5.4
SIDE SLOPE, RATIO	4.00
END SLOPE, RATIO	4.00
TOP WIDTH, FT	345.00
TOP LENGTH, FT	463.00
FREE BOARD, FT	2.00
BOTTOM WIDTH, FT	302.01
BOTTOM LENGTH, FT	420.01
SURFACE AREA, AC	3.67
VOLUME, ACFT	17.64

THIS WATER BUDGET VERIFIES THAT 25YR - 24HR STORM RUNOFF STORAGE ALLOCATION IS MAINTAINED THROUGHOUT THIS CLIMATIC CYCLE.

NOTE: USER INPUT VALUES FOR NUTRIENTS USED IN NUTRIENT BALANCE WORKSHEET!

DEPTH, FT 0.0 **STAGE**
FREE BOARD, FT 0.00

Leave Extra Rows at Bottom with Blanks or Zeros.

ROW #	DEPTH FT	AREA AC
BOTTOM	0.00	0.00
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

STAGE STORAGE DATA SUMMARY

METHOD: RECTANGULAR

ROW #	DEPTH FT	AREA AC	STORE ACFT	WIDTH FT	LENGTH FT
0	0.00	2.91	0.00	302.01	420.01
1	0.54	2.98	1.58	306.31	424.31
2	1.07	3.06	3.21	310.61	428.61
3	1.61	3.13	4.87	314.91	432.91
4	2.15	3.20	6.57	319.21	437.21
5	2.69	3.28	8.31	323.51	441.51
6	3.22	3.35	10.09	327.80	445.80
7	3.76	3.43	11.92	332.10	450.10
8	4.30	3.51	13.78	336.40	454.40
9	4.84	3.59	15.69	[illegible]	[illegible]
10	5.37	3.67	17.64	[illegible]	[illegible]
11	6.37	3.82	[illegible]	[illegible]	[illegible]
12	7.37	3.97	[illegible]	361.00	479.00
BOT. 25YR-10DAY	4.62	3.56	14.91	340.70	458.70
SPILLWAY	5.37	3.67	17.64	345.00	463.00
FREE BOARD	7.37	3.97	[illegible]	361.00	479.00

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WATER BUDGET ANALYSIS

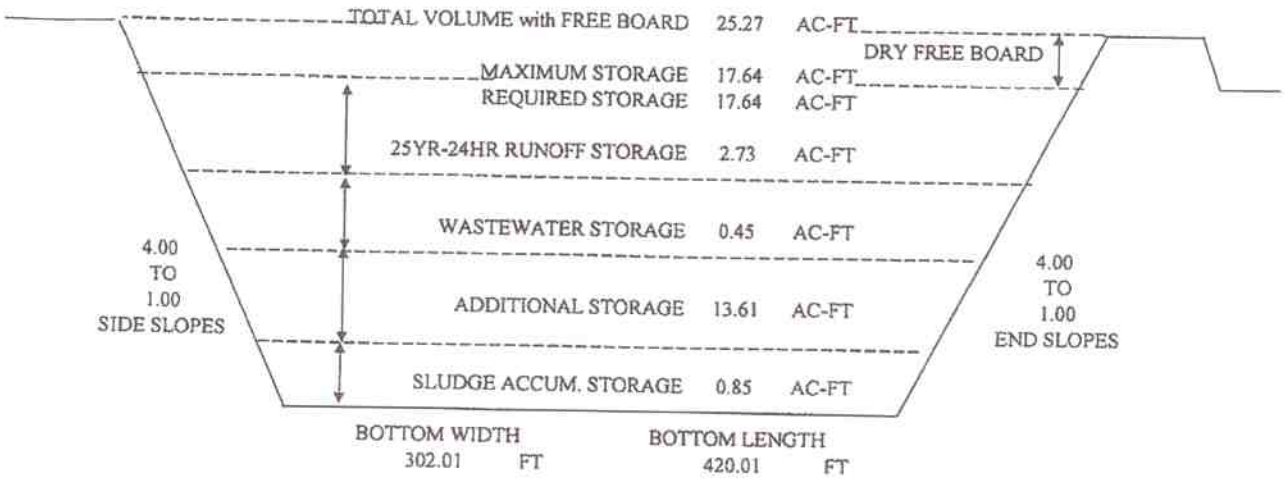

DIAGRAM OF RUNOFF CONTROL STRUCTURE

CONSUMPTIVE USE FOR SPECIFIC CROP AREAS (IN/MONTH)

FIELD	0	4,5,6	3	0	0	0
VEGETATION	Bermudagrass Pastureland	Bermuda/SmGr Pastureland	Sorghum/SmGr Cropland	Small Grain Cropland	Grain Sorghum Cropland	Alfalfa Pastureland
JAN	1.92	4.36	2.44	2.44	0.00	0.90
FEB	2.31	5.18	2.87	2.87	0.00	1.20
MAR	3.76	8.24	4.48	4.48	0.00	3.00
APR	4.81	10.23	8.74	5.42	3.32	3.70
MAY	5.50	10.55	10.49	5.05	5.44	6.60
JUN	6.27	8.53	9.40	2.26	7.14	6.90
JUL	7.16	7.16	7.82	0.00	7.82	7.60
AUG	6.80	6.80	1.75	0.00	1.75	5.30
SEP	5.25	5.25	0.00	0.00	0.00	5.50
OCT	4.47	5.63	1.16	1.16	0.00	3.80
NOV	2.54	4.36	1.82	1.82	0.00	1.70
DEC	1.98	3.91	1.93	1.93	0.00	1.00

NET CROP DEMAND (C.U.-EFF.RAINFALL) (IN/MONTH)

	0	4,5,6	3	0	0	0
	Bermudagrass Pastureland	Bermuda/SmGr Pastureland	Sorghum/SmGr Cropland	Small Grain Cropland	Grain Sorghum Cropland	Alfalfa Pastureland
JAN	0.00	1.33	0.00	0.00	0.00	0.00
FEB	0.00	1.90	0.00	0.00	0.00	0.00
MAR	0.18	4.66	0.90	0.90	0.00	0.00
APR	0.91	6.33	4.84	1.52	0.00	0.00
MAY	1.15	6.20	6.14	0.70	1.09	2.25
JUN	2.65	4.91	5.78	0.00	3.52	3.28
JUL	4.69	4.69	5.35	0.00	5.35	5.13
AUG	4.39	4.39	0.00	0.00	0.00	2.89
SEP	2.11	2.11	0.00	0.00	0.00	2.36
OCT	0.70	1.86	0.00	0.00	0.00	0.03
NOV	0.00	0.77	0.00	0.00	0.00	0.00
DEC	0.00	0.31	0.00	0.00	0.00	0.00

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F-19041

Available Water Capacity Entries

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LMU or Fields receiving Effluent	Texture of the soil layer within the upper 24 inches of the soil profile that has the lowest permeability (Don't Abbreviate)	Depth of First Layer (inches)		AWC of First Layer (in/in)		Depth of Second Layer (inches)		AWC of Second Layer (in/in)		Depth of Third Layer (inches)		AWC of Third Layer (in/in)		Depth of Fourth Layer (inches)		AWC of Fourth Layer (in/in)		Available Water Holding Capacity (AWC) of the upper 24 inches of the soil profile (Inches)
	EXAMPLE ENTRIES	0	3	0.12	0.2	3	14	0.16	0.21	14	18	0.08	0.12	18	24	0	0	
		Enter Data for the top 24" only																
1	sandy laom	0	9	0.02	0.07	9	24	0.02	0.09	24				0				1.23
2	sandy laom	0	9	0.02	0.07	9	24	0.02	0.09	24				0				1.23
3	loamy fine sand	0	3	0.05	0.08	3	24	0.05	0.1	24				0				1.77
4	loamy fine sand	0	3	0.05	0.08	3	24	0.05	0.1	24				0				1.77
5	loamy fine sand	0	3	0.05	0.08	3	24	0.05	0.1	24				0				1.77
6	loamy fine sand	0	10	0.12	0.15	10	24	0.1	0.18	24				0				3.31
	sandy laom	0	9	0.02	0.07	9	24	0.02	0.09	24				0				

Effluent Application Rate Entries

Effluent - Set the Planned Application Rates

Permit #:

67694922	Gallons of Effluent to be used annually				Will the planned rates use all of the effluent?			Yes
2493	Acre inches of Effluent to be used annually							

LMU or Field No.	Acres	Crop Management and PI runoff potential	Current Soil Test P (ppm)	Crop P2O5 Req.	Annual or Biennial Application Cycle	Max Effluent Allowable (ac in/ac)	Enter % of Maximum Planned to Apply	Planned Effluent (ac in/ac)	Planned Effluent per field (acre inches)
1	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	237	205	Annual	10.5	60.0	6.3	485
2	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	206	205	Annual	10.5	60.0	6.3	485
3	31.0	Silage - Sorg21-25T;SG Silage-12-14T M	223	205	Annual	10.5	60.0	6.3	195
4	60.0	Silage - Sorg21-25T;SG Silage-12-14T M	331	205	Annual	10.5	60.0	6.3	378
5	78.0	Silage - Sorg21-25T;SG Silage-12-14T M	298	205	Annual	10.5	60.0	6.3	491
6	47.0	Silage - Sorg21-25T;SG Silage-12-14T M	59	205	Annual	18.4	60.0	11	517
7									

Total Effluent This Page 2552

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Solids Application Rate Entries

Solids - Set the Planned Application Rates

Permit #:

3138		"Wet tons" of solids produced Annually			Will the planned rates use all of the Tons to be used off-site at plann		
LMU or Field No.	Acres	Crop Management and PI runoff potential	Current Soil Test P ppm	Crop P_2O_5 Req.	Annual or Biennial Application Cycle	Maximum Solids Allowable Tons/Ac	Enter % of Maximum Planned to Apply
1							
2							
3							
4							
5							
6							
7	110.0	Coastal 4 Cut Hay H	122	170	Annual	95.1	30.0

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Plan is based on: 590 -633 Pl

Soil Test, Crop Information and Plant Analysis Data Entries

Printed on: 1/21/25 2:06 PM Plan is based on: 590 -633 Plan V 4.0_5 Permit #:

Soil Test Analysis				This column only for Dry Poultry	LMU or Field #	Appl. Area Acres	Crop/Land-Use and P Index Runoff Potential VL - L; M; H; or VH	E = Effluent S = Solids	Plant Analysis (Y / N)	Plant Analysis & Yield (optional) Use Only When Crop Removal is Required			
N (ppm)	P (ppm)	K (ppm)	Lime (enter amt or leave blank)							% N	% P	% K	Yield Air Dry Production (lbs/ac/yr)
13	237	83			1	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
15	206	99			2	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
24	223	93			3	31.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
37	331	225			4	60.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
29	298	137			5	78.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
68	59	53			6	47.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
85	122	78			7	110.0	Coastal 4 Cut Hay H	S	N				

Field and Buffer Entries

Permit #:

Printed on: 1/21/25 2:06 PM

Plan is based on: 590 -633 Plan V 4.0_5

FS = 393-Filter Strip, FB = 386-Field Border, RFB = 391-Riparian Forest Buffer, OLEA = Other Land Exclusion Areas or non-application areas (i.e. headquarters, freq. flooded areas, wooded areas, water bodies, etc)

NOTE: Field Border (FB) is expressed in ACRES on this spreadsheet, but as LINEAR FEET on the CPO.

Field No.	Total LMU or Field Acres	FS	FB	RFB	OLEA	Total Buffer Acres	Actual Application Acres	
1	78	0	0	0	1	1.0	77.0	
2	81	3	0	0	1	4.0	77.0	
3	31	0	0	0	0	0.0	31.0	
4	63	1	0	0	2	3.0	60.0	
5	81	0	0	0	3	3.0	78.0	
6	47	0	0	0	0	0.0	47.0	
7	110	0	0	0	0	0.0	110.0	
					.			

Waste Utilization and Nutrient Management Data Entries

General Data

Date :	1/21/2025
Farmer Name :	T&S Dairy
County in which the Land is located :	Wood
Type of Waste Plan :	Other AFO-CAFO Waste Plan
Is this plan in a TMDL watershed for nutrients? Yes or No :	No
Is any field PERMITTED by TCEQ? Yes or No :	Yes
Permit # :	

All other entries on General Page appear on the Cover Page

Animal Information

Plan Year :	2024
Are you receiving waste from another producer?	No
Number of animals :	2621
Approximate Weight :	975
Days per year in confinement :	365
Hours per day confined :	24
***ACRE FEET* of effluent to be irrigated* :**	207.75
Estimated annual gallons of effluent to be irrigated/applied annually :	67694922
For effluent, do you want application rates shown in gallons or acre inches? :	acre inches
Estimated Tons Solids to be Land Applied Annually (on or off site)* :	1500
Is this the first Year of the AFO-CAFO Operation? :	No

Analysis Information

Effluent Information

Date of Analysis:	12/18/2023
Manure Source:	Dairy Storage Pond (Agitated)
Nitrogen % From Analysis:	0.0031
Phosphorus % From Analysis:	0.0043
Potassium % From Analysis:	0.026
Moisture % From Analysis:	97

Manure / Solids Information

Date of Analysis:	12/18/2023
Manure Source:	Beef Feedlot Solids
Nitrogen % From Analysis:	0.55
Phosphorus % From Analysis:	0.07
Potassium % From Analysis:	6.02
Moisture % From Analysis:	52.2
What will be Applied to Fields on this Farm?	Both Effluent and Solids
Is this Farm part of an AFO-CAFO?	No

This plan is based on: 590 -633 Plan V 4.0

Printed on: 1/21/25 2:06 PM

Waste Utilization and Nutrient Management Plan

Table 13 - Non Application Areas by Field Permit #:

FS = 393-Filter Strip; **FB** = 386-Field Border, **RFB** = 391-Riparian Forest Buffer; **OLEA** = Other Land Excluded Area

LMU / Field #	**FS** Acres	**FB** Acres	**RFB** Acres	**OLEA** Acres	**Total Excluded**
1	0.0	0.0	0.0	1.0	1.0
2	3.0	0.0	0.0	1.0	4.0
3	0.0	0.0	0.0	0.0	
4	1.0	0.0	0.0	2.0	3.0
5	0.0	0.0	0.0	3.0	3.0
6	0.0	0.0	0.0	0.0	
7	0.0	0.0	0.0	0.0	

LMU / Field #	**FS** Acres	**FB** Acres	**RFB** Acres	**OLEA** Acres	**Total Excluded**

See Application Map for location of buffers

Totals	4.0	0.0	0.0	7.0	11.0

Total 590-633 application acres: 480.0

Total 590-633 Field Acres: 491.0

Waste Utilization and Nutrient Management Plan

Table 12 - Available Water Capacity to 24 inches(or less) of predominant soil in fields receiving effluent and Texture of the most restrictive soil layer in the upper 24 inches

Permit #:

LMU / Field #	AWC (inches)	Restrictive Texture
1	1.23	sandy laom
2	1.23	sandy laom
3	1.77	loamy fine sand
4	1.77	loamy fine sand
5	1.77	loamy fine sand
6	3.31	loamy fine sand
7		sandy laom

LMU / Field #	AWC (inches)	Restrictive Texture

Waste Utilization and Nutrient Management Plan

Table 10 - Planned Effluent Application Rates Permit #:

LMU or Field No.	Acres	Double crop	Crop Management and PI runoff potential	Current Soil Test P ppm	Annual / Biennial	Maximum Effluent (ac in/ac)	% of Maximum to apply	Planned Effluent (ac in/ac)	Planned Effluent / field (Ac. In)
1	77.0		Silage - Sorg21-25T;SG Silage-12-14T M	237	A	10.5	**60.0**	6.3	485
2	77.0		Silage - Sorg21-25T;SG Silage-12-14T M	206	A	10.5	**60.0**	6.3	485
3	31.0		Silage - Sorg21-25T;SG Silage-12-14T M	223	A	10.5	**60.0**	6.3	195
4	60.0		Silage - Sorg21-25T;SG Silage-12-14T M	331	A	10.5	**60.0**	6.3	378
5	78.0		Silage - Sorg21-25T;SG Silage-12-14T M	298	A	10.5	**60.0**	6.3	491
6	47.0		Silage - Sorg21-25T;SG Silage-12-14T M	59	A	18.4	**60.0**	11	517
7									
Acres	**370.0**								**2552**
						Will the planned application rates use all of the Effluent?			**YES**

Waste Utilization and Nutrient Management Plan

Table 10 - Planned Effluent Application Rates Permit #:

LMU or Field No.	Acres	Double crop	Crop Management and PI runoff potential	Current Soil Test P ppm	Annual / Biennial	Maximum Effluent (ac in/ac)	% of Maximum to apply	Planned Effluent (ac in/ac)	Planned Effluent / field (Ac. In)
1	77.0		Silage - Sorg21-25T;SG Silage-12-14T M	237	A	10.5	**60.0**	6.3	485
2	77.0		Silage - Sorg21-25T;SG Silage-12-14T M	206	A	10.5	**60.0**	6.3	485
3	31.0		Silage - Sorg21-25T;SG Silage-12-14T M	223	A	10.5	**60.0**	6.3	195
4	60.0		Silage - Sorg21-25T;SG Silage-12-14T M	331	A	10.5	**60.0**	6.3	378
5	78.0		Silage - Sorg21-25T;SG Silage-12-14T M	298	A	10.5	**60.0**	6.3	491
6	47.0		Silage - Sorg21-25T;SG Silage-12-14T M	59	A	18.4	**60.0**	11	517
7									
Acres	**370.0**								**2552**
						Will the planned application rates use all of the Effluent?			**YES**

Waste Utilization and Nutrient Management Plan

Table 9 - Nutrients Applied/Needed at Maximum Effluent Rates Permit #:

	Nutrients Applied When Application is at Maximum Rates			Supplemental Nutrients Needed When Application is at Maximum Rates			
LMU / Field #	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	Lime T/Ac
1	59	234	742	435	0	0	0
2	59	234	742	430	0	0	0
3	59	234	742	415	0	0	0
4	59	234	742	385	0	0	0
5	59	234	742	405	0	0	0
6	103	411	1301	280	0	0	0
7							

Waste Utilization and Nutrient Management Plan

Table 8 - Maximum Effluent Application Per Field Permit #:

Est. Available Effluent (ac inches)	LMU or Field No.	Acres	Double crop	Crop Management and PI runoff potential	Current Soil Test P Level (ppm)	Max Annual P_2O_5 (lbs/acre)	Annual/Biennial	Maximum Effluent Allowable (ac in/ac)	Maximum Effluent Allowable / Field (ac in)
2493	1	77.0		Silage - Sorg21-25T;SG Silage-12-14T M	237	234	A	10.5	809
Source:	2	77.0		Silage - Sorg21-25T;SG Silage-12-14T M	206	234	A	10.5	809
	3	31.0		Silage - Sorg21-25T;SG Silage-12-14T M	223	234	A	10.5	326
	4	60.0		Silage - Sorg21-25T;SG Silage-12-14T M	331	234	A	10.5	630
Dairy Storage Pond (Agitated)	5	78.0		Silage - Sorg21-25T;SG Silage-12-14T M	298	234	A	10.5	819
	6	47.0		Silage - Sorg21-25T;SG Silage-12-14T M	59	410	A	18.4	865
	7								
Total Effluent Application Acres									
370									
Maximum Effluent Application Allowable On-Site (ac in)									
4256									
Adequate									
Effluent to be used Off-Site (ac in)									
0									

End of Table 8

Waste Utilization and Nutrient Management Plan

Table 7 - Nutrients Applied/Needed at Planned Solids Rates Permit #:

Red cells? Proceed to adjustment page and fix.

	Nutrients Applied at Planned Rates			Supplemental Nutrients Needed at Planned Rates			
LMU / Field #	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	Lime T/Ac
1							
2							
3							
4							
5							
6							
7	120	44	1970	110	0	0	0

Waste Utilization and Nutrient Management Plan

Table 5 - Nutrients Applied/Needs at Maximum Solids Rates Permit #:

	Nutrients Applied When Application is at Maximum Rates			Supplemental Nutrients Needed When Application is at Maximum Rates			
LMU / Field #	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	Lime T/Ac
1							
2							
3							
4							
5							
6							
7	400	146	6567	0	0	0	0

Waste Utilization and Nutrient Management Plan

Table 5 - Nutrients Applied/Needs at Maximum Solids Rates Permit #:

	Nutrients Applied When Application is at Maximum Rates			Supplemental Nutrients Needed When Application is at Maximum Rates			
LMU / Field #	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	Lime T/Ac
1							
2							
3							
4							
5							
6							
7	400	146	6567	0	0	0	0

Waste Utilization and Nutrient Management Plan

Table 3 - Crop Removal Rates (For Information Only) Permit #:

LMU or Field No.	Acres	Crop and P Index Level	TCEQ Plan Type	Actual Crop Analysis or Default	Total Est. N Removal lbs/Ac/Yr	Total Est. P_2O_5 Removal lbs/Ac/Yr	Total Est. K_2O Removal lbs/Ac/Yr
1	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
2	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
3	31.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
4	60.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
5	78.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
6	47.0	Silage - Sorg21-25T;SG Silage-12-14T M	NMP	Default	426	156	334
7	110.0	Coastal 4 Cut Hay H	NMP	Default	257	80	218

NOTE: When crops are used for grazing, only a portion of the nutrients used by the crop are removed from the field in the live weight gain of the livestock, the remainder is returned to the land in manure and urine. The book "Southern Forages" estimates the N, P, & K removed in 100 pounds live weight gain as follows: **2.5 lbs N, 0.68 lbs P, 0.15 lbs K**

Waste Utilization and Nutrient Management Plan

Table 3 - Crop Removal Rates (For Information Only) Permit #:

LMU or Field No.	Acres	Crop and P Index Level	TCEQ Plan Type	Actual Crop Analysis or Default	Total Est. N Removal lbs/Ac/Yr	Total Est. P_2O_5 Removal lbs/Ac/Yr	Total Est. K_2O Removal lbs/Ac/Yr
1	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
2	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
3	31.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
4	60.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
5	78.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
6	47.0	Silage - Sorg21-25T;SG Silage-12-14T M	NMP	Default	426	156	334
7	110.0	Coastal 4 Cut Hay H	NMP	Default	257	80	218

NOTE: When crops are used for grazing, only a portion of the nutrients used by the crop are removed from the field in the live weight gain of the livestock, the remainder is returned to the land in manure and urine. The book "Southern Forages" estimates the N, P, & K removed in 100 pounds live weight gain as follows: **2.5 lbs N, 0.68 lbs P, 0.15 lbs K**

Waste Utilization and Nutrient Management Plan

TABLE 2. A Nutrient Management Plan (NMP) is required where Soil Test P Level [1/] is:

- **less than 200 ppm statewide or**
- **or < 350 ppm in arid areas 2/ with a named stream > one mile.**

P – Index Rating	Maximum TMDL Annual P Application Rate [5/]	Maximum Annual P Application	Maximum Biennial Application Rate
Very Low, Low	Annual Nitrogen (N) Requirement	Annual Nitrogen (N) Requirement	2.0 Times Annual N Requirement
Medium	2.0 Times Annual Crop P Requirement [3/]	2.0 Times Annual Crop P Requirement [3/]	2.0 Times Annual N Requirement
High	1.5 Times Annual Crop P Requirement [3/]	1.5 Times Annual Crop P Requirement [3/]	Double the Maximum Annual P Application Not to Exceed 2 times the Annual N Requirement
Very High	1.0 Times Annual Crop P Requirement [3/]	1.0 Times Annual Crop P Requirement [3/]	Double the Maximum Annual P Application Not to Exceed 2 times the Annual N Requirement

TABLE 2a. A Nutrient Utilization Plan (NUP) is required by TCEQ where Soil Test P Level [1/] is:

- **equal to or greater than 200 ppm in non-arid areas [2/] or**
- **equal to or greater than 350 ppm in arid areas [2/] with a named stream greater than one mile or**
- **equal to or greater than 200 ppm in arid areas [2/] with a named stream less than one mile.**

P – Index Rating	Maximum TMDL Annual P Application Rate [5/]	Maximum Annual P Application	Maximum Biennial Application Rate
Very Low, Low	1.0 Times Annual Crop P Removal [4/]	Annual N Crop Removal	2.0 Times Annual N Removal
Medium	1.0 Times Annual Crop P Removal [4/]	1.5 Times Annual Crop P Removal [4/]	Double the Maximum Annual P Application Not to Exceed 2 times the Annual N Crop Removal
High	1.0 Times Annual Crop P Removal [4/]	1.0 Times Annual Crop P Removal [4/]	Double the Maximum Annual P Application Not to Exceed 2 times the Annual N Crop Removal
Very High or soil test P [1/] => 500 ppm in nutrient impaired TMDL areas.[5/]	0.5 Times Annual Crop P Removal [4/]	0.5 Times Annual Crop P Removal [4/]	Double the Maximum Annual P Application Not to Exceed 2 times the Annual N Crop Removal

Footnotes Applicable to both Tables

1/ Soil test P will be Mehlich III by inductively coupled plasma (ICP).

2/ Non-arid areas, counties receiving => 25 inches annual rainfall, will use the 200 ppm P level while arid areas, counties receiving < 25 inches of annual rainfall, will use the 350 ppm P level. See map in TX Agronomy Technical Note 15, Phosphorus Assessment Tool for Texas, for county designations.

3/ Not to exceed the annual nitrogen requirement rate.

4/ Not to exceed the annual nitrogen removal rate.

5/ TMDL watersheds are designated by Texas Commission on Environmental Quality (TCEQ).

Waste Utilization and Nutrient Management Plan

Table 1 - Estimated Effluent and Solids Quantities Produced Permit #:

Avg. Number of Animals	Type of Waste
2,621	**Dairy Storage Pond (Agitated)**
	Beef Feedlot Solids

Contact the local Soil and Water Conservation District or USDA Natural Resources Conservation Service office if the total number of animals change by more than 10% so your plan can be revised.

Estimated Acre Inches of Effluent to be Available Annually* **2,493**

Estimated Tons Solids to be Land Applied Annually (on or off site)* **3,138.1**

*From engineering design.

Estimated Nutrient Availabilty Effluent

	pounds/yr	Pounds / 1000 gal	Pounds / Acre Inch	
N	**14,012**	**0.21**	**5.6**	**
P2O5	**55,635**	**0.82**	**22.3**	
K2O	**176,280**	**2.60**	**70.7**	

** Effluent Values Based on Analysis dated: **December 18, 2023**

Estimated Nutrient Availabilty Solids

	pounds / yr	pounds / ton	
N	**13,200**	**4.2**	**
P2O5	**4,809**	**1.5**	
K2O	**216,720**	**69.1**	

** Solids Values Based on Analysis dated: **December 18, 2023**

Default values were used on all fields for plant removal of nutrients and yield levels.

Waste Utilization and Nutrient Management Plan

EXECUTIVE SUMMARY: Permit #:

This Nutrient Management Plan has fields that meet NMP and/or NUP requirements.

LOCATION AND PURPOSE OF THE PLAN

This animal operation is located in **Wood** County (see attached topo map and plan map for location.) The purpose of this plan is to outline the details of the land application of the effluent and solids produced by this operation. When the plan is fully implemented, it should minimize the effects of the land application of animal wastes on the soil, water, air, plant, and animal resources in and around the application area. This plan, when applied, will meet the requirements of the Natural Resources Conservation Service Waste Utilization Standard and Nutrient Management Standard.

The plan is for the year of **2024** and will remain in effect until revision based on new soil or manure analysis or crop change (yield or crop) result in a new P-Index rating or plan classification (NMP-NUP). The waste has been stored in a **Dairy Storage Pond (Agitated)** . Approximately **2621** head will be confined with the average weight of **975** pounds. The animals will be confined **24** hours per day for **365** days per year.

Values in Table 1 may be based on actual analysis or "book" values during the initial planning to determine land application rates for the initial plan. When "book" values are used, they will be from NRCS, Texas Cooperative Extension or averages from other TX testing lab sources. Site specific data will be used as soon as feasible after production begins. Manure and/or effluent will be tested at least annually or in the year of application if it is stored for more than one year. If the actual values are more than 10% higher or lower than the estimated values, this plan will need to be revised accordingly.

Application of waste products may be made up to the Maximum Rate given in Table 2 or 2a as applicable. Table 2 applies to those that are subject to Nutrient Management Plan (NMP) requirements while Table 2a applies when subject to Nutrient Utilization Plan (NUP) requirements. Current requirements for both the NMP and NUP are given in the headers of the tables. Table 2a has a criteria involving the distance to a named stream when the Soil Test P Level is above 200 ppm in arid areas as well as special requirements when the site is in a TMDL watershed designated by TCEQ. For various P Index Ratings, the maximum rates in Table 2 are based on crop requirements, whereas the maximum rates in Table 2a are based on crop removal rates. County avg. rainfall information can be found in the TX Agronomy Technical Note 15, Phosphorus Assessment Tool for Texas, located in the eFOTG at the address given in the section entitled **"Collecting Soil Samples for Analyses"**.

CROP REMOVAL RATES:

Crop Removal Rates of nitrogen (N), phosphorus (P), and potassium (K) in pounds per acre are given in Table 3 for the crop and yield planned for each field. This Table is included for information only, and should be used during the planning process to compare planned or maximum application rates to crop removal. Crop removal rates may be based on actual analysis of harvested material or default values in the database. P build-up will occur at higher rates when crop removal rates are exceeded..

SOLIDS APPLICATION:

The maximum solids application rates are given in Table 4 along with the current soil test P level, maximum P_2O_5 application rate, maximum tons per acre of solids and the total tons of solids per field that can be applied to each field. The maximum tons of solids that can be utilized on the fields planned is indicated in the box near the lower left corner of Table 4. When the total application acres of the fields are adequate to allow all of the solids to be applied, "Adequate" will be indicated below the tonnage in this box. If "Not Adequate" is indicated, then the lower box will indicate the tons of solids that must be utilized off-site unless more fields/acres are added. This plan is valid only if the application of waste to the crops listed does not exceed the per acre rates by more than 10%. If the yield of a crop does not meet the expected goal, the application rate should be adjusted the following year.

The estimated amounts of N, P_2O_5, and K_2O contained in the solids are provided in Table 5 for the maximum application rate. Supplemental N and K_2O will be applied to achieve the yield goals in Table 4 when recommended by the soil test and the maximum rate of the solids does not meet the crop needs. When the maximum application rate is applied and Table 5 indicates additional commercial nutrients, they **must** be applied to fields as indicated. **NOTE:** If additional nitrogen is recommended, the producer should consider collecting soil samples from the 6 - 36 inch layer to see if there is any additional deep nitrogen available. Additional deep nitrogen within the root zone of the crop can be substituted for supplemental commercial nitrogen, and should be included in the soil test N ppm entry.

SOLIDS APPLICATION: (cont) Permit #:

In situations where more land is available than is needed to utilize the maximum application rate on each field, the application rates in Table 6 have been reduced to the level that does not exceed the amount of solids produced. Table 7 indicates the amount of nutrients provided and, if needed, the supplemental nutrients which **must** be applied when the application is based on these rates. The amounts of supplemental nutrients in Table 7 are based on the actual amount of waste available rather than the **maximum** rate that **"could"** be applied.

The second line from the bottom of Table 6 on the right has a box that will be "**YES"** or "**NO"**. When the reduced rates use all solids to be produced in a year, this box will be **"Yes"**. If the percentages are too low, it will be **"No"**. If "**No"**, either more acreage is needed on which to apply the solids or the solids will need to be transported off-site. The amount is located on the bottom line on the extreme right of the page.

Actual application will be based on the quantities produced, as well as, current manure analyses. **Application at the MAXIMUM rates shown in Table 4 will result in a more rapid build-up of phosphorus than if applied at lower rates. A different percentage may be used as long as the rate does not exceed the maximum shown in Table 4 for the field and the proper amount of supplemental nutrients are applied. Applying a lower rate to the fields with higher soil test P levels will slow down the P buildup and extend their land application life. Phosphorus will also build up more rapidly on pastureland than on hayland or cropland, since very few nutrients are actually removed by grazing animals.**

The solids may be applied to the same acreage every year according to Table 2 or 2a. The annual rates in both Table 4 and 6 may be doubled not to exceed the 2X the annual nitrogen requirement or nitrogen removal rate, as applicable. When the full biennial rate has been used, no additional phosphorus fertilizer or animal wastes may be applied in the alternate year. A column in both tables indicates whether the rates given are Annual Rates (A) or Biennial Rates (B). Rates given are based on Table 2 or 2a as applicable. Annual application rate for fields in a TMDL area with a Soil Test P level equal to or greater than 500 ppm or any field in a TMDL area with P Index Rating of Very High is 0.5 annual crop removal rate.

EFFLUENT APPLICATION:

The maximum effluent application rates are given in Table 8 for each field. This table provides the current soil test P level, maximum P_2O_5 application rate, effluent either in gallons per acre or acre inches per acre and the amount of effluent that can be applied per field. The maximum amount of effluent that can be utilized on the fields planned is indicated in a box near the lower left corner of Table 8. When the total application acres are adequate to allow all of the effluent to be applied, "Adequate" will be indicated below this box. If "Not Adequate" is indicated, then the lower box will indicate the amount of effluent that must be utilized off-site unless more field acres are added.

The estimated amounts of N, P, and K contained in the effluent are provided in Table 9 for the maximum application rate indicated in Table 8. Supplemental N and K_2O will be applied to achieve the yield goals when recommended by the soil test and the maximum rates of the effluent do not meet the crop requirements. **NOTE:** If additional nitrogen is recommended, the producer should consider collecting soil samples from the 6 - 36 inch layer to see if there is any additional deep nitrogen available. Additional deep nitrogen within the root zone of the crop can be substituted for supplemental commercial nitrogen.

EFFLUENT APPLICATION: (cont) Permit #:

In situations where more land is available than is needed to utilize the maximum application rate on each field, the application rates in Table 10 have been reduced to the level that does not exceed the amount of effluent produced. Table 11 indicates the amount of nutrients provided and, if needed, the supplemental nutrients which **must** be applied when application is made based on the rates in Table 10. These amounts of supplemental nutrients in Table 11 are based on the planned amount of effluent available rather than the **maximum** rate that **"could**" be applied.

The bottom line on the right of Table 10 has a box that will be "**YES"** or "**NO"**. When the reduced rates uses all effluent to be produced in a year, this box will be **"Yes"**. If the percentages are too low, it will be **"No"**. If "**No"** is indicated, either more acreage is needed on which to apply the effluent or the effluent will need to be transported off-site.

Actual application will be based on the quantities produced, as well as, current manure analyses. **Application at the MAXIMUM rates shown in Table 8 will result in a more rapid build-up of phosphorus than if applied at lower rates. A different percentage may be used as long as the rate does not exceed the maximum shown in Table 8 for the field and the proper amount of supplemental nutrients are applied. Applying a lower rate to fields with higher soil test P levels will slow down the P buildup and extend their land application life. Phosphorus will also build up more rapidly on pastureland than on hayland or cropland, since very few nutrients are actually removed by grazing animals.**

The effluent may be applied to the same acreage every year according to Table 2 or 2a. The annual rates in both Table 8 and 10 may be doubled not to exceed the 2X the annual nitrogen requirement or nitrogen removal rate, as applicable, when the full biennial rate has been used, no additional phosphorus fertilizer or animal wastes may be applied in the alternate year. A column in both tables indicates whether the rates given are Annual Rates (A) or Biennial Rates (B). Rates given are based on Table 2 or 2a as applicable. Annual application rate for fields in a TMDL area with a Soil Test P level equal to or greater than 500 ppm or any field in a TMDL area with P Index Rating of Very High is 0.5 annual crop removal rate.

Maximum Hourly Application Rate - The maximum hourly application rate is determined by the texture of the soil layer with the lowest permeability within the upper 24 inches of the of the predominant soil in each field. The hourly application rate must be low enough to avoid runoff and/or ponding. For effluent with 0.5% solids or less, **DO NOT** exceed the rates shown in Table 1 of the attached Job Sheet titled, *"Waste Utilization, Determining Effluent Application Rates"*. If the effluent contains more than 0.5% solids, those values must be reduced by the appropriate amount shown in Table 2 of the attached *"Waste Utilization, Determining Effluent Application Rates"* Job Sheet.

Maximum One-Time Application Rate - The maximum amount of effluent that can be applied to a given field at any one-time is the amount that will bring the top 24 inches of the soil to 100% field capacity. This amount is determined by subtracting the amount of water stored in the soil (estimated by feel and appearance method) from the available water holding capacity (AWC) of the soil. The available water holding capacity of the top 24 inches of the predominant soil of each field receiving effluent and the texture of the most restrictive layer in the upper 24 inches are given in Table 12.

EFFLUENT APPLICATION: (cont) Permit #:

To determine any one-time application amount, the current percent of field capacity (FC) of the upper 24 inches of the predominant soil in the field should be estimated using the guidance in Table 3 of the attached Job Sheet, *"Waste Utilization, Determining Effluent Application Rates, rev 4/06"*. Additional information on estimating soil moisture can be found in the NRCS Program Aid 1619, *"Estimating Soil Moisture by Feel and Appearance"*, or from the University of Nebraska Extension publication No. G84-690-A by the same name. Both of these publications have pictures of various soils at different percentages of field capacity to be used as a guide to estimating soil moisture. Once the current percent of FC is estimated, it is subtracted from the AWC amount in Table 12 for the given field and the difference is the maximum application for those soil conditions on that day. Remember, the maximum hourly application and the maximum one time application rates are only estimates to be used as a guide.

Solids/Effluent Land Application: - Land application of solids and/or effluent should be made at appropriate times to meet crop needs, but can be made at any time as long as the total annual (or biennial) rate, maximum hourly rate, and the maximum one time application rates are not exceeded. Effluent should be surface applied uniformly. No runoff or ponding should occur during application thus frequent observations should be made. Neither effluent or solids will be applied to slopes >8% with a runoff curve >80, or steeper than 16% slope with a runoff curve of 70 or greater, unless the application is part of an erosion control plan. Waste will not be spread at night, during rainfall events, or on frozen or saturated soils if a potential risk for runoff exists. Waste will not be applied to frequently flooded soils during months when the soils typically flood. If frequently flooded soil occur on any potential application field see attached, "Water Features Table", for months when flooding is expected. Solids should be applied with a manure spreader as uniformly as feasible. Surface applications with trucks should only be made when soil conditions are favorable in order to minimize soil compaction.

Managing Runoff -
A minimum 100 ft. setback or vegetated buffer (Filter Strip, Field Border, Riparian Forested Buffer, etc.) will be established and maintained between the application area and all surface water bodies, sink holes, and watercourses as designated on Soil Survey sheets or USGS topographic maps. A minimum application distance from private and public will be 150 ft. and 500 ft. respectively. A minimum application distance from water wells used exclusively for agricultural irrigation will be 100 ft. Table 9 provides a summary of the setbacks and out areas of each field.

Managing Leaching -
When soils with sandy, loamy sand, or gravelly surface textures have a Nitrogen Leaching Index score of >2 appropriate measures will be used to minimize the potential of leaching. These measures will include, split applications of waste, and may include double cropping, or cover crops, and irrigation water management (on fields that receive supplemental or full irrigation).

MORTALITY MANAGEMENT:
All mortality will be disposed of properly within 3 days according to the Texas Commission on Environmental Quality (TCEQ) rules. The preferred method for disposal of routine mortality is by a rendering plant. Before planning this method, contact the facility or its representative to be informed of special handling procedures, equipment needs, scheduling requirements, etc. Maintain a list of contact phone numbers so information will be readily available following a catastrophic die-off. Verify that local companies which have previously picked up and/or rendered dead animals are still doing so. A number of rendering companies across the state have stopped dead animal pick up service, and others have raised their fees significantly. Periodically review the availability and cost of rendering so that the plan can be modified if necessary. This can be an excellent option if mortality can be loaded and transported while still fresh or the mortality can be refrigerated until loaded and transported.

MORTALITY MANAGEMENT: (cont) Permit #:

Disposal in a landfill may be an option in some locations. Before planning this option, the closest commercial, regional, county, or municipal landfill should be contacted to determine if the landfill has a permit which would allow acceptance of dead animals (swine, sheep, cattle, etc.). Also ask if there are any restrictions on type and volume of animal mortality that will be accepted at the facility. Landfill fees and transport, offloading, and handling procedures should be discussed with landfill managers and documented for reference when needed. The landfill is not a viable option if the producer does not own or have access to a vehicle capable of transporting mortality quickly in an emergency situation. After a catastrophic die-off is not a good time to find out that a driver and truck to transport mortality will not be available for several weeks **(MAKE ARRANGEMENTS NOW, NOT AFTER THE ANIMALS ARE DEAD).**

On-farm disposal of catastrophic mortality may be considered if site conditions permit. On-farm methods include burial, composting, and incineration. Incinerators and composters are excellent options for routine mortality but usually do not have the capacity to handle mortality volumes associated with catastrophic events. Composting and incineration should not be relied on for catastrophic mortality handling without a documented evaluation of worst anticipated mortality condition (number, type, and weight of animals), and the anticipated capacity of the system (i.e., lb./hr. incineration rate, hrs/day of operation). NRCS Mortality Facility Standard 316 will be used for all mortality management.

See the attached soil interpretation, ENG - Animal Mortality Disposal (Catastrophic) Trench, to make a preliminary assessment of the limitations of the soils on this farm for burial of catastrophic mortality. The attached TX NRCS Technical Guidance, Catastrophic Animal Mortality Management (Burial Method) should be used as a guide to overcome minor limitations and as design criteria for the construction of burial pits for catastrophic mortality. Mortality burial sites shall be located outside the 100 -year floodplain. Mortality burial will not be less than 200 feet from a well, spring, or water course. A FIELD INVESTIGATION BY A QUALIFIED PROFESSIONAL SHOULD BE MADE BEFORE AN AREA IS USED FOR A BURIAL SITE FOR CATASTROPHIC MORTALITY EVENTS. **The TCEQ Industrial and Hazardous Waste Permits Section, MC-130, must be contacted before burial of catastrophic mortality.**

TCEQ
Industrial and Hazardous Waste Permits Section, MC-130
PO Box 13087
Austin, TX 78711-3087
Phone: 512-239-2334 Fax: 512-239-6383

Air Quality:

The following steps should be taken when spreading effluent or solids to reduce problems associated with odor.
1. Avoid spreading effluent or solids when wind will blow odors toward populated areas.
2. Avoid spreading effluent or solids immediately before weekends or holidays, if people are likely to be engaged in nearby outdoor activities.
3. Avoid spreading effluent or solids near heavily traveled highways.
4. Make applications in the morning when the air is warming, rather than in the late afternoon.
5. All materials will be handled in a manner to minimize the generation of particulate matter, odors, and greenhouse gas emissions.

EFFLUENT AND SOLIDS STORAGE & TESTING: Permit #:

Effluent and solids will be stored in facilities designed, constructed, and maintained according to USDA NRCS Standards and specifications.

Effluent and solids sampling is needed to get a better idea of the nutrients actually being applied. Effluent and/or solids samples will be collected at least annually, or in the year of its use if waste is typically stored for more than 1 year. The samples will be submitted immediately to a lab for testing. If sent to Texas A&M soil lab or SFASU Soil Testing Lab for analysis, use the "plant and forage analysis" form and note the type of operation. Request that the manure be analyzed for percent dry matter, solids, total nitrogen, total phosphorus, and total potassium. Further information on collecting effluent and manure samples for analysis can be found in the TCE publication No. L-5175, *"Managing Crop Nutrients Through Soil, Manure and Effluent Testing"*. **TCEQ sampling rules and testing requirements will be followed on permitted sites.**

COLLECTING SOIL SAMPLES FOR ANALYSIS:

Collect a composite sample for each field (or area of similar soils and management not more than 40 acres in size) comprised of 10 - 15 randomly selected cores. Each core should represent 0 - 6 inches below the surface except for when injection has been done over 6" in depth, then the core should represent the 3-9" layer. Thoroughly mix each set of core samples, and select about a pint of the mixture as the sample for analysis. Label each sample for the field that it represents. Request that the samples be analyzed for nitrate nitrogen, plant-available phosphorus, potassium, sodium, magnesium, calcium, sulfur, boron, conductivity; and pH. Also note on the samples that they are from an effluent or solids application area. **TCEQ sampling rules and testing requirements will be followed on permitted sites.** A weighted average of 0-2 and 2-6 inch layers will be used for calculations on permitted sites.

Further information on collecting soil samples can be found on the TCE Form D-494, p 2, TCE Publication No. L-1793, and TCEQ RG-408. Additional NRCS guidance and requirements can be found in the Nutrient Management (590) standard located in the Texas electronic Field Office Technical Guide (eFOTG) at:

http://efotg.nrcs.usda.gov/efotg_locator.aspx?map=TX

Click the county desired.
Click Section IV in the left column under eFOTG
Type: 590 in the Search Menu above eFOTG and click: **GO**
Click on the desired item under Nutrient Management in the left column

SOIL ANALYSIS:

A soil analysis will be completed for all areas to be used for all effluent or solids application areas. The soil test analysis method will be **Mehlich III with inductively coupled plasma (ICP)**. The area will be tested and analyzed at least annually to monitor P build up.

Waste Utilization and Nutrient Management Plan

RECORD KEEPING: Permit #:

Detailed records should be maintained by the producer for all application of animal waste to land owned and operated by the producer. Records should include date, time, location, amount of application, weather conditions, estimated wind speed and direction, etc. A rain gauge should be in place at the application site and accurate records of rainfall should be maintained at the site. All records must be kept for at least 5 years. **TCEQ requirements will be followed on permitted sites.**

Records should also be kept showing amounts of litter given or sold to others. **A copy of the effluent analysis and/or solids analysis and a Waste Utilization Guidelines Sheet should be given to anyone who will use either the effluent or solids off-site. If they routinely use animal wastes for fertilizer, they should be directed to the local Soil and Water Conservation District or NRCS office to develop a Waste Utilization and Nutrient Management Plan for their land.**

This portion may be completed by producer, if desired or recorded elsewhere.

Record of waste leaving the farm or used as feed. **Estimated Annual Excess**

Date	Amount	Hauler or Recipient

Excess Remaining | May be continued on additional sheets

Waste Utilization and Nutrient Management Plan

T&S Dairy
7880 E State Highway 154
Winnsboro, TX 75494
903-316-8063

TCEQ Permit Number:

Owner
Nico deBoer
19008 FM 3079
Chandler, TX 75758
903-849-6097

Type of Waste Plan:
Other AFO-CAFO Waste Plan
located in Wood County

Prepared By:

_____

(Signature)
Jim C. Wyrick
Consultant
Certificate Number = TX20049
Expiration Date = December 31, 2024
East Texas Environmental Services
317 Highland Dr.
Sulphur Springs, TX 75482
903-243-0400

This plan is based on:
590 -633 Plan V 4.0_5

1/21/25 2:05 PM

PI Index by Field

Printed on: 1/21/25 2:15 PM

This plan is based on: 590 -633 Plan V 4.0_2

Permit #:

Client Name: T&S Dairy

Planner: Jim C. Wyrick

Date: 1/21/2025

Location: Wood

Rainfall: >25.0 inches

LMU or Fields	Crop	Slope	Runoff Curve	Soil Test P Level	Inorganic P_2O_5 Appl Rate	Organic P_2O_5 Appl Rate	Inorganic Method & Timing	Organic Method & Timing	Proximity of Appl to Named Stream	Runoff Class	Soil Erosion	Total Index Points	P Runoff Potential	Soil Test Date:
1	Silage - Sorg21-25T;SG Silage-12-14T	3.1%	71	8	0	6	0	0.5	1.25	1	1.5	18.25	Medium	11/21/22
2	Silage - Sorg21-25T;SG Silage-12-14T	3.2%	58	8	0	6	0	0.5	0	1	1.5	17	Medium	11/21/22
3	Silage - Sorg21-25T;SG Silage-12-14T	3.4%	78	8	0	6	0	0.5	1.25	1	1.5	18.25	Medium	11/21/22
4	Silage - Sorg21-25T;SG Silage-12-14T	2.5%	58	8	0	6	0	0.5	0	1	1.5	17	Medium	11/21/22
5	Silage - Sorg21-25T;SG Silage-12-14T	3.1%	58	8	0	6	0	0.5	0	1	1.5	17	Medium	11/21/22
6	Silage - Sorg21-25T;SG Silage-12-14T	3.6%	71	6	0	6	0	0.5	2.5	2	1.5	18.5	Medium	11/21/22
7	Coastal 4 Cut Hay	3.3%	39	8	0	6	0	4	5	0	0	23	High	11/21/22

TEXAS A&M AGRILIFE EXTENSION

T+S
102

Bio-Liquid Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
(979)321-5960

Visit our website:
http://soiltesting.tamu.edu

Report Generated for:
East Texas Environmental Services

317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Date Printed: 12/18/2023

Sample(s) from Hopkins County

Section 1: **Bio-liquids are analyzed on an as received basis**

Laboratory #	Customer Sample Identification	Total Nitrogen %	Total Phosphorus %	Total Potassium %	Total Calcium %	Total Magnesium %	Total Sodium %	Total Zinc ppm	Total Iron ppm
45021454	100	0.0003	0.0039	0.0367	0.0055	0.0032	0.0350	2.22	1.56
45021455	101	0.0010	0.0039	0.0749	0.0063	0.0040	0.0221	2.32	1.33
45021456	102	0.0031	0.0043	0.0260	0.0258	0.0029	0.0255	3.00	1.21
45021457	103	0.0094	0.0104	0.1243	0.0280	0.0182	0.0874	5.01	1.87
45021458	104	0.0060	0.0100	0.0734	0.0245	0.0077	0.0408	3.94	3.56

Laboratory #	Total Copper ppm	Total Manganese ppm
45021454	0.06	0.00
45021455	0.06	0.10
45021456	0.24	1.11
45021457	0.75	2.40
45021458	4.16	2.33

Section 2: **Interpretation of Bio-Liquid Analysis---pounds of nutrients per acre inch of effluent.**

Laboratory #	Customer Sample Identification	Nitrogen lbs/acre inch	P_2O_5 lbs/acre inch	K_2O lbs/acre inch	Calcium lbs/acre inch	Magnesium lbs/acre inch	Sodium lbs/acre inch	Zinc lbs/acre inch	Iron lbs/acre inch
45021454	100	1	20	100	13	7	79	0.50	0.35
45021455	101	2	20	203	14	9	50	0.53	0.30
45021456	102	7	22	71	58	6	58	0.68	0.27
45021457	103	21	54	338	63	41	198	1.13	0.42
45021458	104	14	52	199	56	18	92	0.89	0.81

Laboratory #	Copper lbs/acre inch	Manganese lbs/acre inch
45021454	0.01	0.00
45021455	0.01	0.02
45021456	0.06	0.25
45021457	0.17	0.54
45021458	0.94	0.53

* one acre inch equals 27150 gallons

TEXAS A&M AGRILIFE EXTENSION

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118

Bio-Solid Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
(979)321-5960

Visit our website:
http://soiltesting.tamu.edu

Report generated for:
East Texas Environmental Services

317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Date Processed: 12/18/2023

Sample(s) from Hopkins County

Section 1: **Based on analysis of oven dried sample(s)**

Laboratory #	Customer Sample Identification	Total Nitrogen %	Total Phosphorus %	Total Potassium %	Total Calcium %	Total Magnesium %	Total Sodium %	Total Zinc ppm	Total Iron ppm
45021471	117	3.96	0.42	4.81	1.74	0.51	0.88	138.54	700.11
45021472	118	0.55	0.07	6.02	0.53	0.04	0.04	37.02	2244.64
45021473	119	2.16	0.34	5.50	1.54	0.28	0.14	340.31	3746.41

Laboratory #	Total Copper ppm	Total Manganese ppm	Total Sulfur ppm	Total Boron ppm	% Dry Matter
45021471	27.11	62.74	3701.48	19.17	32.9
45021472	7.68	37.78	926.62	2.26	47.8
45021473	29.70	165.51	6929.31	7.84	20.7

Section 2: **Pounds of nutrient per ton on an as received basis**

Laboratory #	Customer Sample Identification	Nitrogen lbs/wet ton	P_2O_5 lbs/wet ton	K_2O lbs/wet ton	Calcium lbs/wet ton	Magnesium lbs/wet ton	Sodium lbs/wet ton	Zinc lbs/wet ton	Iron lbs/wet ton
45021471	117	26.04	6.39	37.95	11.46	3.36	5.81	0.091	0.461
45021472	118	5.29	1.52	69.18	5.08	0.43	0.42	0.035	2.148
45021473	119	8.95	3.22	27.35	6.39	1.15	0.59	0.141	1.554

Laboratory #	Copper lbs/wet ton	Manganese lbs/wet ton	Sulfur lbs/wet ton	Boron lbs/wet ton
45021471	0.018	0.041	2.436	0.013
45021472	0.007	0.036	0.887	0.002
45021473	0.012	0.069	2.874	0.003

TEXAS A&M AGRILIFE EXTENSION

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LMU 1

Soil Analysis Report

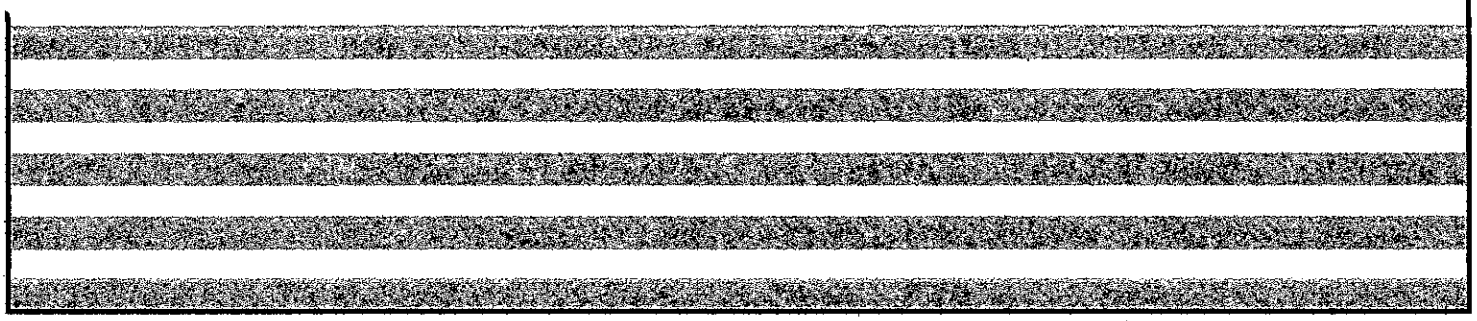
Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/14/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643781
Customer Sample ID: 180
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	5.6	(5.8)		Mod. Acid	
Conductivity	39	(-)	umho/cm	None	
Nitrate-N	13	(-)	ppm**		70 lbs N/acre
Phosphorus	237	(50)	ppm		0 lbs P2O5/acre
Potassium	83	(150)	ppm		110 lbs K20/acre
Calcium	644	(180)	ppm		0 lbs Ca/acre
Magnesium	67	(50)	ppm		0 lbs Mg/acre
Sulfur	14	(13)	ppm		0 lbs S/acre
Sodium	48	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.25 tons 100ECCE/acre



*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Phosphorus: Phosphorus is highly elevated, avoid phosphorus containing fertilizers and organics for the next 5 years, retest annually.
Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

**New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html**

TEXAS A&M AGRILIFE EXTENSION

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LMU 2

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/14/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643782
Customer Sample ID: 181
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	4.6	(5.8)	-	Strongly Acid	
Conductivity	47	(-)	umho/cm	None	
Nitrate-N	15	(-)	ppm**		65 lbs N/acre
Phosphorus	206	(50)	ppm		0 lbs P2O5/acre
Potassium	99	(150)	ppm		85 lbs K20/acre
Calcium	414	(180)	ppm		0 lbs Ca/acre
Magnesium	42	(50)	ppm		5 lbs Mg/acre
Sulfur	13	(13)	ppm		5 lbs S/acre
Sodium	53	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.50 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Phosphorus: Phosphorus is highly elevated, avoid phosphorus containing fertilizers and organics for the next 5 years, retest annually.
Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.
Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

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LMU 3

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/14/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643783
Customer Sample ID: 182
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	5.5	(5.8)		Mod. Acid	
Conductivity	51	(-)	umho/cm	None	
Nitrate-N	24	(-)	ppm**	CL*	50 lbs N/acre
Phosphorus	223	(50)	ppm		0 lbs P2O5/acre
Potassium	93	(150)	ppm		95 lbs K20/acre
Calcium	1,054	(180)	ppm		0 lbs Ca/acre
Magnesium	118	(50)	ppm		0 lbs Mg/acre
Sulfur	16	(13)	ppm		0 lbs S/acre
Sodium	33	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.25 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Phosphorus: Phosphorus is highly elevated, avoid phosphorus containing fertilizers and organics for the next 5 years, retest annually.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

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LMU 4

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
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979-845-4816 (phone)
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Visit our website: http://soiltesting.tamu.edu

Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/14/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643784
Customer Sample ID: 183
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	6.0	(5.8)	-	Mod. Acid	
Conductivity	92	(-)	umho/cm	None	
Nitrate-N	37	(-)	ppm**	CL*	25 lbs N/acre
Phosphorus	331	(50)	ppm		0 lbs P2O5/acre
Potassium	225	(150)	ppm		0 lbs K20/acre
Calcium	882	(180)	ppm		0 lbs Ca/acre
Magnesium	131	(50)	ppm		0 lbs Mg/acre
Sulfur	16	(13)	ppm		0 lbs S/acre
Sodium	46	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.00 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Phosphorus: Phosphorus is highly elevated, avoid phosphorus containing fertilizers and organics for the next 5 years, retest annually.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

T+S

LMU 5

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/14/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643785
Customer Sample ID: 184
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	5.6	(5.8)		Mod. Acid	
Conductivity	78	(-)	umho/cm	None	
Nitrate-N	29	(-)	ppm**	CL*	40 lbs N/acre
Phosphorus	298	(50)	ppm		0 lbs P2O5/acre
Potassium	137	(150)	ppm		20 lbs K20/acre
Calcium	843	(180)	ppm		0 lbs Ca/acre
Magnesium	118	(50)	ppm		0 lbs Mg/acre
Sulfur	15	(13)	ppm		0 lbs S/acre
Sodium	36	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.25 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Phosphorus: Phosphorus is highly elevated, avoid phosphorus containing fertilizers and organics for the next 5 years, retest annually.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

T+S
LMU 6

Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/15/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643892
Customer Sample ID: 185
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	4.8	(5.8)	-	Strongly Acid	
Conductivity	130	(-)	umho/cm	None	
Nitrate-N	68	(-)	ppm**		0 lbs N/acre
Phosphorus	59	(50)	ppm		0 lbs P2O5/acre
Potassium	53	(150)	ppm		160 lbs K20/acre
Calcium	678	(180)	ppm		0 lbs Ca/acre
Magnesium	91	(50)	ppm		0 lbs Mg/acre
Sulfur	21	(13)	ppm		0 lbs S/acre
Sodium	27	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.50 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

T+S

LMU 7

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/15/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643891
Customer Sample ID: ~~185~~ 186
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess	Fertilizer Recommended
pH	4.2	(5.8)	-	Strongly Acid							
Conductivity	136	(-)	umho/cm	None				CL*			
Nitrate-N	85	(-)	ppm**								0 lbs N/acre
Phosphorus	122	(50)	ppm								0 lbs P2O5/acre
Potassium	78	(150)	ppm								120 lbs K20/acre
Calcium	388	(180)	ppm								0 lbs Ca/acre
Magnesium	72	(50)	ppm								0 lbs Mg/acre
Sulfur	17	(13)	ppm								0 lbs S/acre
Sodium	22	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.85 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

Odor Control Plan
for
T&S Dairy

Odors from the facility are mainly associated with agricultural operations, including other CAFOs. Odors from CAFO's are not consistently predictable, and may have a periodic impact on nearby residents depending on sources and weather conditions. Odors may be less noticeable during calm days and tend to be strongest during the cleaning of animal buildings and during withdrawal of water from the lagoons and land application. It is the intention of the faculty to limit odors to an absolute minimum.

The following are practices to be used for an Odor Control Plan:

- Pens will be scraped off on as needed basis. Solid waste will be removed as needed to best reduce nuisance odors.

- All dead animals should be removed within 24 hours or will be buried at a minimum depth of three feet in designated area.

- Cleaning of the barns will be done at times consistent with the least nuisance problems.

- Irrigation will be done during daylight hours when wind velocity and humidity are lower. Irrigation will be monitored by an employee or management trained in waste disposal. This training will be accomplished by attending waste management training provided by the Agriculture Extension Service and TCEQ

- All lounging areas around the barn will be maintained so that there is no ponding of liquids.

- Pump retention ponds before the liquid level reaches the 24 hr-25 yr marker.

- The RCS is properly sized using USDA-Natural Resource Conservation Service Waternuter spreadsheet.

- In an effort to reduce air-bound particulate the dairy will add moisture to feed when mixing under windy conditions. Controlling the speed of farm vehicles will reduce dust generated at the facility

- The dairy would urge anyone who lives in the vicinity of the dairy, to notify the management when a perceived problem develops so that the source can be identified immediately.

- Dust when necessary will be controlled by water the area until the dust is controlled.

EAST TEXAS ENVIRONMENTAL SERVICES

ENVIRONMENTAL CONSULTANTS

Executive Director
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

Subject: Delegation of Signatories to Reports

Facility/Company/Site Name: T&S DAIRY

Texas General Permit Number: Not issued yet

Dear Executive Director:

This letter serves to designate the following people or positions as authorized personnel for Electronic STEERS signature(s), signing reports, stormwater pollution prevention plans, Pollution Prevention Plans, Core Data Forms, Annual Reporting Forms, Soil Monitoring Report Forms, Discharge Monitoring Report Forms, certifications or other information requested by the Executive Director or required by the general or water quality permit(s), as set forth by 30 TAC §305.128.

Name or Position	Jim C. Wyrick, PG, Environmental Consultant

I understand that this authorization does extend to the STEERS Electronic Signatory Authority but does not extend to the signing of the paper copies of the Notice of Intent, Notice of Change, or Change in Permittee for obtaining coverage under a TCEQ Water Quality or Texas General Permit offered by the TCEQ.

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in 30 TAC §305.44 .

Sincerely,

Signature

Owner
Title

12-6-24
Date

NICO JAAP DEBOER
Printed Name

RELEVANT PROVISIONS

305.128(a) All reports requested by permits and other information requested by the executive director shall be signed by a person described in §305.44(a) of this title (relating to Signatories to Applications) or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) the authorization is made in writing by a person described in §305.44(a) of this title (relating to Signatories to Applications);

(2) the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity or for environmental matters for the applicant, such as the position of plant manager, operator of a well or well field, environmental manager, or a position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(3) the written authorization is submitted to the executive director.

(b) If an authorization under this section is no longer accurate because of a change in individuals or position, a new authorization satisfying the requirements of this section must be submitted to the executive director prior to or together with any reports, information, or applications to be signed by an authorized representative.

(c) Any person signing a report required by a permit shall make the certification set forth in §305.44(b) of this title (relating to Signatories to Applications).

305.44(a) All applications shall be signed as follows.

(1) For a corporation, the application shall be signed by a responsible corporate officer. For purposes of this paragraph, a responsible corporate officer means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Corporate procedures governing authority to sign permit or post-closure order applications may provide for assignment or delegation to applicable corporate positions rather than to specific individuals.

(2) For a partnership or sole proprietorship, the application shall be signed by a general partner or the proprietor, respectively.

(3) For a municipality, state, federal, or other public agency, the application shall be signed by either a principal executive officer or a ranking elected official. For purposes of this paragraph, a principal executive officer of a federal agency includes the chief executive officer of the agency, or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., regional administrator of the EPA).

(b) A person signing an application shall make the following certification: "I 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."

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

INDIVIDUAL PERMIT APPLICATION FOR A CONCENTRATED ANIMAL FEEDING OPERATION (CAFO)

If you have questions about completing this form, please contact the Applications Review and Processing Team at 512-239-4671.

SECTION 1. APPLICATION FEE

Minor Amendment - $150.00
Renewal - $315.00
New or Major Amendment - $350.00

Mailed	Check/Money Order Number: 05071
	Check/Money Order Amount: $350.00
	Name Printed on Check: Nico and Erna de Boer
EPAY	Voucher Number:
	Copy of Payment Voucher enclosed? Yes ☐

SECTION 2. TYPE OF APPLICATION

A. Coverage: State Only ☐ TPDES ☒

B. Media Type: Water Quality ☐ Air and Water Quality ☒

C. Application Type: New ☒ Major Amendment ☐
Renewal ☐ Minor Amendment ☐

D. For amendments, describe the proposed changes:

E. For existing permits:
What is the permit number?
What is the EPA I.D. Number? TX

SECTION 3. FACILITY OWNER (APPLICANT) INFORMATION

A. What is the legal name of the facility owner?
NICO JAAP DEBOER

B. If the applicant is an existing TCEQ customer, provide the Customer Number (CN) issued to this entity? CN 601180649

C. What is the contact information for the owner?

Mailing Address: ~~19008 FARM TO MARKET 3079~~

City, State and Zip Code: CHANDLER, TX 75758 7667M

Phone Number: 903 521 3095 Fax Number:

E-mail Address: hilltopjersey@gmail.com

D. Indicate the type of customer:

- ☐ Individual
- ☐ Limited Partnership
- ☐ General Partnership
- ☐ Trust
- ☒ Sole Proprietorship (D.B.A.)
- ☐ Corporation
- ☐ Estate
- ☐ Federal Government
- ☐ County Government
- ☐ State Government
- ☐ City Government
- ☐ Other Government
- ☐ Other, specify:

E. If the customer type is individual, complete Attachment 1.

F. Is this customer an independent entity?

☒ Yes ☐ No government, subsidiary, or part of a larger corporation

G. Number of employees:

☒ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 or higher

H. For Corporations and Limited Partnerships:

What is the Tax Identification Number issued by the State Comptroller:

What is the Charter Filing Number issued by the Texas Secretary of State:

SECTION 4. CO-APPLICANT INFORMATION

Complete this section only if another person or entity is required to apply as a co-permittee.

A. What is the legal name of the co-applicant?

B. If the applicant is an existing TCEQ customer, provide the Customer Number (CN) issued to this entity? CN

C. What is the contact information for the co-applicant?

Mailing Address:

City, State and Zip Code:

Phone Number: Fax Number:

E-mail Address:

D. Indicate the type of customer:

- ☐ Individual
- ☐ Limited Partnership
- ☐ General Partnership
- ☐ Trust
- ☐ Sole Proprietorship (D.B.A.)
- ☐ Corporation
- ☐ Estate
- ☐ Federal Government
- ☐ County Government
- ☐ State Government
- ☐ City Government
- ☐ Other Government
- ☐ Other, specify:

E. If the customer type is individual, complete Attachment 1.

F. Is this customer an independent entity?

☐ Yes ☐ No government, subsidiary, or part of a larger corporation

G. Number of employees:

☐ 0-20 ☐ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 or higher

H. For Corporations and Limited Partnerships:

What is the Tax Identification Number issued by the State Comptroller:

What is the Charter Filing Number issued by the Texas Secretary of State:

SECTION 5. APPLICATION CONTACT INFORMATION

This is the person TCEQ will contact if additional information is needed about this application.

Prefix (Mr., Ms., Miss): Mr.

Application Contact First and Last Name: Jim Wyrick

Title: Consultant Credentials: Professional Geoscientist

Company Name: East Texas Environmental Services

Mailing Address: 317 Highland Dr,

City, State and Zip Code: Sulphur Springs, TX 75482

Phone Number: 903 243-0400 Fax Number:

E-mail Address: wyrick@suddenlink.net

SECTION 6. PERMIT CONTACT INFORMATION

Provide two names of individuals that TCEQ can contact during the term of the permit.

A. Prefix (Mr., Ms., Miss): Mr.

Permit Contact First and Last Name: Jim Wyrick

Title: Consultant Credentials: PG

Company Name: East Texas Environmental Services

Mailing Address: 317 Highland Dr.

City, State and Zip Code: Sulphur Springs, TX 75482

Phone Number: 903-243-0400 Fax Number: na E-mail Address: wyrick@suddenlink.net

B. Prefix (Mr., Ms., Miss): Mr

Permit Contact First and Last Name: NICO JAAP DEBOER

Title: Owner Credentials:

Company Name: T&S Dairy

Mailing Address: 19008 FARM TO MARKET 3079

City, State and Zip Code: CHANDLER, TX 75758 7667

Phone Number: 903 521 3095 Fax Number: E-mail Address: hilltopjersey@gmail.com

SECTION 7. ANNUAL BILLING CONTACT INFORMATION

Please identify the individual for receiving the annual fee invoices.

Is the billing contact and contact information the same as the Owner or the Co-Applicant identified in Section 3) or Section 4) above?

☒ Yes, specify which applicant on the line below and go to Section 8)

NICO JAAP DEBOER

☐ No, complete this section

Prefix (Mr., Ms., Miss):

First and Last Name:

Title: Credentials:

Company Name:

Mailing Address:

City, State and Zip Code:

Phone Number: Fax Number: E-mail Address:

SECTION 8. LANDOWNER INFORMATION

A. Landowner where the production area is or will be located

Landowner Name: NICO JAAP DEBOER

B. Landowner of the land management units (LMUs)

Landowner Name: NICO JAAP DEBOER

SECTION 9. PUBLIC NOTICE INFORMATION

A. Individual responsible for publishing the notices in the newspaper

Prefix (Mr., Ms., Miss): Mr. First and Last Name: Jim Wyrick

Title: Consultant Credentials: PG

Company Name: East Texas Environmental Services

Mailing Address: 317 Highland Dr.

City, State and Zip Code: Sulphur Springs, TX 75482

Phone Number: 903-243-0400 Fax Number: E-mail Address: wyrick@suddenlink.net

B. Method for receiving the notice package for the Notice of Receipt and Intent

☐ E-mail:

☐ Fax Number:

☒ Regular Mail:

Mailing Address: 317 Highland Dr.

City, State and Zip Code: Sulphur Springs, TX 75482

C. Contact person to be listed in the notice

Prefix (Mr., Ms., Miss): Mr.

First and Last Name: NICO JAAP DEBOER

Title: owner Credentials:

Company Name: T&S Dairy

Phone Number: 903 521 3095

D. Public viewing location

If the facility is located in more than one county, a public viewing location for each county must be provided.

Public Building Name: Texas A&M AgriLife Extension

Physical Address of Building: 301 E. Butler Street

City: Gilmer, TX 75644-0730 County: Upshaw

Phone Number: 903-843-4019

E. Bilingual Notice Requirement

Public Building Name: Texas A&M AgriLife Extension

Physical Address of Building: 618 S. Main St. Quitman, TX 75783-0968

City: Gilmer, TX 75644-0730 County: Wood Co.

Phone Number: (903) 763-2924

For new, major amendment, and renewal applications. This information can be obtained by contacting the bilingual/ESL coordinator at the nearest elementary or middle school.

1. Is a bilingual education program required by the Texas Education Code at the nearest elementary or middle school to the facility or proposed facility?
Yes ☒ No ☐

(**If No**, alternative language notice publication is not required; skip to Section 10. Regulated Entity (Site) Information.)

2. Are the students who attend either the elementary school or the middle school enrolled in a bilingual education program at that school?
Yes ☒ No ☐

3. Do the students at these schools attend a bilingual education program at another location?
Yes ☐ No ☒

4. Would the school be required to provide a bilingual education program but the school has waived out of this requirement under 19 TAC §89.1205(g)?
Yes ☐ No ☒

5. If the answer is yes to 1, 2, 3, or 4, public notice in an alternative language is required. Which language is required by the bilingual program? Spanish

6. Complete the CAFO Plain Language Summary Template (English) for CAFO Permit Applications for a new, renewal, major or minor amendment and submit with this application.

If a bilingual education program is required by the Texas Education Code at the nearest elementary or middle school to the facility or proposed facility, also complete the CAFO Plain Language Summary Template (Spanish) or provide a translated copy of the completed English plain language summary in the appropriate alternative language if different from Spanish.

F. **Public Involvement Plan Form**

Complete and attach one Public Involvement Plan (PIP) Form (TCEQ Form 20960) for each application for a new permit or major amendment to a permit.

SECTION 10. REGULATED ENTITY (SITE) INFORMATION

A. Site Name as known by the local community: T&S Dairy

B. If this is an existing permitted site, provide the Regulated Entity Number (RN) issued to this site? RN 102184405

C. Site Address/Location:

If the site has a physical address such as 12100 Park 35 Circle, Austin, TX 78753, complete Item 1.

If the site does not have a physical address, provide a location description in Item 2. Example: located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1.

Item 1: Physical Address of Project or Site:

Street Number and Name: 7880 E STATE HIGHWAY 154

City, State and Zip Code: WINNSBORO TX 75494 7110

Item 2: Site Location Description:

Location description:

City where the site is located or, if not in a city, what is the nearest city:

Zip Code where the site is located:

D. County or counties if more than 1: Wood and Upshur

E. Latitude: 32.761905 Longitude: -95.170065

F. Animal Type:

- ☒ Dairy-0241
- ☐ Beef Cattle- 0211
- ☐ Swine-0213
- ☐ Broiler-0251
- ☐ Laying Hens-0252
- ☐ Sheep/Goats-0214
- ☐ Auction-5154
- ☐ Other, specify:

G. Existing Maximum Number of Animals: 2621

Proposed Maximum Number of Animals: 2621

H. What is the total LMU acreage? 296

SECTION 11. MISCELLANEOUS INFORMATION

A. Did any person who was formerly employed by the TCEQ represent your company and get paid for service regarding this application? Yes ☐ No ☒
If yes, provide the name(s) of the former TCEQ employee(s):

B. Is the facility located on Indian Country Lands? Yes ☐ No ☒
If yes, do not submit this application. You must obtain authorization through EPA Region 6.

C. Is the production area located within the protection zone of a sole source drinking water supply? Yes ☐ No ☒

D. Is any permanent school fund land affected by this application? Yes ☐ No ☒

If yes, provide the location and foreseeable impacts and effects this application has on the land(s).

E. Delinquent Fees and Penalties:

Do you owe fees to the TCEQ? Yes ☐ No ☒

Do you owe any penalties to the TCEQ? Yes ☐ No ☒

If you answered yes to either of the above questions, provide the amount owed, the type of fee or penalty, and an identifying number.

SECTION 12. AFFECTED LANDOWNER INFORMATION

This section must be completed if the application type is new or major amendment. If the application type is renewal or minor amendment, skip to Section 13.

A. Landowner map. Attach a landowner map or drawing, with scale, that includes the following. Each landowner should be designated by a letter or number on both the list and the map.

- The applicant's property boundaries, including onsite and offsite LMUs; and
- The property boundaries of all landowners within 500 feet of the applicant's property.

B. Landowner list. Attach a separate list of the landowners' names and mailing addresses. The list must be cross-referenced to the landowners map.

C. Landowner list media. Indicate the format of the landowners list.

☐ Read/Writeable CD

☒ 4 sets of mailing labels

D. Landowner data source. Provide the source of the landowners' names and mailing addresses.

Wood Co. Tax Appraisal District website and Upshaw Co. Tax Appraisal District website

SECTION 13. ATTACHMENTS

A. All applications

- Supplemental Permit Information Form, if required by instructions on that form
- Current copy of tax records or deed showing ownership of the land
- Lease agreement, if LMUs are not owned by the applicant or co-applicant

B. New, Major amendment, or Renewal

- Completed Technical Information Packet (TCEQ-00760).

C. New and Major amendment

- Public Involvement Plan Form (TCEQ-20960)

D. Minor Amendment

Attach the following items if applicable:

- Current vicinity map, site map, runoff control map, and LMU map
- RCS design calculations
- Nutrient Management Plan or Land application rate calculations
- Other technical documents affected by the proposed amendment

Attachment 1
Individual Information

Complete this attachment if the facility owner or co-applicant is an individual. Make additional copies of this attachment if both are individuals.

Prefix (Mr., Ms., Miss):

Full Legal Name, including middle name:

Driver's License or State Identification Number:

State that Issued the License or Identification Number:

Date of Birth:

Mailing Address:

City, State and Zip Code:

Phone Number: Fax Number:

E-mail Address:

For TCEQ Use Only

Customer Number _____
Regulated Entity Number _____
Permit Number _____

SIGNATURE PAGE

If co-applicants are required, each co-applicant must submit an original, separate signature page.

Permit Number: not issued, T&S Dairy

Applicant: NICO JAAP DEBOER

I 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.

I further certify that I am authorized under 30 Texas Administrative Code

§305.44 to sign and submit this document, and can provide documentation in proof of such authorization upon request.

Signatory Name: NICO JAAP DEBOER

Title: Owner

Signature: _____ Date: 12-6-24

SUBSCRIBED AND SWORN to before me by the said Nico DeBoer on

this 6th day of December, 20 24

My commission expires on the 9th day of August, 20 27

(Seal)

_____
Notary Public

Henderson
County, Texas

TCEQ USE ONLY

Application type: ☐ Renewal ☐ Major Amendment ☐ Minor Amendment ☐ New	
County: _____ Admin Complete Date: _____	
Agency Receiving SPIF: ☐ Texas Historical Commission	☐ U.S. Fish and Wildlife
☐ Texas Parks and Wildlife	☐ Army Corps of Engineers

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form is required for all TPDES applications

1. Applicant: NICO JAAP DEBOER
2. Permit Number: [redacted] EPA ID Number: [redacted]
3. Address of the project (location description that includes street/highway, city/vicinity, and county). 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110
4. Provide the name, address, telephone and fax number of an individual that can be contacted to answer specific questions about the property.

   First and Last Name: Jim Wyrick

   Company Name: East Texas Environmental Services

   Mailing Address: 317 Highland Dr.

   City, State, and Zip Code: 75482

   Phone Number: 903-243-0400 Fax Number: [redacted]
5. County where the facility is located: Wood and Upshur
6. If the property is publicly owned and the owner is different than the permittee/applicant, please identify the owner. [redacted]
7. Identify the name of the water body (receiving waters) and TCEQ segment number that will receive the discharge. LITTLE CYPRESS BAYOU
8. Provide a 7.5-minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. (This map is required in addition to the map in the administrative report.)
9. Provide photographs of any structures 50 years or older on the property.
10. Does your project involve any of the following? Select all that apply.
    - ☐ Proposed access roads, utility lines, and construction easements
    - ☐ Visual effects that could damage or detract from a historic property's integrity
    - ☐ Vibration effects during construction or as a result of project design
    - ☐ Additional phases of development that are planned for the future
    - ☐ Sealing of caves, fractures, sinkholes, or other karst features
    - ☐ Disturbance of vegetation or wetlands
11. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves or other karst features): none
12. Describe existing disturbances, vegetation & land use (plowing, other ground disturbances):

no-till of winter pasture, plowing and seeding

The following applies to New TPDES and Major Amendment to TPDES Permits:

13. List construction dates of any buildings or structures on the property: unknown
14. Provide a brief history of the property, and name of the architect/builder, if known: unknown

The following applies to New, Amended and Renewal TPDES applications:

15. List each Retention Control Structure and its required capacity (Acre Feet). SP-.65, RCS#1-13.57, RCS#2-10.26, RCS#3-7.38, RCS#4-24.85
16. Provide the location and number of acres where wastewater and manure are land applied: LMU#1-77, LMU#2-77, LMU#3-31, LMU#4-60, LMU#5-78, LMU#6-47, LMU#7-110
17. List the maximum number of head to be permitted. 2621

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 601180649		RN 102184405

SECTION II: Customer Information

4. General Customer Information	5. Effective Date for Customer Information Updates (mm/dd/yyyy)	8/15/2024

☐ 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:*

DeBoer, Nico Jaap

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*

11. Type of Customer: ☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☒ Sole Proprietorship ☐ Other:

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:								
	19008 FM 3079							
	City	Chandler	State	TX	ZIP	75758	ZIP + 4	7667

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)*
(903) 571-3095		( ) -

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.)*

T&S Dalry

23. Street Address of the Regulated Entity: *(No PO Boxes)*	7880 E State Highway 154							
	City	Winnsboro	**State**	TX	**ZIP**	75494	**ZIP + 4**	7110
24. County								

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:					
26. Nearest City			**State**	**Nearest ZIP Code**	
Winnsboro			TX	45494	

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:	32.761905		**28. Longitude (W) In Decimal:**	-95.170065	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds

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)
0241			

33. What is the Primary Business of this entity? *(Do not repeat the SIC or NAICS description.)*

Milk production

34. Mailing Address:	**19008 FM 3079**							
	City	**Chandler**	**State**	**TX**	**ZIP**	**75758**	**ZIP + 4**	**7110**

35. E-Mail Address:	**hilltopjersey@gmail.com**

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(903) 571-3095		( ) -

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:	Jim C. Wyrick	**41. Title:**	Consultant

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(903) 243-0400		( ) -	wyrick@suddenlink.net

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:	East Texas Environmental Services	**Job Title:**	Consultant
Name *(In Print):*	Jim C Wyrick	**Phone:**	(903) 243- 400
Signature:	Jim C Wyrick	**Date:**	11/14/2024

Texas Commission on Environmental Quality

Template and Instructions for the Plain Language Summary for a Concentrated Animal Feeding Operation (CAFO) Permit Application

This template is a guide for developing a plain language summary for a CAFO permit application as required by the TCEQ Public Participation Plan and Language Access Plan. You may modify the template as necessary to accurately describe your facility as long as the summary includes the following information: (1) the function of the proposed site or facility; (2) the expected output of the proposed site or facility; (3) the expected pollutants that may be emitted or discharged by the proposed site or facility; and (4) how the applicant will control those pollutants, so that the proposed or existing CAFO facility will not have an adverse impact on human health or the environment.

Complete the plain language summary templates in English and Spanish below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements.

If a bilingual education program is required by the Texas Education Code at the nearest elementary or middle school to the facility or proposed facility, and the alternative language is not Spanish, you must provide a translated copy of the completed English plain language summary in the appropriate alternative language as part of your application package for CAFO Permit Applications.

If you have any questions about this template, contact the TCEQ Water Quality Division at (512) 239-4671.

You must submit this template with any of these applications or forms:

1. CAFO General Permit Notice of Intent Application, for a new or significant expansion (form number TCEQ 20111)
2. Notice of Change, for substantial change (form number TCEQ 20511)
3. CAFO Individual Permit Application for new, renewal, or major amendment (form number TCEQ 000728.)

Plantilla e instrucciones para el resumen en lenguaje sencillo para una solicitud de permiso de operación concentrada de alimentación animal (CAFO, sigla en inglés).

Esta plantilla es una guía para desarrollar un resumen en lenguaje sencillo para una solicitud de permiso CAFO según lo requerido por el Plan de Participación Pública y el Plan de Acceso Lingüístico de TCEQ. Puede modificar la plantilla según sea necesario para describir con precisión su instalación, siempre y cuando el resumen incluya la siguiente información: (1) la función del sitio o instalación propuestos; (2) la producción esperada del sitio o instalación propuestos; (3) los contaminantes esperados que pueden ser emitidos o descargados por el sitio o instalación propuestos; y (4) cómo el solicitante controlará esos contaminantes, de modo que la instalación CAFO propuesta o existente no tenga un impacto adverso en la salud humana o el medio ambiente.

Complete las plantillas de resumen en lenguaje sencillo en inglés y español a continuación para describir su instalación y aplicación en lenguaje sencillo. A continuación se proporcionan instrucciones y ejemplos. Realice cualquier otra edición necesaria para mejorar la legibilidad o la gramática y para cumplir con los requisitos de la regla.

Si el Código de Educación de Texas requiere un programa de educación bilingüe en la escuela primaria o intermedia más cercana a la instalación o instalación propuesta, y el idioma alternativo no es el español, debe proporcionar una copia traducida del resumen completo en inglés en el idioma alternativo apropiado como parte de su paquete de solicitud para las solicitudes de permisos CAFO.

Si tiene alguna pregunta sobre esta plantilla, comuníquese con la División de Calidad del Agua de TCEQ al (512) 239-4671.

Debe enviar esta plantilla con cualquiera de estas solicitudes o formularios:

1. Solicitud de Aviso de Intención de Permiso General de CAFO, para una expansión nueva o significativa (número de formulario TCEQ 20111)
2. Aviso de cambio, para cambios sustanciales (número de formulario TCEQ 20511)
3. Solicitud de Permiso Individual CAFO para una enmienda nueva, renovable o importante (número de formulario TCEQ 000728.)

ENGLISH LANGUAGE TEMPLATE FOR CAFO PERMIT APPLICATIONS

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by the TCEQ Public Participation Plan and Language Access Plan. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

1. Applicant's Name: - DEBOER, NICO JAAP
2. Enter Customer Number: CN601180649
3. Name of facility: T & S DAIRY
4. Enter Regulated Entity Number: RN102184405
5. Provide your permit Number: NOT ISSUED YET
6. Facility Business: DAIRY MILK PRODUCTION. THIS FACILITY CONFINES 2621 HEAD DAIRY CATTLE, OF WHICH 2621 HEAD ARE MILKING COWS. THE FACILITY PRODUCTION AREA IS LOCATED at 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110. THE DAIRY FACILITY HAS 7 LAND MANAGEMENT UNITS (LMUS) WITH THE FOLLOWING ACREAGE: LMU #1 - 77, LMU #2 - 77, LMU #3 - 31, LMU #4 – 60, LMU #5 – 78, LMU #6 – 47 AND LMU #7 – 110, AND 4 RETENTION CONTROL STRUCTURES (RCSS), AND A CONCRETE SETTLING BASIN. THE RCSS TOTAL REQUIRED CAPACITIES WITHOUT FREEBOARD (ACRE-FEET) ARE RCS #1 – 14.39, RCS #2 – 10.26, RCS #3 – 7.38, AND RCS #4 – 24.85. THERE ARE ONSITE WATER WELLS (WELLS #1 THROUGH WELL #5). THE FACILITY IS LOCATED IN THE DRAINAGE AREA OF SEGMENT NO. 0409 OF LITTLE CYPRESS BAYOU.
7. Facility Location: 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110
8. Application Type: NEW
9. Description of your request: APPLYING FOR A NEW IP
10. Potential pollutant sources at the facility include (list the pollutant sources): Manure, Wastewater, Dust, lubricants, Feed, Fuel Storage, Medicines, Cleaning Chemicals
11. The following best management practices will be implemented at the site to manage pollutants from the listed pollutant sources (describe the best management practices that are used): MANURE WILL BE STORED WITHIN THE DRAINAGE AREA OF RCS #1. WASTEWATER WILL BE STORED IN RCS #1 THROUGH RCS #4 UNTIL PROPERLY IRRIGATED THROUGH A CENTER PIVOTS IRRIGATION SYSTEMS. MANURE WILL BE HAULED TO THE APPROPRIATE LMU#7, IN ACCORDANCE WITH THE NUTRIENT MANAGEMENT PLAN. RCS #1, AND RCS #4 WILL BE DESIGNED TO STORE AND MAINTAIN THE SLUDGE AND 25YR-24HR RAINFALL. ALL OTHER CLEANERS, LUBRICANTS, FUELS AND MEDICINES WILL BE MAINTAINED AND ALL MANUFACTURERS' DIRECTIONS FOLLOWED. DEAD COWS WILL BE BURIED WITHIN 72 HOURS

Unless otherwise limited, manure, sludge, or wastewater will not be discharged from a land management unit (LMU) or a retention control structure (RCS) into or adjacent to water in the state from a CAFO except resulting from any of the following conditions:

1) a discharge of manure, sludge, or wastewater that the permittee cannot reasonably prevent or control resulting from a catastrophic condition other than a rainfall event;

2) overflow of manure, sludge, or wastewater from a RCS resulting from a chronic/catastrophic rainfall event; or

3) a chronic/catastrophic rainfall discharge from a LMU that occurs because the permittee takes measures to de-water the RCS if the RCS is in danger of imminent overflow.

PLANTILLA DE IDIOMA ESPAÑOL PARA SOLICITUDES DE PERMISO CAFO

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Plan de Participación Pública y el Plan de Acceso al Idioma de la TCEQ. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación federal exigible de la solicitud de permiso.

1. Nombre del Solicitante: DEBOER, NICO JAAP
2. Introduzca el Número de Cliente: CN601180649
3. Nombre de la Instalación: T & S DAIRY
4. Introduzca el Número de Entidad Regulada: RN102184405.
5. Proporcione su Número de Permiso: AÚN NO EMITIDO
6. Negocio de Instalación: PRODUCCIÓN DE LECHE. ESTA INSTALACIÓN CONFINA 2621 CABEZAS DE GANADO LECHERO, DE LAS CUALES 2621 SON VACAS DE ORDEÑO. EL ÁREA DE PRODUCCIÓN DE LA INSTALACIÓN ESTÁ UBICADA EN 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110. LA INSTALACIÓN LÁCTEA TIENE 7 UNIDADES DE GESTIÓN DE TIERRAS (LMUS) CON LA SIGUIENTE SUPERFICIE: LMU N.° 1 - 77, LMU N.° 2 - 77, LMU N.° 3 - 31, LMU N.° 4 - 60, LMU N.° 5 - 78, LMU N.° 6 - 47 Y LMU N.° 7 - 110, Y 4 ESTRUCTURAS DE CONTROL DE RETENCIÓN (RCSS) Y UN DEPÓSITO DE DESENREDO DE CONCRETO. LAS CAPACIDADES TOTALES REQUERIDAS POR EL RCSS SIN FRANCOBORDO (ACRE-PIES) SON RCS N.° 1: 14,39, RCS N.° 2: 10,26, RCS N.° 3: 7,38 Y RCS N.° 4: 24,85. HAY POZOS DE AGUA EN EL LUGAR (POZOS N.° 1 AL N.° 5). LA INSTALACIÓN ESTÁ UBICADA EN EL ÁREA DE DRENAJE DEL SEGMENTO N.° 0409 DE LITTLE CYPRESS BAYOU.
7. Ubicación de la Instalación: 7880 E STATE HIGHWAY 154 WINNSBORO TX 75494 7110.
8. Tipo de Solicitud: NUEVO
9. Descripción de su solicitud: SOLICITUD DE NUEVA IP
10. Las fuentes potenciales de contaminantes en la instalación incluyen (liste las fuentes contaminantes): ESTIÉRCOL, AGUAS RESIDUALES, POLVO, LUBRICANTES, PIENSOS, ALMACENAMIENTO DE COMBUSTIBLE, MEDICAMENTOS, PRODUCTOS QUÍMICOS DE LIMPIEZA
11. Las siguientes mejores prácticas de gestión se implementarán en el sitio para gestionar los contaminantes de las fuentes contaminantes listadas (describa las mejores prácticas de gestión que se utilizan): EL ESTÉRICO SE ALMACENARÁ DENTRO DEL ÁREA DE DRENAJE DEL RCS #1, LAS AGUAS RESIDUALES SE ALMACENARAN DEL RCS #1 AL RCS #4 HASTA QUE SE RIGUEN CORRECTAMENTE A TRAVÉS DE UN SISTEMAS DE RIEGO DE PIVOTES CENTRALES. EL ESTÉRICO SERÁ TRANSPORTADO A LA LMU#7 APROPIADA, DE ACUERDO CON EL PLAN DE MANEJO DE NUTRIENTES. RCS #1 Y RCS #4 ESTARÁN DISEÑADOS PARA ALMACENAR Y MANTENER LOS LODOS Y LAS LLUVIAS DE 25 A 24 HORAS. TODOS LOS DEMÁS LIMPIADORES, LUBRICANTES, COMBUSTIBLES Y MEDICAMENTOS SE MANTENDRÁN

Y SE SEGUIRÁN TODAS LAS INSTRUCCIONES DEL FABRICANTE. LAS VACAS MUERTAS SERÁN ENTERRADAS EN 72 HORAS

A menos que se limite lo contrario, el estiércol, los lodos o las aguas residuales no se descargarán de una unidad de gestión de la tierra (LMU, por sus siglas en inglés) o una estructura de control de retención (RCS, por sus siglas en inglés) hacia o adyacente al agua en el estado de una CAFO, excepto como resultado de cualquiera de las siguientes condiciones:

1) una descarga de estiércol, lodos o aguas residuales que el permisionario no pueda prevenir o controlar razonablemente como resultado de una condición catastrófica que no sea un evento de lluvia;

2) desbordamiento de estiércol, lodo o aguas residuales de un RCS como resultado de un evento de lluvia crónico/catastrófico; o

3) una descarga de lluvia crónica/catastrófica de una LMU que ocurre porque el permisionario toma medidas para desaguar el RCS si el RCS está en peligro de desbordamiento inminente.

Instructions to Complete the Summary - English

1. Enter the name of applicant in this section. The applicant name should match the name associated with the customer number.
2. Enter the Customer Number in this section. Each Individual or Organization is issued a unique 11-digit identification number called a CN (e.g. CN123456789). You may search for your CN from this web address: Customer Number.
3. Enter the name of the facility in this section. The facility name should match the name associated with the regulated entity number.
4. Enter the Regulated Entity number in this section. Each site location is issued a unique 11-digit identification number called an RN (e.g. RN123456789). You may search for your RN from this web address: Regulated Entity Number
5. Provide the permit number that the TCEQ assigned to your site. GP starts with TXG92 and four numbers. IPs start with WQ000xxxx000.
6. Enter a description of the facility in this section. For example, Dairy cattle milk production facility; dairy heifer replacement production facility; beef cattle production facility; young calves production facility or cow/calf operation; chicken egg laying production facility; chicken broiler production facility; sheep/goat production facility; swine production facility.
7. Enter the location of the facility in this section. If the site has a physical address such as 12100 Park 35 Circle, Austin, TX 78753 enter it in this section, but if not provide the location description in the space.
8. Provide the application type in this section.

1. CAFO general permit authorization: select the applicable type from the following list:

1. New authorization for a facility not currently authorized
2. Significant expansion
3. Substantial change

4. CAFO Individual Permit: select the applicable type from the following list:
    1. New
    2. Renewal
    3. Major Amendment

4. Provide a detailed description of the proposed changes to the site to be authorized if you are already authorized and you are proposing some changes to your permit (IP) or authorization (GP).

    If you are requesting a new permit or authorization, provide the number of animals, the number of acres that will be available for land application, list of main crops, and number of lagoons to be authorized.

5. List all potential pollutant sources expected at the facility in this section. For example, you may refer to page one of the technical information packet in this application.

6. Enter a description of the best management practices used at your facility. Include a description of each process, starting with initial treatment and finishing with the point of

disposal. For example, process generated wastewater and stormwater are stored in a lagoon (RCS) until land applied through irrigation, and manure and sludge are stockpiled in the drainage area of the RCS until land applied or hauled offsite for beneficial use.

Example of a Completed Plain Language Summary - English

Individual Permit Application for a Concentrated Animal Feeding Operation- English

The following summary is provided for this water quality permit application being submitted for review by the Texas Commission on Environmental Quality as required by 30 Texas Administrative Code Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

1. Spotted Cow Dairy, LLC
2. CN600000000
3. Spotted Cow Dairy
4. RN1000000000
5. WQ0000000000
6. This facility confines 4,100 head dairy cattle, of which 3,500 head are milking cows. The facility main production area is located on the west side of County Road 8000, approximately one mile south of the intersection of County Road 60 and Highway 11, east of Hico in Hamilton County, Texas. The dairy facility has twelve (12) land management units (LMUs) with the following acreage: LMU #1 - 25, LMU #1A – 45, LMU #2 - 19, LMU #3 - 15, LMU #4 – 59, LMU #5 – 54, LMU #6 – 48, LMU #7 – 35, LMU #8 – 44, LMU #9 – 7, LMU #10 – 6, and LMU #14 – 26; and two (2) retention control structures (RCSs), one Earthen Slurry Basin, one Concrete Slurry Basin, three Earthen Settling Basins, and two Concrete Settling Basins. The RCSs total required capacities without freeboard (acre-feet) are RCS #1 – 67.84 and RCS #2 – 5.24. There are ten onsite water wells (Wells #1 through #10), of which Wells #1, #5 and #6 are plugged. The facility also owns a calf ranch facility and one retention control structure (RCS) RCS #3. The facility is located in the drainage area of the North Bosque River in Segment No. 1226 of the Brazos River Basin.
7. The facility main production area is located on the west side of County Road 80, approximately one mile south of the intersection of County Road 2361 and Highway 6, east of Hico in Hamilton County, Texas.
8. This application is for a major amendment to the permit.
9. The changes include the increase in the number of milking cows from 3500 to 4100 head, the addition of a cross ventilated barn a pen area.
10. Potential pollutant sources at the site include: manure and manure stockpiles, wastewater, sludge, dust, inorganic fertilizers, fuel storage tanks, and compost.
11. The following best management practices will be implemented at the site to manage pollutants from the listed pollutant sources: process generated wastewater and stormwater are stored in a lagoon (RCS) until land applied through irrigation, and manure and sludge are stockpiled in the drainage area of the RCS until land applied or hauled offsite for beneficial use.

Manure, sludge, and wastewater generated by the CAFO will be retained and used in an appropriate and beneficial manner in accordance with a certified site- specific nutrient management plan; and wastewater will be contained in RCSs properly designed ((25-year frequency 10-day duration (25 year/10 day), constructed, operated and maintained according to the provisions of the permit.

Manure, sludge, or wastewater will not be discharged from a LMU or a retention control structure (RCS) into or adjacent to water in the state except under the following conditions:

1. a discharge of manure, sludge, or wastewater that the permittee cannot reasonably prevent or control resulting from a catastrophic condition other than a rainfall event;
2. overflow of manure, sludge, or wastewater from a RCS resulting from a chronic/catastrophic rainfall event; or
3. a chronic/catastrophic rainfall discharge from a LMU that occurs because the permittee takes measures to de-water the RCS if it is in danger of imminent overflow.

Any discharges initiated under the above conditions will be sampled for the following potential pollutants: 5 Day Biochemical Oxygen Demand (BOD5), Escherichia coli, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Nitrate (N), Total Phosphorus, Ammonia Nitrogen and Pesticides.

Instrucciones para completar el resumen – Español

1) Introduzca el nombre del solicitante en esta sección. El nombre del solicitante debe coincidir con el nombre asociado con el número de cliente.
2) Introduzca el número de cliente en esta sección. A cada individuo u organización se le emite un número de identificación único de 11 dígitos llamado CN (por ejemplo, CN123456789). Puede buscar su CN desde esta dirección web: Número de cliente.
3) Introduzca el nombre de la instalación en esta sección. El nombre de la instalación debe coincidir con el nombre asociado con el número de entidad regulada.
4) Introduzca el número de Entidad Regulada en esta sección. Cada ubicación del sitio recibe un número de identificación único de 11 dígitos llamado RN (por ejemplo, RN123456789). Puede buscar su RN desde esta dirección web: Número de entidad regulada
5) Proporcione el número de permiso que la TCEQ asignó a su sitio. GP comienza con TXG92 y cuatro números. Las direcciones IP comienzan con WQ000____000.
6) Introduzca una descripción de la instalación en esta sección. Por ejemplo, la planta de producción de leche para ganado lechero; instalación de producción de reemplazo de novillas lecheras; instalaciones de producción de ganado vacuno; instalación de producción de terneros jóvenes u operación de vacas/terneros; planta de producción de puesta de huevos de gallina; planta de producción de pollos de engorde; planta de producción de ovino y caprino; planta de producción porcina.
7) Introduzca la ubicación de la instalación en esta sección. Si el sitio tiene una dirección física como 12100 Park 35 Circle, Austin, TX 78753, introdúzcala en esta sección, pero si no proporciona la descripción de la ubicación en el espacio.
8) Proporcione el tipo de aplicación en esta sección.
   a) Autorización de permiso general CAFO: seleccione el tipo aplicable de la siguiente lista:
      - Nueva autorización para una instalación no autorizada actualmente
      - Expansión significativa
      - Cambio sustancial
   b) Permiso Individual CAFO: seleccione el tipo aplicable de la siguiente lista:
      - Nuevo
      - Renovación
      - Modificación importante
9) Proporcione una descripción detallada de los cambios propuestos al sitio que se autorizará si ya está autorizado y está proponiendo algunos cambios a su permiso (IP) o autorización (GP).

   Si está solicitando un nuevo permiso o autorización, proporcione el número de animales, el número de acres que estarán disponibles para la aplicación en tierra, la lista de cultivos principales y el número de lagunas que se autorizarán.
10) Enumere todas las fuentes potenciales de contaminantes que se esperan en la instalación en esta sección. Por ejemplo, puede consultar la página uno del paquete de información técnica de esta aplicación.

11) Introduzca una descripción de las mejores prácticas de gestión utilizadas en sus instalaciones. Incluya una descripción de cada proceso, comenzando con el tratamiento inicial y terminando con el punto de eliminación. Por ejemplo, las aguas residuales y pluviales generadas por el proceso se almacenan en una laguna (RCS) hasta que la tierra se aplica a través del riego, y el estiércol y el lodo se almacenan en el área de drenaje del RCS hasta que la tierra se aplica o se transporta fuera del sitio para un uso beneficioso.

Ejemplo de un resumen completo en lenguaje sencillo - Español

Solicitud de Permiso Individual para una Operación de Alimentación Animal Concentrada-Español

Se proporciona el siguiente resumen para esta solicitud de permiso de calidad del agua que se presenta para su revisión por la Comisión de Calidad Ambiental de Texas según lo requerido por 30 Código Administrativo de Texas, Capítulo 39. La información proporcionada en este sumario puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutable federal de la solicitud de permiso.

1) Spotted Cow Dairy, LLC

2) CN600000000

3) Vaca lechera manchada

4) RN1000000000

5) WQ0000000000

6) Esta instalación confina 4.100 cabezas de ganado lechero, de las cuales 3.500 cabezas son vacas de ordeño. El área de producción principal de la instalación está ubicada en el lado oeste de County Road 8000, aproximadamente una milla al sur de la intersección de County Road 60 y Highway 11, al este de Hico en el condado de Hamilton, Texas. La instalación lechera tiene doce (12) unidades de manejo de tierras (LMU) con la siguiente superficie: LMU # 1 - 25, LMU #1A - 45, LMU # 2 - 19, LMU # 3 - 15, LMU # 4 - 59, LMU # 5 - 54, LMU # 6 - 48, LMU # 7 - 35, LMU # 8 - 44, LMU # 9 - 7, LMU # 10 - 6 y LMU # 14 - 26; y dos (2) estructuras de control de retención (RCS), una cuenca de lodo de tierra, una cuenca de lodo de concreto, tres cuencas de sedimentación de tierra y dos cuencas de sedimentación de concreto. Las capacidades totales requeridas de RCS sin francobordo (acres-pies) son RCS # 1 - 67.84 y RCS # 2 - 5.24. Hay diez pozos de agua en el sitio (pozos # 1 a # 10), de los cuales los pozos # 1, # 5 y # 6 están tapados. La instalación también posee una instalación de rancho de terneros y una estructura de control de retención (RCS) RCS # 3. La instalación está ubicada en el área de drenaje del río Bosque Norte en el Segmento No. 1226 de la Cuenca del Río Brazos.

7) El área de producción principal de la instalación está ubicada en el lado oeste de County Road 80, aproximadamente una milla al sur de la intersección de County Road 2361 y Highway 6, al este de Hico en el condado de Hamilton, Texas.

8) Esta solicitud es para una modificación importante del permiso.

9) Los cambios incluyen el aumento en el número de vacas de ordeño de 3500 a 4100 cabezas, la adición de un establo ventilado cruzado y un área de corral.

10) Las fuentes potenciales de contaminantes en el sitio incluyen: estiércol y estiércol, aguas residuales, lodos, polvo, fertilizantes inorgánicos, tanques de almacenamiento de combustible y compost.
11) Las siguientes mejores prácticas de gestión se implementarán en el sitio para manejar los

contaminantes de las fuentes contaminantes enumeradas: las aguas residuales generadas por el proceso y las aguas pluviales se almacenan en una laguna (RCS) hasta que la tierra se aplica a través del riego, y el estiércol y el lodo se almacenan en el área de drenaje del RCS hasta que la tierra se aplica o se transporta fuera del sitio para un uso beneficioso.

El estiércol, lodo y aguas residuales generados por la CAFO serán retenidos y utilizados de manera apropiada y beneficiosa de acuerdo con un plan certificado de manejo de nutrientes específico del sitio; y las aguas residuales estarán contenidas en RCS debidamente diseñados ((frecuencia de 25 años 10 días de duración (25 años / 10 días), construidos, operados y mantenidos de acuerdo con las disposiciones del permiso.

El estiércol, los lodos o las aguas residuales no se descargarán de una LMU o una estructura de control de retención (RCS) en o adyacentes al agua en el estado, excepto bajo las siguientes condiciones:

· una descarga de estiércol, lodo o aguas residuales que el permisionario no puede prevenir o controlar razonablemente como resultado de una condición catastrófica que no sea un evento de lluvia;

· desbordamiento de estiércol, lodo o aguas residuales de un RCS como resultado de un evento de lluvia crónica / catastrófica; o

· una descarga de lluvia crónica/catastrófica de una LMU que ocurre porque el permisionario toma medidas para deshidratar el RCS si está en peligro de desbordamiento inminente.

Cualquier descarga iniciada en las condiciones anteriores se muestreará para los siguientes contaminantes potenciales: demanda bioquímica de oxígeno (DBO5) de 5 días, Escherichia coli, sólidos disueltos totales (TDS), sólidos suspendidos totales (TSS), nitrato (N), fósforo total, nitrógeno amoniacal y pesticidas.

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.

Application for an Individual Permit.

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.

Quitman

(City)

Wood

(County)

(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

(b) Per capita income for population near the specified location

(c) Percent of minority population and percent of population by race within the specified location

(d) Percent of Linguistically Isolated Households by language within the specified location

(e) Languages commonly spoken in area by percentage

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

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) County Extension Office

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?

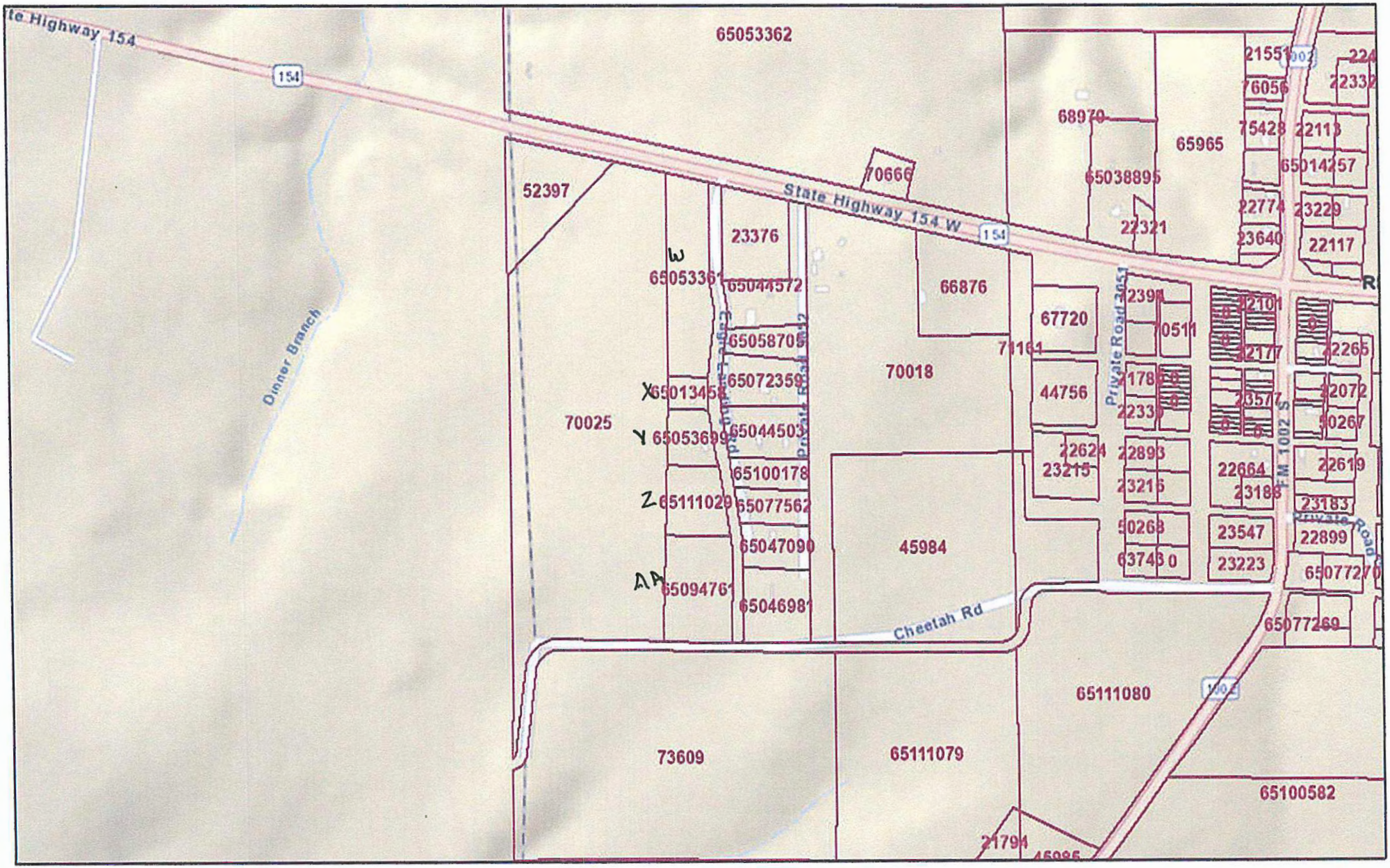
☐ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☑ Mailed by TCEQ's Office of the Chief Clerk

☑ Other (specify) Local Newspaper

Upshur CAD Web Map



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Parcels

1:9,028

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0 0.1 0.2 0.4 km

Esri, HERE, Garmin, INCREMENT P, Intermap, NGA, USGS

Upshur County Appraisal District, BIS Consulting - www.bisconsulting.com

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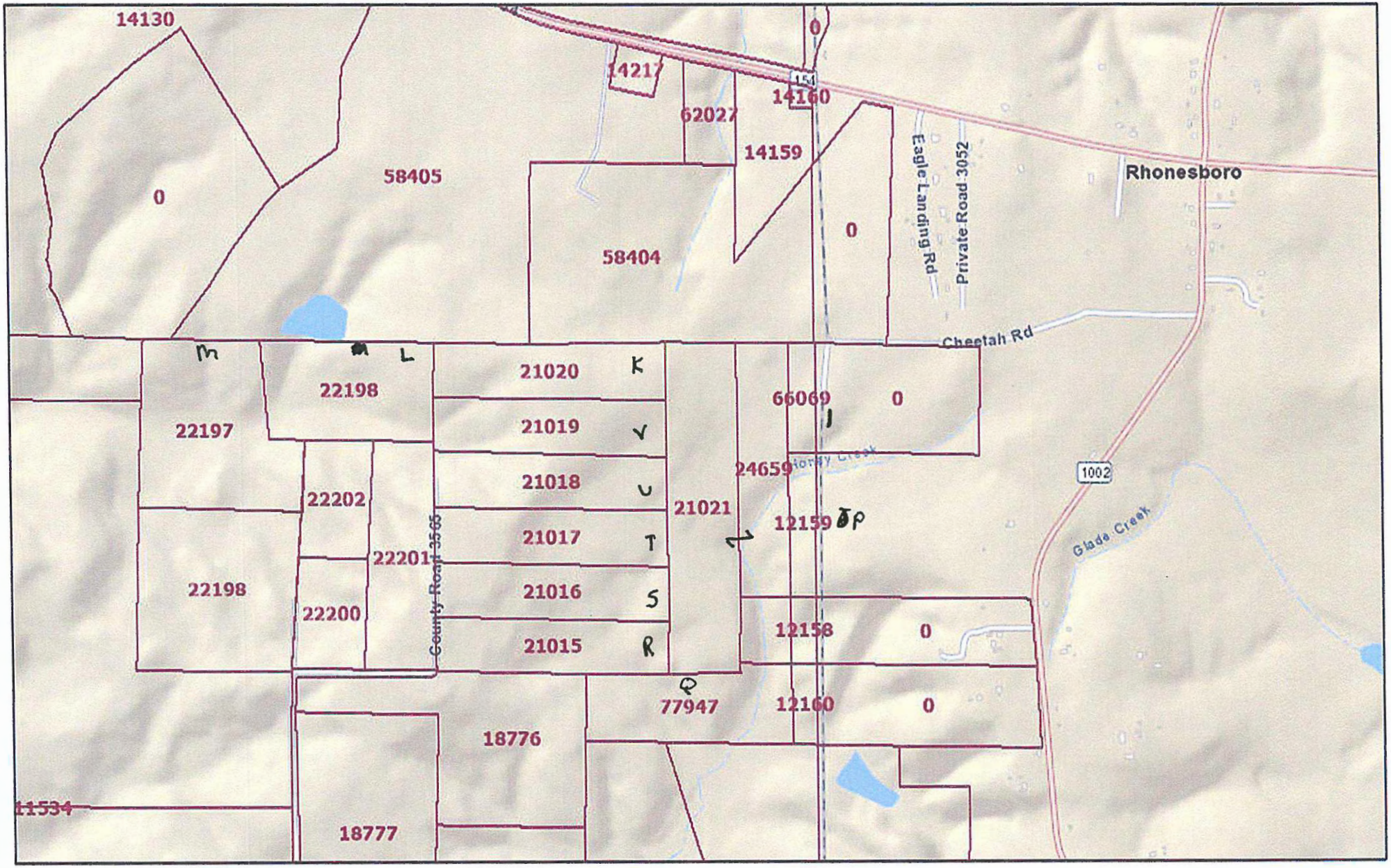
Wood CAD Web Map B



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Parcels

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0 0.2 0.4 0.8 km

Esri, HERE, Garmin, INCREMENT P, NGA, USGS

Wood County Appraisal District, BIS Consulting - www.bisconsulting.com

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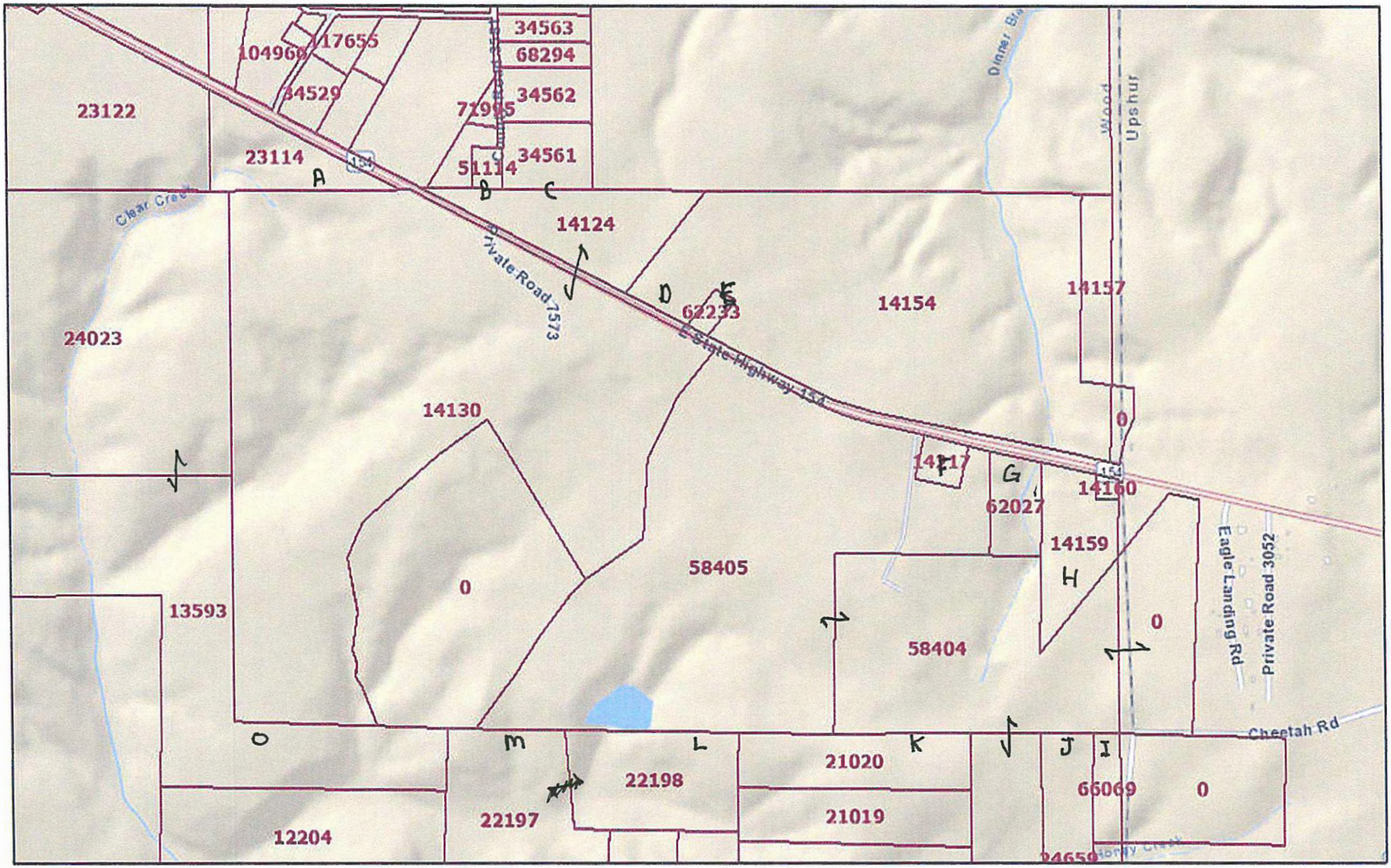
Wood CAD Web Map H



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Parcels

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0 0.2 0.4 0.8 km

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T&S Dary Land Owners Map

A	23114	FREDDIE & SHIRLEY RISINGER 7196 E HWY 154 WINNSBORO TX 75494
B	51114	HILARO PEREZ 274 CR 3581 WINNSBORO TX 75494
C	34561	DORA ALEMAN 3010 COOK LANE LONGVIEW TX 7560
D	14154	T & A FARM LLC 9 SOUTH WEST OAK DR HOUSTON TX 77056
E	62233	GUMARO PEREZ-HERNANDEZ 7649 E STATE HWY 154 WINNSBORO TX 75494
F	14217	ANDREW BOND 620 CR 1750 YANTIS TX 75497
G	62027	RICKEY & JEANNIE MOBLEY 7890 E ST HWY 154 WINNSBORO TX 75494
H	14159	MICHIAL DON SMITH & DANA MISCHELLE SMITH 7990 E SH 154 WINNSBORO TX 75494
I	66069	HERSHELL WINGFIELD 1776 FM 1002 S BIG SANDY TX 75755
J	12159	GEORGE & LISA EAST 278 PR 3807 BIG SANDY TX 75755
K	21020	DONALD C WELLMAN 7236 WALLING LN DALLAS TX 75231
L	22198	HURLIMAN COMPANY LP 385 LUKFATA CEMETERY RD BROKEN BOW OK 74728

T&S Dary Land Owners Map

M	22197	RICHARD BLAKE POLAND 1410 POPPIE LN MIDLOTHIAN TX 76065
O	13593	HURLIMAN COMPANY LP 385 LUKFATA CEMETERY RD BROKEN BOW OK 74728
P	12159 12158	GEORGE & LISA EAST 278 PR 3807 BIG SANDY TX 75755
Q	77947	DAL-HAR DELIVERY SERVICE INC 1801 SANDALWOOD LN GRAPVINE TX 76051
R	21015	JOANN RASOR 3348 KINKAID ST DALLAS TX 75220
S	21016	KEITH & VICTORIA VALENTINE WARNEKE 1935 CLUBVIEW DR ROCKWALL TX 75087
T	21017	SCOTT & ANNETTE ANDERSON 444 CR 3565 BIG SANDY TX 75755
U	21018	VALERIE R LUCIANI & PETE MCFADDEN 530 CR 3565 BIG SANDY TX 75755 TX 75755
V	21019	BRANDON M & STACY L LIEBEL 1060 IRON HORSE DR SAGINAW TX 76131
W	65053361	JAMES & INGRID BREWER 12223 STATE HWY 154 W WINNSBORO TX 75494
X	65013458	PRITCHETT WATER SUPPLY 3670 STATE HWY 155 S GILMER TX 75645
Y	65053699	JOHNNY & JODI MORRIS ELMORE 176 EAGLE LANDING RD WINNSBORO TX 75494
Z	65111029	JOHN H & ALLISON M MOORE 246 EAGLE LANDING RD WINNSBORO TX 75494

T&S Dary Land Owners Map

AA 65094761 BARRY R & AMY E SMITH
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HOUSTON TX 77056

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Property Details

Account		
Property ID:	14127	**Geographic ID:** 0178-0070-0000-85
Type:	R	***Zoning:***
Property Use:		**Condo:**
Location		
Situs Address:	E HWY 154 WINNSBORO, TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0178; DUNCOMBE C G; TRACT 7; 4.0 ACRES	
Abstract/Subdivision:	0178	
Neighborhood:	(0178) DUNCOMBE C.G.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$0 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$80,000 (+)
Agricultural Market Valuation:	$0 (+)
Market Value:	$80,000 (=)

Agricultural Value Loss:	$0 (-)
Appraised Value:	$80,000 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$80,000
Ag Use Value:	$0

Information provided for research purposes only. Legal descriptions and acreage amounts are for Appraisal District use only and should be verified prior to using for legal purpose and or documents. Please contact the Appraisal District to verify all information for accuracy.

Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$80,000	$80,000	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$80,000	$80,000	$37.04	
GWD	WOOD COUNTY	$80,000	$80,000	$370.00	
SHR	HARMONY ISD	$80,000	$80,000	$844.16	
WDD	WASTE DISPOSAL DISTRICT	$80,000	$80,000	$12.00	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $1,263.20

Estimated Taxes Without Exemptions: $1,263.20

Property Details

Account			
Property ID:	14130	**Geographic ID:**	0176-0060-0000-85
Type:	R	**Zoning:**	
Property Use:		**Condo:**	
Location			
Situs Address:	116 HWY 154 E TX		
Map ID:		**Mapsco:**	
Legal Description:	ABS 0176; DUNCOMBE C G; TRACT 6; 382.57 ACRES		
Abstract/Subdivision:	0176		
Neighborhood:	(0176) DUNCOMBE C.G.		
Owner			
Owner ID:	109073		
Name:	DE BOER NICO & ERNA DE BOER		
Agent:			
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758		
% Ownership:	100.0%		
Exemptions:	For privacy reasons not all exemptions are shown online.		

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$1,844,740 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$27,500 (+)
Agricultural Market Valuation:	$2,076,640 (+)
Market Value:	$3,948,880 (=)

Agricultural Value Loss:	$2,016,080 (-)
Appraised Value:	$1,932,800 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$1,932,800
Ag Use Value:	$60,560

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Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$3,948,880	$1,932,800	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$3,948,880	$1,932,800	$894.89	
GWD	WOOD COUNTY	$3,948,880	$1,932,800	$8,939.20	
SHR	HARMONY ISD	$3,948,880	$1,932,800	$20,394.91	
WDD	WASTE DISPOSAL DISTRICT	$3,948,880	$1,932,800	$289.92	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $30,518.92

Estimated Taxes Without Exemptions: $62,352.81

Property Details

Account		
Property ID:	21021	**Geographic ID:** 0516-0070-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0516; READ W; TRACT 7; 44.63 ACRES	
Abstract/Subdivision:	0516	
Neighborhood:	(0516) READ W.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$0 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$0 (+)
Agricultural Market Valuation:	$0 (+)
Timber Market Valuation:	$334,730 (+)

Market Value:	$334,730 (=)
Agricultural Value Loss:	($4,280) (-)
Appraised Value:	$4,280 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$4,280
Ag or Timber Use Value:	$4,280

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Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$334,730	$4,280	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$334,730	$4,280	$1.98	
GWD	WOOD COUNTY	$334,730	$4,280	$19.80	
SHR	HARMONY ISD	$334,730	$4,280	$45.16	
WDD	WASTE DISPOSAL DISTRICT	$334,730	$4,280	$0.64	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $67.58

Estimated Taxes Without Exemptions: $5,285.39

Property Details

Account		
Property ID:	24659	**Geographic ID:** 0754-0010-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0754; THOMPSON P; TRACT 1,3 PT; 23.124 ACRES	
Abstract/Subdivision:	0754	
Neighborhood:	(0754) THOMPSON P.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$0 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$0 (+)
Agricultural Market Valuation:	$0 (+)
Timber Market Valuation:	$208,120 (+)

Market Value:	$208,120 (=)
Agricultural Value Loss:	($2,220) (-)
Appraised Value:	$2,220 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$2,220
Ag or Timber Use Value:	$2,220

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Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$208,120	$2,220	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$208,120	$2,220	$1.03	
GWD	WOOD COUNTY	$208,120	$2,220	$10.27	
SHR	HARMONY ISD	$208,120	$2,220	$23.43	
WDD	WASTE DISPOSAL DISTRICT	$208,120	$2,220	$0.33	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $35.06

Estimated Taxes Without Exemptions: $3,286.22

Property Details

Account			
Property ID:	14124	**Geographic ID:**	0176-0010-0000-85
Type:	R	**Zoning:**	
Property Use:		**Condo:**	
Location			
Situs Address:	7505 HWY 154 E TX		
Map ID:		**Mapsco:**	
Legal Description:	ABS 0176; DUNCOMBE C G; TRACT 1 TR; 27.762 ACRES		
Abstract/Subdivision:	0176		
Neighborhood:	(0176) DUNCOMBE C.G.		
Owner			
Owner ID:	109073		
Name:	DE BOER NICO & ERNA DE BOER		
Agent:			
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758		
% Ownership:	100.0%		
Exemptions:	For privacy reasons not all exemptions are shown online.		

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$161,970 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$18,000 (+)
Agricultural Market Valuation:	$231,860 (+)
Market Value:	$411,830 (=)

Agricultural Value Loss:	$227,730 (-)
Appraised Value:	$184,100 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$184,100
Ag Use Value:	$4,130

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Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$411,830	$184,100	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$411,830	$184,100	$85.24	
GWD	WOOD COUNTY	$411,830	$184,100	$851.46	
SHR	HARMONY ISD	$411,830	$184,100	$1,942.62	
WDD	WASTE DISPOSAL DISTRICT	$411,830	$184,100	$27.62	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $2,906.94

Estimated Taxes Without Exemptions: $6,502.79

Property Details

Account			
Property ID:	58404	**Geographic ID:**	0178-0060-0000-85
Type:	R	**Zoning:**	
Property Use:		**Condo:**	
Location			
Situs Address:	7800 HWY 154 E TX		
Map ID:		**Mapsco:**	
Legal Description:	ABS 0178; DUNCOMBE C G; TRACT 6,10; 139.683 ACRES		
Abstract/Subdivision:	0178		
Neighborhood:	(0178) DUNCOMBE C.G.		
Owner			
Owner ID:	109073		
Name:	DE BOER NICO & ERNA DE BOER		
Agent:			
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758		
% Ownership:	100.0%		
Exemptions:	For privacy reasons not all exemptions are shown online.		

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$491,490 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$1,560 (+)
Agricultural Market Valuation:	$766,700 (+)
Market Value:	$1,259,750 (=)

Agricultural Value Loss:	$744,340 (-)
Appraised Value:	$515,410 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$515,410
Ag Use Value:	$22,360

Information provided for research purposes only. Legal descriptions and acreage amounts are for Appraisal District use only and should be verified prior to using for legal purpose and or documents. Please contact the Appraisal District to verify all information for accuracy.

Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$1,259,750	$515,410	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$1,259,750	$515,410	$238.63	
GWD	WOOD COUNTY	$1,259,750	$515,410	$2,383.77	
SHR	HARMONY ISD	$1,259,750	$515,410	$5,438.61	
WDD	WASTE DISPOSAL DISTRICT	$1,259,750	$515,410	$77.31	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $8,138.32

Estimated Taxes Without Exemptions: $19,891.44

Property Details

Account		
Property ID:	58405	**Geographic ID:** 0176-0070-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	HWY 154 E WINNSBORO, TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0176; DUNCOMBE C G; TRACT 7; 147.249 ACRES	
Abstract/Subdivision:	0176	
Neighborhood:	(0176) DUNCOMBE C.G.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$0 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$0 (+)
Agricultural Market Valuation:	$809,870 (+)
Market Value:	$809,870 (=)

Agricultural Value Loss:	$786,250 (-)
Appraised Value:	$23,620 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$23,620
Ag Use Value:	$23,620

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Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$809,870	$23,620	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$809,870	$23,620	$10.94	
GWD	WOOD COUNTY	$809,870	$23,620	$109.24	
SHR	HARMONY ISD	$809,870	$23,620	$249.24	
WDD	WASTE DISPOSAL DISTRICT	$809,870	$23,620	$3.54	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $372.96

Estimated Taxes Without Exemptions: $12,787.85

Property Details

Account		
Property ID:	58404	**Geographic ID:** 0178-0060-0000-85
Type:	R	**Zoning:**
Property Use:		**Condo:**
Location		
Situs Address:	7800 HWY 154 E TX	
Map ID:		**Mapsco:**
Legal Description:	ABS 0178; DUNCOMBE C G; TRACT 6,10; 139.683 ACRES	
Abstract/Subdivision:	0178	
Neighborhood:	(0178) DUNCOMBE C.G.	
Owner		
Owner ID:	109073	
Name:	DE BOER NICO & ERNA DE BOER	
Agent:		
Mailing Address:	19008 FM 3079 CHANDLER, TX 75758	
% Ownership:	100.0%	
Exemptions:	For privacy reasons not all exemptions are shown online.	

Property Values

Improvement Homesite Value:	$0 (+)
Improvement Non-Homesite Value:	$491,490 (+)
Land Homesite Value:	$0 (+)
Land Non-Homesite Value:	$1,560 (+)
Agricultural Market Valuation:	$766,700 (+)
Market Value:	$1,259,750 (=)

Agricultural Value Loss:	$744,340 (-)
Appraised Value:	$515,410 (=)
HS Cap Loss:	$0 (-)
Circuit Breaker:	$0 (-)
Assessed Value:	$515,410
Ag Use Value:	$22,360

Information provided for research purposes only. Legal descriptions and acreage amounts are for Appraisal District use only and should be verified prior to using for legal purpose and or documents. Please contact the Appraisal District to verify all information for accuracy.

Property Taxing Jurisdiction

Owner: DE BOER NICO & ERNA DE BOER **%Ownership:** 100.0%

Entity	Description	Market Value	Taxable Value	Estimated Tax	Freeze Ceiling
CAD	APPRAISAL DISTRICT	$1,259,750	$515,410	$0.00	
ESD1	WOOD COUNTY EMERGENCY SERVICE DISTRICT 1	$1,259,750	$515,410	$238.63	
GWD	WOOD COUNTY	$1,259,750	$515,410	$2,383.77	
SHR	HARMONY ISD	$1,259,750	$515,410	$5,438.61	
WDD	WASTE DISPOSAL DISTRICT	$1,259,750	$515,410	$77.31	

Total Tax Rate: 1.579000

Estimated Taxes With Exemptions: $8,138.32

Estimated Taxes Without Exemptions: $19,891.44

WATER QUALITY PERMIT

PAYMENT SUBMITTAL FORM

Use this form to submit you APPLICATION FEE, if you are mailing your payment.

- Complete items 1 through 5 below:
- Staple your check in the space provided at the bottom of this document.
- Do not mail this form with your application form.
- Do not mail this form to the same address as your application.
- Do not submit a copy of the application with this form as it could cause duplicate permit entries.

Mail this form and your check to:

BY REGULAR U.S. MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
P.O. Box 13088
Austin, TX 78711-3088

BY OVERNIGHT/EXPRESS MAIL
Texas Commission on Environmental Quality
Financial Administration Division
Cashier's Office, MC-214
12100 Park 35 Circle
Austin, TX 78753

Fee Code: WQP Wastewater Permit Number: WQ000

1. Check / Money Order Number:
2. Amount of Check/Money Order: $350.00
3. Date of Check or Money Order:
4. Name on Check or Money Order:
5. APPLICATION INFORMATION

   If the check is for more than one application, attach a list of each Project/Site (RE) Name and Physical Address exactly as provided on the application.
   Project/Site (RE) Name:

   Project/Site (RE) Physical Address:

Staple Check in This Space

TCEQ - 20134

TECHNICAL INFORMATION PACKET FOR CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFOS)

Submit this Form with your Individual Permit Application (TCEQ – 000728)

Name of Site: T&S Dairy

TCEQ Permit Number, if assigned: WQ000

Date Prepared: 11/26/24

SECTION 1. POLLUTANT SOURCES MANAGEMENT

For each potential pollutant source listed in the table below, provide the management practices utilized or enter "Not Applicable". Management practices should address the collection, storage and final disposition of each potential pollutant source. You may attach your list.

Table 1: Potential Pollutant Sources and Best Management Practices

Potential Pollutant Source	Best Management Practices
Manure and Manure Stockpiles	Manure generated in the freestalls is flushed into the settling basin then into RCS #1 and irrigated to the LMUs with the irrigation water. Very limited amount will be stockpiled at end of the freestalls and hauled to LMUs.
Wastewater	All wastewater gravity flows from the freestalls into the settling basin then into RCS #. Where it is stored until there is a crop demand for water and nutrients, and then applied to LMUs at an agronomic rate
Sludge	Sludge will be cleaned from the RCSs before the sludge volume reaches the designed capacity. A system of irrigation and vacuum tanks will be used to with the sludge from the RCSs
Compost	NA
Feed and Bedding	Feed when spoiled, will be applied to LMUs. When applied it will be applied at a rate similar to that of manure.
Silage stockpiles	Most of the silage is stored under plastic. The plastic will be removed and disposed of in the appropriate waste containers. If the silage is not covered, any ruined silage will be land applied
Dead animals	All dead animals are collected within 24-hours and properly buried within 72 hours of death following TCEQ guidelines.
Dust	Water will be applied to the until the conductions for dust have passed.
Lubricants	All oil and lubricant products will be stored in a covered storage area in covered, waterproof container. Empty containers are to be disposed of following all precautionary guidelines on the container or placing in a commercial garbage

Potential Pollutant Source	Best Management Practices
Pesticides	All pesticides and herbicides application is contracted to an applicator and no chemicals are stored on the property. All pesticides will be used and disposed in accordance with the label rules
Bulk cleaning chemicals	Use and disposal of empty containers will be according to direction on the product label.
Inorganic fertilizers	NA
Fuel storage tanks	All fuels are stored in a properly maintained storage tank, away from wells. Care will be so spills do not occur when equipment is being filled. If a spill occurs, it will be immediately cleaned up and not allowed to flow from the tank area
Other, specify:	NA

SECTION 2. RETENTION CONTROL STRUCTURE DESIGN

A. Design Summary

1) Design Standards, Characteristic, and Values Sources Used

- ☒ Natural Resource Conservation Service
- ☐ American Society of Agricultural and Biological Engineers
- ☐ Other; specify:

2) Total Number of Animals:

In Open Lots: 0 In Buildings: 2621

3) Animal Housing Location, hours/day:

Open Lots: Buildings: 24

4) Average Liveweight, pounds per head: 975

5) Volatile Solids Removed by Separator System: 0

6) Volatile Solids Loading Rate, lbs/day/1000 ft^3: 0

7) Spilled Drinking Water, gallons/day: 13105

8) Water for Cleanup, gallons/day: 20968

9) Water for Manure Removal, gallons/day: 37565

10) Recycled Wastewater, gallons/day: 0

B. Wastewater Runoff

1) Design Rainfall Amount, inches: 8.0

2) Design Rainfall Event:

- ☒ 25-year, 24 hour
- ☐ Soil Plant Air and Water (SPAW) Field and Pond Hydrology Model
- ☐ 25-year, 10 day
- ☐ Other; specify:

C. Retention Control Structure(s) (RCS) Volume Allocations

Table 2. RCS Volume Allocations (Acre-Feet)

RCS Name	Design Rainfall Event Runoff	Process Generated Wastewater	Minimum Treatment Volume	Sludge Accumulation	Water Balance	Required Capacity	Actual Capacity
RCS#1	0	11.66	0	.39	1.14	13.19	13.57
RCS#2	.53	0	.94	.07	.82	2.36	10.26
RCS#3	.58	0	2.88	.21	0	3.67	7.39
RCS#4	1.63	2.00	9.70	.70	2.12	16.15	24.85

Indicate which RCSs are in-series: RCSs-#1, #2, #3, and #4 are in series

D. RCS Liner or Lack of Hydrologic Connection Certification

Table 3: RCS Hydrologic Connection

RCS Name	Construction Date	Type of Hydrologic Connection Certification
RCS#1	1991	In-situ Soils - Certified 05/24/11
RCS#2	04/16/1999	In-situ Soils - Certified 01/18/96
RCS#3	04/16/1999	In-situ Soils - Certified 04/08/06
RCS#4	6/17/2024	In-situ Soils - Certified 06/17/24

E. Playa Lakes

Are any playa lakes used for RCSs? Yes ☐ No ☒

SECTION 3. MANURE, SLUDGE, AND WASTEWATER HANDLING

A. Manure:

1) Use or Disposal Method:
   - ☒ Land Application to LMUs
   - ☐ Transfer to other persons
   - ☐ Third Party Fields
   - ☐ Other; specify:
2) Land Application Location:
   - ☒ Onsite ☐ Offsite ☐ Not Applicable
3) Composting Location:
   - ☐ Onsite ☐ Offsite ☒ Not Applicable

B. Sludge:

1) Use or Disposal Method:
   - ☒ Land Application to LMUs
   - ☐ Transfer to other persons
   - ☐ Third Party Fields
   - ☐ Other; specify:
2) Land Application Location:
   - ☒ Onsite ☐ Offsite ☐ Not Applicable

C. Wastewater:

1) Use or Disposal Method:

☒ Land Application to LMUs

☐ Total Evaporation

☐ Third Party Fields

☐ Other; specify:

2) Land Application Location:

☒ Onsite ☐ Offsite ☐ Not Applicable

D. Land Application Summary from the Nutrient Management Plan

For each Land Management Unit (LMU), provide the name, acre, crops/yield goals and application rates on Table 4 below. Add rows if needed or attach additional pages.

Table 4: Land Management Unit Summary from the Current NMP

LMU Name	Acre	Crop(s) and Yield Goal(s)	Application Rate (Ac-ft/Ac/Year OR Tons/Ac/Year)
LMU#1	77	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#2	77	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#3	31	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#4	60	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#5	78	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#6	47	Silage - Sorg21-25T; SG Silage-12-14T	.88 Ac-ft/Ac/Year
LMU#7	110	Coastal 4 Cut Hay	95.1 Tons/Ac/Year

1) Wastewater production, ac-in/year: 199.92
2) Estimated Wastewater application, ac-in/year: 199.92
3) Manure production, tons/year: 6856
4) Estimated manure application, tons/year: 6856
5) Estimated manure transferred to other persons, tons/year: 0

E. Floodplain Information

1) Is any part of the production area within a 100-year floodplain? Yes ☐ No ☒

If YES, describe management practices to protect the sites.

2) Is land application or temporary storage of manure in a 100-year floodplain or near a water course? Yes ☐ No ☒

If YES, describe management practices.

F. Soil Limitations

Table 5: Soil Limiting Characteristics and Best Management Practices

Soil Types	Limiting Characteristics	Best Management Practices
	See attachments	

G. Well Protection

Table 6: Water Well Status and Protective Measures

Well ID Number	Well Type	Producing or Non-Producing	Open, Cased, or Capped	Protective Measures
1	Domestic	Producing	Cased	Maintain 150' Buffer
2	Domestic	Producing	Cased	Maintain 150' Buffer
3	Domestic	Producing	Cased	Maintain 150' Buffer
4	Domestic	Producing	Cased	Maintain 150' Buffer
5	Domestic	Producing	Cased	Maintain 150' Buffer
6	Domestic	Producing	Cased	Maintain 150' Buffer
7	Domestic	Producing	Cased	Maintain 150' Buffer

Well ID Number	Well Type	Producing or Non-Producing	Open, Cased, or Capped	Protective Measures
8	Domestic	Producing	Cased	Maintain 150' Buffer
9	Domestic	Producing	Cased	Maintain 150' Buffer
10	Domestic	Producing	Cased	Maintain 150' Buffer
11	Domestic	Producing	Cased	Maintain 150' Buffer
12	Domestic	Producing	Cased	Maintain 150' Buffer

SECTION 4. AIR AUTHORIZATION SUMMARY

A. Type of Air Authorization

- ☒ Air Standard Permit in 30 TAC § 321.43
- ☐ Permit By Rule in 30 TAC Chapter 106 Subchapter F
- ☐ Individual Air Quality Permit

If Air Standard Permit is selected, then complete Sections B and C below.

B. Indicate the AFO Status and Buffer Option.

☒ Operation started after August 19, 1998:
- ☐ ½ mile buffer*
- ☒ ¼ mile buffer* and an odor control plan

☐ Operation started on or before August 19, 1998:
- ☐ ¼ mile buffer*
- ☐ odor control plan

*A written letter of consent from an affected landowner may be used in lieu of meeting the buffer distances specified.

C. Odor Receptors

Identify the number of occupied residences or business structures, schools (including associated recreational areas), places of worship, or public parks located within the following distances from permanent odor sources as defined in 30 TAC §321.32(43):

0 - ¼ mile: area 1 - 0 area 2- 0

¼ - ½ mile: area 1 – 3 area 2 - 2

½ - 1 mile: area 1 - 18 area2 - 13

SECTION 5. ATTACHMENTS

A. Maps

1) Site Map
2) Land Management Unit Map
3) Vicinity Map
4) Original United States Geological Survey 7.5 Minute Quadrangle Map
5) 100 Year Floodplain Map (if applicable)
6) Runoff Control Map
7) Natural Resource Conservation Service (NRCS) Soil Survey Map

B. Professional Certifications

1) Recharge Feature Certification Statement and Supporting Documents
2) RCS Design Calculations (Water Nutr, Animal Waste Management (AWM), or equivalent)
3) RCS As-Built Capacity Certifications (if constructed)
4) RCS Hydrologic Connection Certifications (if constructed)

C. Land Application

1) Nutrient Management Plan
2) Nutrient Utilization Plan. If the NUP is already approved, include the approval letter.
3) Copy of Annual Soil Sampling Analyses (used for the NMP that was submitted with the application)

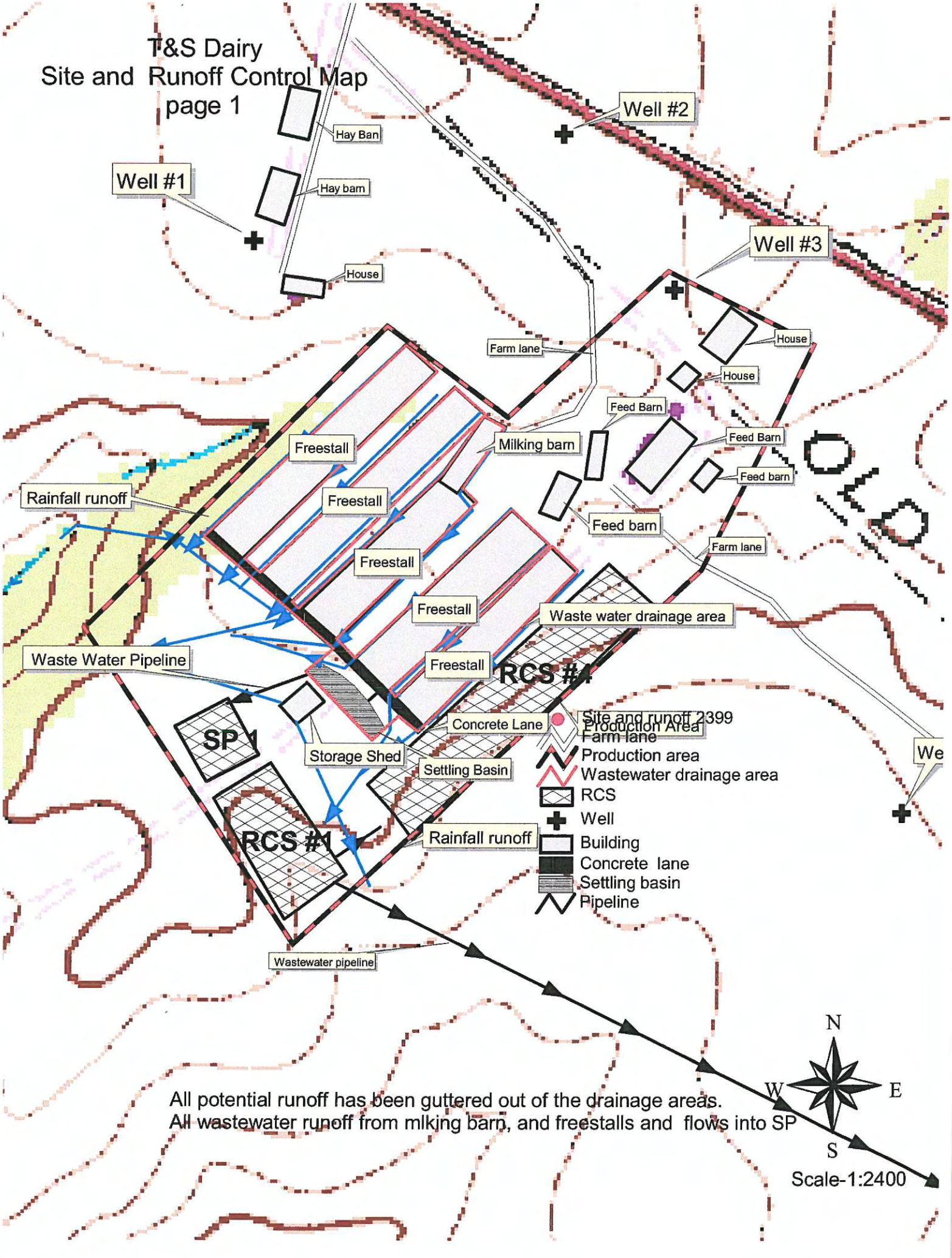
4) Copy of Annual Manure and Wastewater Analyses (used for the NMP that was submitted with the application

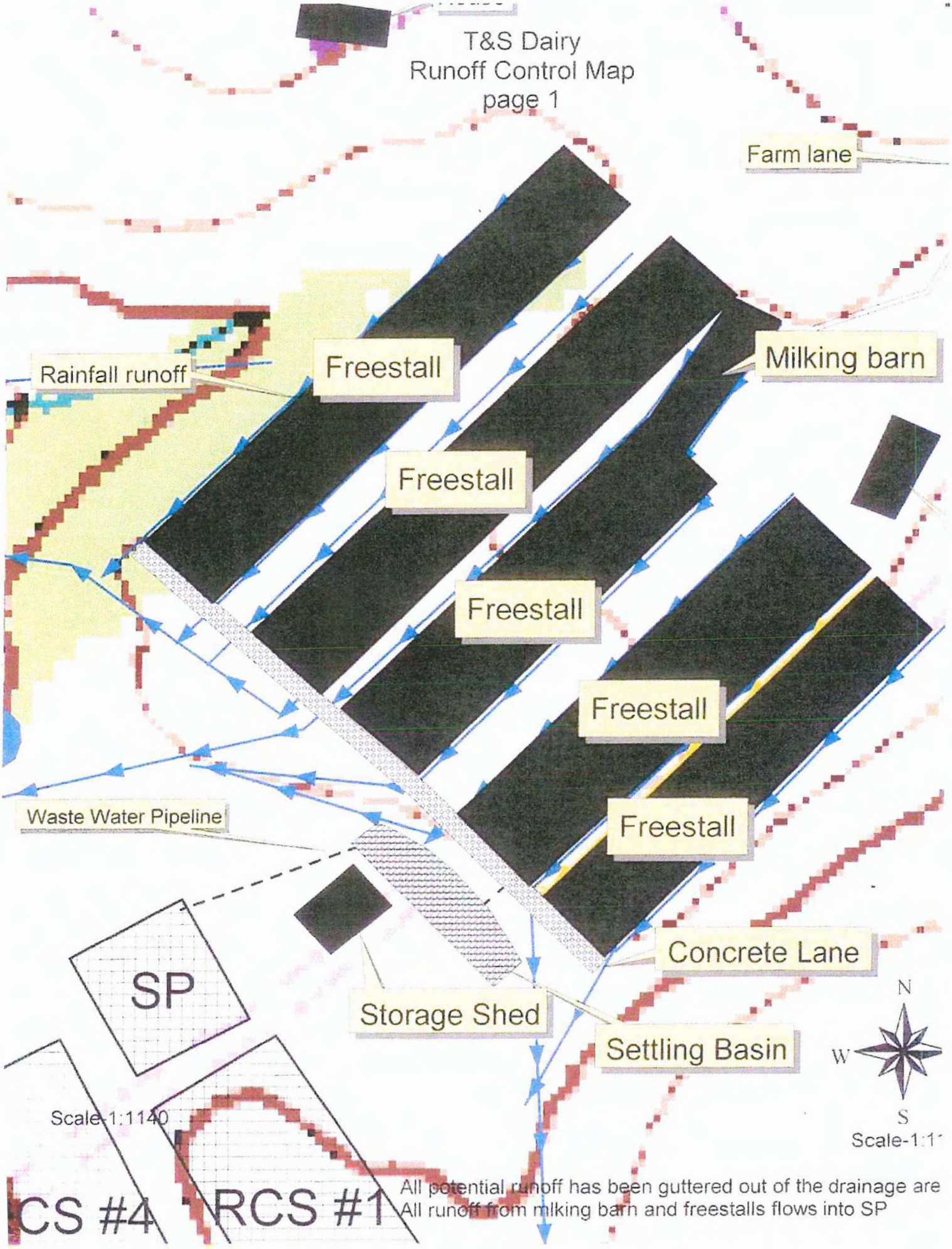
D. Air Standard Permit Documentation (if required)

1) Area Land Use Map,
2) Odor Control Plan, if applicable
3) Written Consent Letters, if applicable

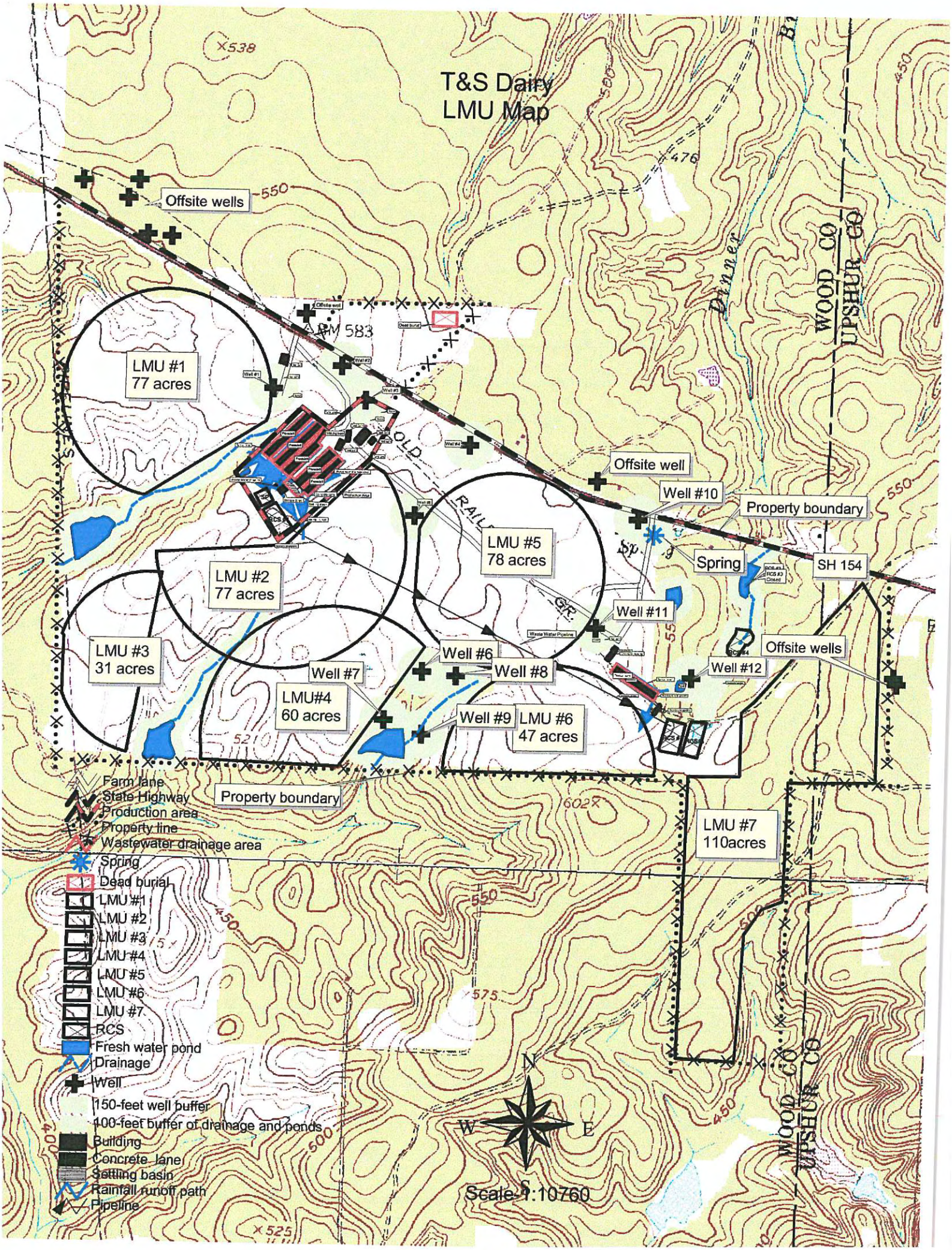
E. Groundwater Monitoring (if required)

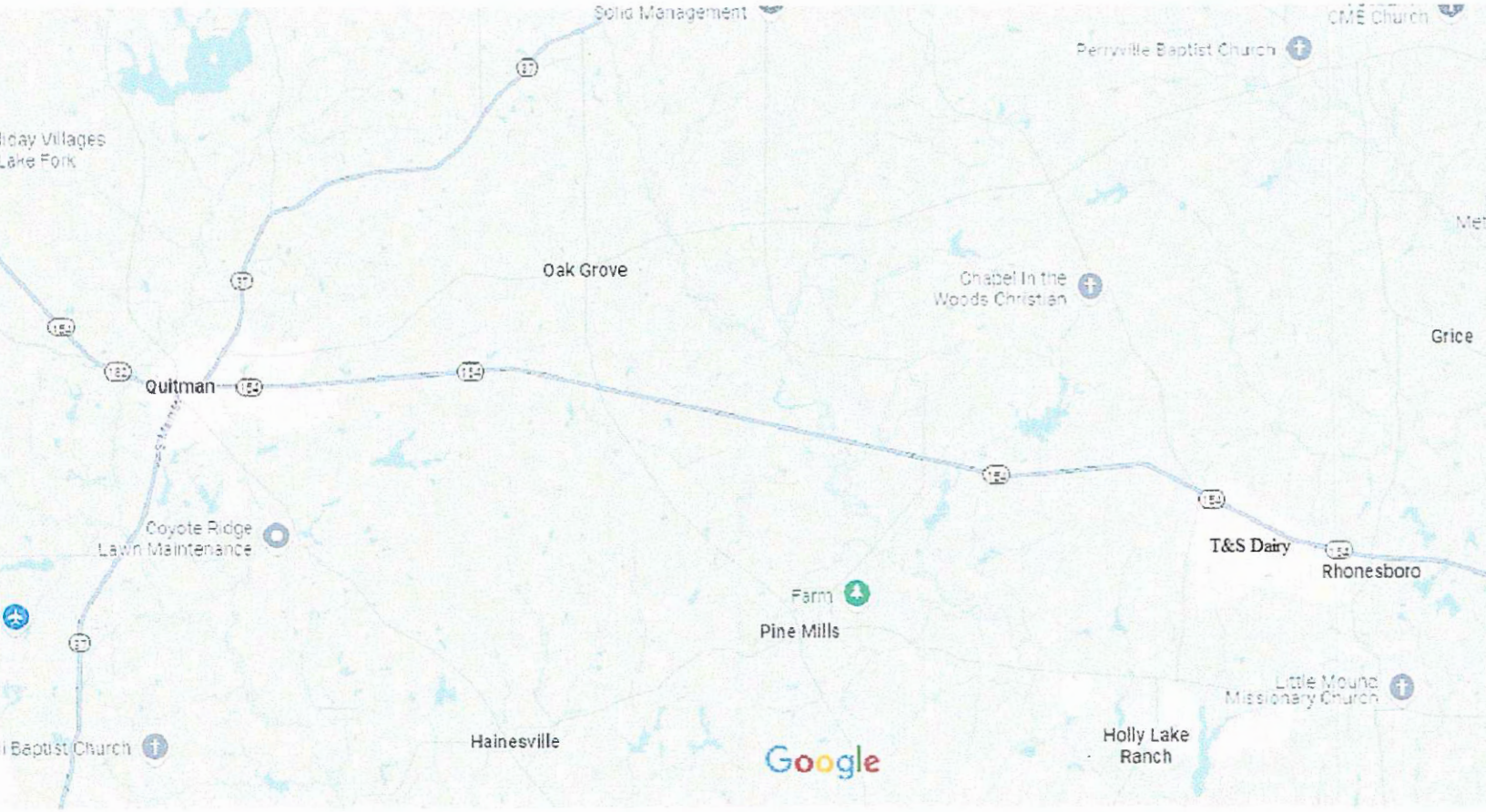
1) Groundwater Monitoring Plan
2) Groundwater Monitoring Analyses


T&S Dairy
Site and Runoff Control Map
page 1
Well #1
Well #2
Well #3
Hay Ban
Hay barn
House
House
House
Farm lane
Farm lane
Feed Barn
Feed Barn
Feed barn
Feed barn
Milking barn
Freestall
Freestall
Freestall
Freestall
Freestall
Rainfall runoff
Waste water drainage area
Waste Water Pipeline
RCS #1
SP 1
RCS #1
Concrete Lane
Storage Shed
Settling Basin
Rainfall runoff
Wastewater pipeline
Site and runoff 2399
Production Area
Farm lane
Production area
Wastewater drainage area
RCS
Well
Building
Concrete lane
Settling basin
Pipeline
N
W
E
S
Scale-1:2400
All potential runoff has been guttered out of the drainage areas.
All wastewater runoff from mlking barn, and freestalls and flows into SP

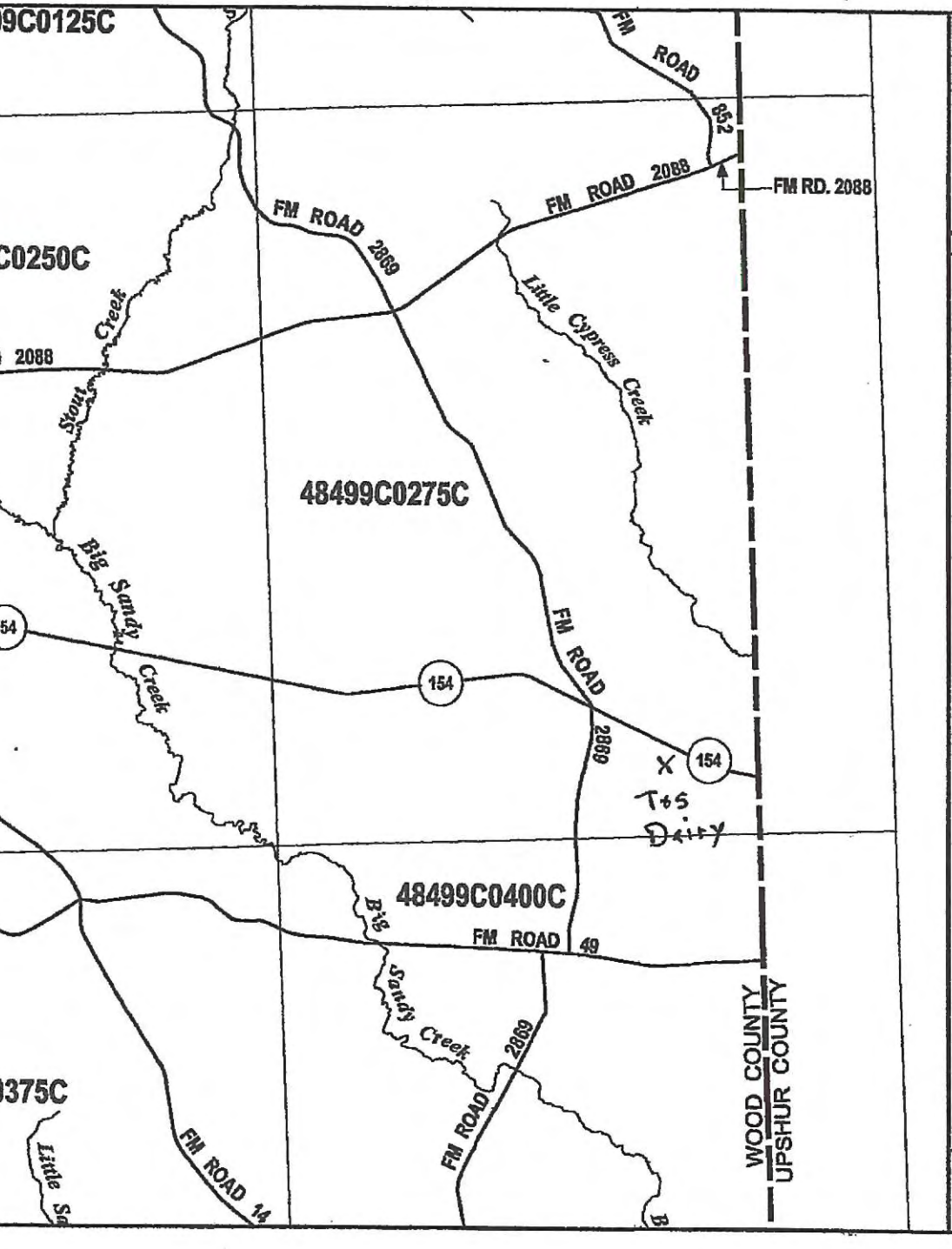

T&S Dairy
Runoff Control Map
page 1
Farm lane
Rainfall runoff
Freestall
Milking barn
Freestall
Freestall
Freestall
Freestall
Waste Water Pipeline
Concrete Lane
SP
Storage Shed
Settling Basin
N
W
S
Scale-1:1140
Scale-1:1
CS #4
RCS #1
All potential runoff has been guttered out of the drainage are
All runoff from milking barn and freestalls flows into SP

All potential runoff has been guttered out of the drainage areas.
All runoff from freestall flows into RCS #2


T&S Dairy
LMU Map
Offsite wells
LMU #1
77 acres
LMU #2
77 acres
LMU #3
31 acres
LMU#4
60 acres
LMU #5
78 acres
LMU #6
47 acres
LMU #7
110acres
Offsite well
Well #10
Property boundary
Spring
SH 154
Well #11
Well #6
Well #8
Well #7
Well #9
Well #12
Offsite wells
Property boundary
FM 583
OLD
RAIL
GR
WOOD CO
UPSHUR CO
Farm lane
State Highway
Production area
Property line
Wastewater drainage area
Spring
Dead burial
LMU #1
LMU #2
LMU #3
LMU #4
LMU #5
LMU #6
LMU #7
RCS
Fresh water pond
Drainage
Well
150-feet well buffer
100-feet buffer of drainage and ponds
Building
Concrete lane
Settling basin
Rainfall runoff path
Pipeline
N
W
E
S
Scale 1:10760


Solid Management
CME Church
Perryville Baptist Church
Oak Grove
Chapel In the Woods Christian
Grice
Quitman
Coyote Ridge Lawn Maintenance
T&S Dairy
Rhonesboro
Farm
Pine Mills
Little Mound Missionary Church
Hainesville
Holly Lake Ranch
Google
Map data ©2024 Google
2 mi

T&S Dairy
Topographic Map



NATIONAL FLOOD INSURANCE PROGRAM

MAP INDEX

FIRM

FLOOD INSURANCE RATE MAP

WOOD COUNTY,
TEXAS
AND INCORPORATED AREAS

(SEE LISTING OF COMMUNITIES TABLE)

MAP INDEX

PANELS PRINTED: 25, 50, 75, 100, 125, 150, 175, 200, 215, 220, 225, 250, 275, 300, 325, 330, 340, 350, 375, 400, 425, 450, 475, 500

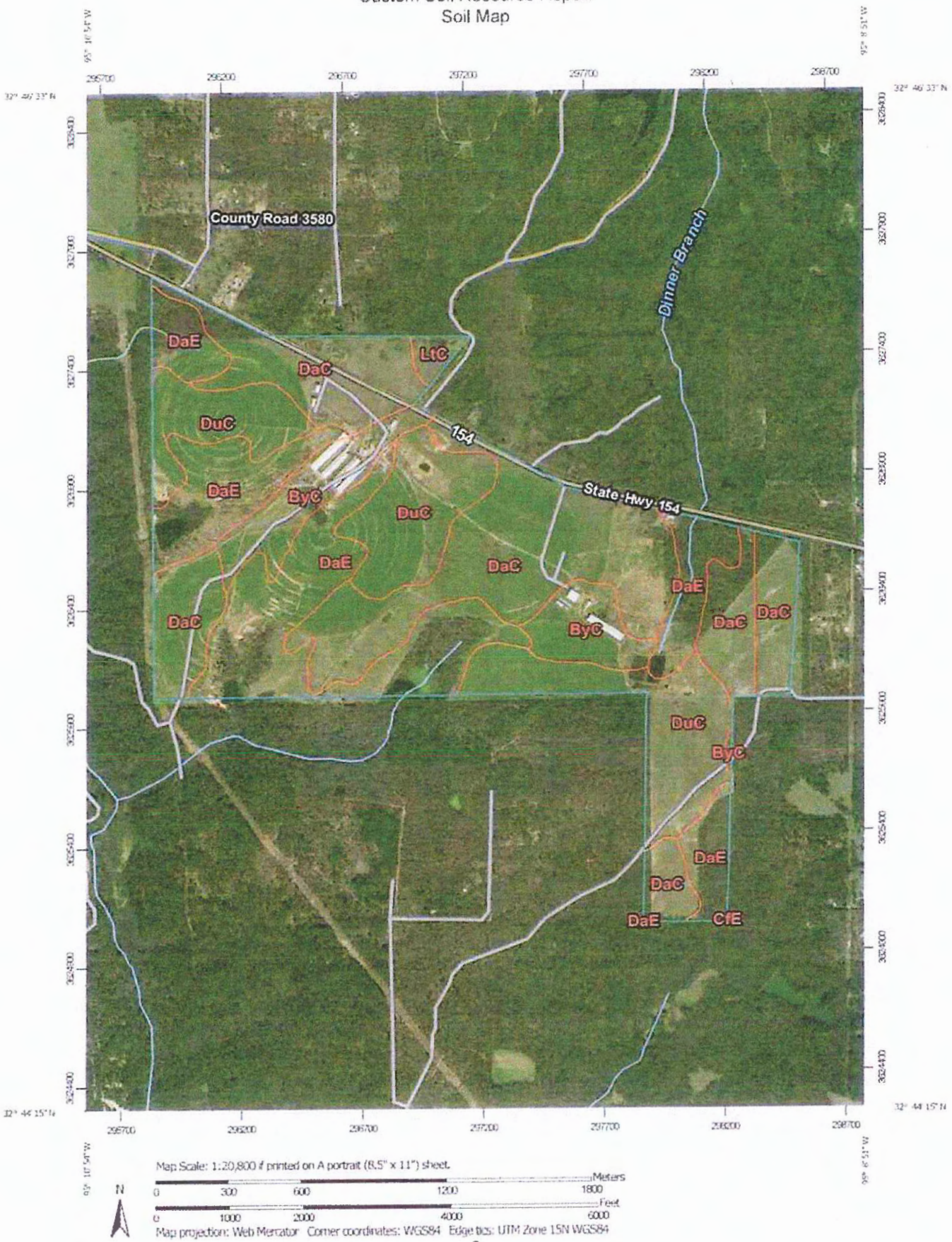
MAP NUMBER
48499CIND0A

EFFECTIVE DATE
SEPTEMBER 3, 2010

Federal Emergency Management Agency

This is an official FIRMette showing a portion of the above-referenced flood map create the MSC FIRMette Web tool. This map does not reflect changes or amendments which been made subsequent to the date on the title block. For additional information about make sure the map is current, please see the Flood Hazard Mapping Updates Overview available on the FEMA Flood Map Service Center home page at https://msc.fema.gov.

Custom Soil Resource Report
Soil Map



Map Scale: 1:20,800 if printed on A portrait (8.5" x 11") sheet.

Meters: 0, 300, 600, 1200, 1800

Feet: 0, 1000, 2000, 4000, 6000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DaC	Darco fine sand, 2 to 5 percent slopes	27.2	3.2%
Subtotals for Soil Survey Area		**27.2**	**3.2%**
Totals for Area of Interest		**850.3**	**100.0%**

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ByC	Briley loamy fine sand, 1 to 5 percent slopes	77.4	9.1%
CfE	Cuthbert fine sandy loam, 8 to 25 percent slopes	0.0	0.0%
DaC	Darco fine sand, 2 to 5 percent slopes	309.2	36.4%
DaE	Darco fine sand, 8 to 15 percent slopes	239.7	28.2%
DuC	Duffern sand, 1 to 5 percent slopes	189.5	22.3%
LtC	Lilbert loamy fine sand, 2 to 5 percent slopes	7.3	0.9%
Subtotals for Soil Survey Area		**823.1**	**96.8%**
Totals for Area of Interest		**850.3**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties

and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Upshur and Gregg Counties, Texas

DaC—Darco fine sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2r7rb
Elevation: 400 to 700 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 63 to 68 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Darco and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Darco

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 3 inches: fine sand
E - 3 to 56 inches: fine sand
Bt - 56 to 80 inches: sandy clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Minor Components

Briley

Percent of map unit: 7 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Lilbert

Percent of map unit: 7 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Duffern

Percent of map unit: 6 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Very Deep Sandy Upland (F133BY010TX)
Hydric soil rating: No

Wood County, Texas

ByC—Briley loamy fine sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2tcnt
Elevation: 200 to 600 feet
Mean annual precipitation: 43 to 60 inches
Mean annual air temperature: 57 to 68 degrees F
Frost-free period: 200 to 275 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Briley and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Briley

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy marine deposits

Typical profile

A - 0 to 10 inches: loamy fine sand
E - 10 to 22 inches: loamy fine sand
Bt - 22 to 80 inches: sandy clay loam

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.1 to 0.3 mmhos/cm)
Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Minor Components

Bowie

Percent of map unit: 5 percent

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Loamy Upland (F133BY005TX)
Hydric soil rating: No

Kirvin

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Betis

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

CfE—Cuthbert fine sandy loam, 8 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2s62w
Elevation: 150 to 750 feet
Mean annual precipitation: 40 to 56 inches
Mean annual air temperature: 61 to 68 degrees F
Frost-free period: 190 to 270 days
Farmland classification: Not prime farmland

Map Unit Composition

Cuthbert and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cuthbert

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear

Across-slope shape: Convex
Parent material: Marine deposits

Typical profile

A - 0 to 4 inches: fine sandy loam
E - 4 to 9 inches: fine sandy loam
Bt - 9 to 22 inches: clay
B/C - 22 to 32 inches: clay loam
C - 32 to 80 inches: sandy clay loam

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Moderate (about 6.9 inches)

Interpretive groups

Land capability classification (irrigated): 7e
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: C
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Minor Components

Sacul

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Kirvin

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Tenaha

Percent of map unit: 5 percent
Landform: Interfluves

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

DaC—Darco fine sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2r7rb
Elevation: 400 to 700 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 63 to 68 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Darco and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Darco

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 3 inches: fine sand
E - 3 to 56 inches: fine sand
Bt - 56 to 80 inches: sandy clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: A
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Minor Components

Lilbert

Percent of map unit: 7 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Briley

Percent of map unit: 7 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Duffern

Percent of map unit: 6 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Very Deep Sandy Upland (F133BY010TX)
Hydric soil rating: No

DaE—Darco fine sand, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2r7rc
Elevation: 400 to 700 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 63 to 68 degrees F
Frost-free period: 230 to 260 days
Farmland classification: Not prime farmland

Map Unit Composition

Darco and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Darco

Setting

Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy and loamy marine deposits

Typical profile

A - 0 to 8 inches: fine sand
E - 8 to 50 inches: fine sand
Bt - 50 to 80 inches: sandy clay loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Sodium adsorption ratio, maximum in profile: 1.0
Available water storage in profile: Low (about 5.2 inches)

Interpretive groups

Land capability classification (irrigated): 6e
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Minor Components

Cuthbert

Percent of map unit: 10 percent
Landform: Interfluves
Landform position (two-dimensional): Backslope
Landform position (three-dimensional) Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Over Clayey Upland (F133BY003TX)
Hydric soil rating: No

Tenaha

Percent of map unit: 10 percent
Landform: Interfluves

Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

DuC—Duffern sand, 1 to 5 percent slopes

Map Unit Setting

National map unit symbol: mbf5
Elevation: 300 to 650 feet
Mean annual precipitation: 42 to 48 inches
Mean annual air temperature: 64 to 68 degrees F
Frost-free period: 235 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Duffern and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Duffern

Setting

Landform: Interfluves
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Marine deposits

Typical profile

H1 - 0 to 9 inches: sand
H2 - 9 to 57 inches: sand
H3 - 57 to 80 inches: sand

Properties and qualities

Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4s
Hydrologic Soil Group: A
Ecological site: Very Deep Sandy Upland (F133BY010TX)

Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 20 percent
Hydric soil rating: No

LtC—Lilbert loamy fine sand, 2 to 5 percent slopes

Map Unit Setting

National map unit symbol: 2s6hr
Elevation: 350 to 600 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 63 to 68 degrees F
Frost-free period: 235 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Lilbert and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Lilbert

Setting

Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy marine deposits and/or loamy marine deposits

Typical profile

A - 0 to 9 inches: loamy fine sand
E - 9 to 23 inches: loamy fine sand
Bt - 23 to 43 inches: sandy clay loam
Btv - 43 to 80 inches: sandy clay loam

Properties and qualities

Slope: 2 to 5 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: Northern Sandy Loam Upland (F133BY006TX)
Hydric soil rating: No

Minor Components

Bowie

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Loamy Upland (F133BY005TX)
Hydric soil rating: No

Darco

Percent of map unit: 5 percent
Landform: Interfluves
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Northern Deep Sandy Upland (F133BY008TX)
Hydric soil rating: No

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

AOI Inventory

This folder contains a collection of tabular reports that present a variety of soil information. Included are various map unit description reports, special soil interpretation reports, and data summary reports.

Map Unit Description (Brief, Generated) (T&S Dairy)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, provide information on the composition of map units and properties of their components.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated) (T&S Dairy)

Upshur and Gregg Counties, Texas

Map Unit: DaC—Darco fine sand, 2 to 5 percent slopes

Component: Darco (80%)

The Darco component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on interfluves on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY008TX Northern Deep Sandy Upland ecological site. Nonirrigated land capability classification is 3s. Irrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 0 within 30 inches of the soil surface.

Component: Lilbert (7%)

Generated brief soil descriptions are created for major soil components. The Lilbert soil is a minor component.

Component: Briley (7%)

Generated brief soil descriptions are created for major soil components. The Briley soil is a minor component.

Component: Duffern (6%)

Generated brief soil descriptions are created for major soil components. The Duffern soil is a minor component.

Wood County, Texas

Map Unit: ByC—Briley loamy fine sand, 1 to 5 percent slopes

Component: Briley (85%)

The Briley component makes up 85 percent of the map unit. Slopes are 1 to 5 percent. This component is on interfluves on coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY006TX Northern Sandy Loam Upland ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface.

Component: Bowie (5%)

Generated brief soil descriptions are created for major soil components. The Bowie soil is a minor component.

Component: Betis (5%)

Generated brief soil descriptions are created for major soil components. The Betis soil is a minor component.

Component: Kirvin (5%)

Generated brief soil descriptions are created for major soil components. The Kirvin soil is a minor component.

Map Unit: CfE—Cuthbert fine sandy loam, 8 to 25 percent slopes

Component: Cuthbert (85%)

The Cuthbert component makes up 85 percent of the map unit. Slopes are 8 to 25 percent. This component is on interfluves on coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY003TX Loamy Over Clayey Upland ecological site. Nonirrigated land capability classification is 7e. Irrigated land capability classification is 7e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 1 within 30 inches of the soil surface.

Component: Kirvin (5%)

Generated brief soil descriptions are created for major soil components. The Kirvin soil is a minor component.

Component: Sacul (5%)

Generated brief soil descriptions are created for major soil components. The Sacul soil is a minor component.

Component: Tenaha (5%)

Generated brief soil descriptions are created for major soil components. The Tenaha soil is a minor component.

Map Unit: DaC—Darco fine sand, 2 to 5 percent slopes

Component: Darco (80%)

The Darco component makes up 80 percent of the map unit. Slopes are 2 to 5 percent. This component is on interfluves on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY008TX Northern Deep Sandy Upland ecological site. Nonirrigated land capability classification is 3s. Irrigated land capability classification is 3s. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 0 within 30 inches of the soil surface.

Component: Briley (7%)

Generated brief soil descriptions are created for major soil components. The Briley soil is a minor component.

Component: Lilbert (7%)

Generated brief soil descriptions are created for major soil components. The Lilbert soil is a minor component.

Component: Duffern (6%)

Generated brief soil descriptions are created for major soil components. The Duffern soil is a minor component.

Map Unit: DaE—Darco fine sand, 8 to 15 percent slopes

Component: Darco (80%)

The Darco component makes up 80 percent of the map unit. Slopes are 8 to 15 percent. This component is on interfluves on coastal plains. The parent material consists of sandy and loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY008TX Northern Deep Sandy Upland ecological site. Nonirrigated land capability classification is 6e. Irrigated land capability classification is 6e. This soil does not meet hydric criteria. There are no saline horizons within 30 inches of the soil surface. The soil has a maximum sodium adsorption ratio of 0 within 30 inches of the soil surface.

Component: Tenaha (10%)

Generated brief soil descriptions are created for major soil components. The Tenaha soil is a minor component.

Component: Cuthbert (10%)

Generated brief soil descriptions are created for major soil components. The Cuthbert soil is a minor component.

Map Unit: DuC—Duffern sand, 1 to 5 percent slopes

Component: Duffern (80%)

The Duffern component makes up 80 percent of the map unit. Slopes are 1 to 5 percent. This component is on interfluves on coastal plains. The parent material consists of marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY010TX Very Deep Sandy Upland ecological site. Nonirrigated land capability classification is 4s. This soil does not meet hydric criteria.

Component: Unnamed (20%)

Generated brief soil descriptions are created for major soil components. The Unnamed soil is a minor component.

Map Unit: LtC—Lilbert loamy fine sand, 2 to 5 percent slopes

Component: Lilbert (90%)

The Lilbert component makes up 90 percent of the map unit. Slopes are 2 to 5 percent. This component is on interfluves on coastal plains. The parent material

consists of sandy marine deposits and/or loamy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 1 percent. This component is in the F133BY006TX Northern Sandy Loam Upland ecological site. Nonirrigated land capability classification is 3e. Irrigated land capability classification is 3e. This soil does not meet hydric criteria.

Component: Darco (5%)

Generated brief soil descriptions are created for major soil components. The Darco soil is a minor component.

Component: Bowie (5%)

Generated brief soil descriptions are created for major soil components. The Bowie soil is a minor component.

Soil Chemical Properties

This folder contains a collection of tabular reports that present soil chemical properties. The reports (tables) include all selected map units and components for each map unit. Soil chemical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil chemical properties include pH, cation exchange capacity, calcium carbonate, gypsum, and electrical conductivity.

Chemical Soil Properties (T&S Dairy)

This table shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Effective cation-exchange capacity refers to the sum of extractable cations plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

Soil reaction is a measure of acidity or alkalinity. It is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Absence of an entry indicates that the data were not estimated. The asterisk "*" denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties–Upshur and Gregg Counties, Texas

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
DaC—Darco fine sand, 2 to 5 percent slopes														
Darco	80	A	0-3	Fine sand	SM, SC-SM	A-2-4	0-0-0	0-0-1	94-100-100	88-100-100	81-94-99	13-17-22	0-18-24	NP-3-6
			3-56	Loamy fine sand, fine sand	SC-SM, SM, SC	A-2-4	0-0-0	0-0-1	95-100-100	90-100-100	80-94-100	14-19-29	0-20-26	NP-5-9
			56-80	Sandy clay loam, fine sandy loam	CL, SC, SC-SM	A-7-6, A-6, A-2-4	0-0-0	0-0-0	95-100-100	89-100-100	70-87-98	34-49-63	22-33-44	7-16-25

Engineering Properties–Wood County, Texas

Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			In				*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*	*L-R-H*
ByC—Briley loamy fine sand, 1 to 5 percent slopes														
Briley	85	B	0-10	Loamy fine sand	SM, SC-SM	A-2-4	0-0-0	0-0-0	95-96-100	89-93-100	82-89-100	20-24-34	12-17-20	NP-3-4
			10-22	Loamy fine sand	SM, SC-SM	A-2-4, A-4	0-0-0	0-0-0	95-98-100	89-95-100	82-90-100	22-27-36	12-17-20	NP-3-4
			22-80	Fine sandy loam, sandy clay loam	SC, CL, SC-SM	A-4, A-6	0-0-0	0-0-0	95-96-100	90-93-100	72-79-95	36-42-55	20-30-38	4-10-14

RECHARGE FEATURE CERTIFICATION
for
T&S Dairy
Winnsboro, Texas

GENERAL REMARKS:

T&S Dairy is applying for a TCEQ Individual Permit for a concentrated animal feeding operation. T&S Dairy is operating at 2621 total dairy cows of which 2621 are milking. Dairy cows are in confinement. The property is located at 7880 E State Highway 154 Winnsboro TX 75494 7110 in Wood County. This recharge feature evaluation and associated certification was conducted by Jim C. Wyrick, Professional Geoscientist, compiled the findings and recommendations, contained herein.

PURPOSE OF REPORT:

The purpose of this report is to determine if the subject property has any natural or artificial features, either on or beneath the ground surface, which would provide a significant pathway for wastewater from the retention control structure or land application site into the underlying aquifer as according to TCEQ requirements. The following records and maps from the following agencies were reviewed to locate any recharge features: (a) Texas Railroad Commission, (b) well driller, (c) TCEQ, (d) Natural Resource Conservation Service, (e) owner of site, and (f) an on-site inspection.

AREA OF EVALUATION

The property is located at 7880 E State Highway 154 Winnsboro TX 75494 7110 in Wood County. Latitude: 32.762046° N and Longitude: -95.170505°W. This property consists of about 877.76 acres. The facility is a freestall dairy operation and dry cows are kept on pastureland. The storm water runoff generally draining via overland flow and shallow concentrated flows the east side of the dairy flows north to unnamed drain and then into Dinner Creek and the west side of the dairy flow south into unnamed drain and then into Clear Creek. The elevation of the dairy property ranges from approximately 500 to 550 feet above mean sea level (AMSL). The current land use of the property is agricultural (pasture and forage crops). All waste application areas are located on the property. The site plan shows the location of the houses, dairy barn, freestalls, wells, and RCSs. The LMU map identifies the waste application areas. The USGS topographic map shows the general topography of the area.

TREATMENT/DISPOSAL SYSTEM:

The treatment system consists of settling pond and four retention control structures (RCS), catches wastewater from the freestalls barns and the milking parlor. All wastewater gravity flows from the freestall barns into SP then flows to RCS#1 and RCS#4 in series. Then pumped to RCS#2 and RCS #3 through an 8-inch pipeline. SP was constructed in 1991, RCS#1 was constructed in 2004, RCS#2 was constructed in 1996, RCS#3 was constructed in 2006, RCS#4 was constructed in 2024. The RCSs will catch and contain all wastewater and manure generated from the dairy barn, freestalls The RCSs will be dewatered using a big gun sprinkler and center pivot system. Rainfall runoff will be prevented from entering the RCSs. The wastewater application areas are LMU#1, LMU#2, LMU#3, LMU#4, LMU#5, and LMU#6. LMU#7 will be used for application of manure.

GEOLOGY:

The facility is constructed on the Queen City Geologic Formation (Eqc). Formations in descending order include the Reklaw (Er), Carrizo Sand (Ec) and the Wilcox (Ewi) formations. The aquifer is Queen City Sand and the Wilcox Formation. However, all formations contain varying amounts and quality of ground water. The 12 wells on the dairy are developed at approximately 400 feet in the Wilcox Formation. These features are considered to be artificial recharge features. These features will be protected from any pollutants by:

(A.) Wells are buffered and no wastewater application is applied within 150 feet of any well.

(B.) A certified well driller following TCEQ rules and regulations drilled all the water wells on the dairy.
(C.) By using best management practices, which include limiting application rates of chemical and organic fertilizers and maintaining vegetation in the buffer zones.

The primary source of ground water in this area is infiltration of rainfall either directly into the outcrop or indirectly as seepage from stream flows. Dinner Springs is located in the northeast side of the dairy also there are several seeps on the facility.

SOILS:
The RCS are constructed in these soils:
ByC—Briley loamy fine sand, 1 to 5 percent slopes
The soil is on interfluves on coastal plains. The parent material consists of sandy marine deposits. Soils are very deep. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

DaE—Darco fine sand, 8 to 15 percent slopes
The soil is on interfluves on coastal plains. The parent material consists of sandy and loamy marine deposits. Soils are very deep. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

DuC—Duffern sand, 1 to 5 percent slopes
The soil is on interfluves on coastal plains. The parent material consists of marine deposits. Soils are very deep. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

The waste storage ponds have been tested and certified to meet the minimum criteria for hydraulic conductivity tested at optimal moisture content and thickness as described in General Permit No. TXG920000 Part III.A.6. (g)(3).

The wastewater application fields are on these soils:
DaC—Darco fine sand, 2 to 5 percent slopes
The soil is on interfluves on coastal plains. The parent material consists of marine deposits. Soils are very deep. The natural drainage class is somewhat excessively drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

ByC—Briley loamy fine sand, 1 to 5 percent slopes
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The soil is on interfluves on coastal plains. The parent material consists of marine deposits. Soils are very deep. The natural drainage class is excessively drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded or ponded. There is no zone of water saturation within a depth of 72 inches.

Buffer zones will be maintained 100 feet from all-natural waterways and 150 feet from any wells. These buffer zones must be strictly maintained to prevent any discharge of pollutants to watercourses. Based on construction methods, pond liner certification, and adherence to best management practices listed in TXG92000, this facility should not pose a hazard to regional ground or surface water.

DEFINITION OF RECHARGE ZONE FEATURE

For the purpose of this report, the definition of "recharge feature" shall be the same as the definition presented in 30 TAC subchapter B: §§321.31-321.47. *Recharge feature is defined as those natural or artificial features either on or beneath the ground surface at the site under evaluation that provide or create significant hydrologic connections between the ground surface and the underlying groundwater within an aquifer. Significant artificial features include, but are not limited to wells and excavation or material pits. Significant natural hydrologic connection includes, but are not limited to: faults; fractures; sinkholes or other macro pores that allow direct surface infiltration; a permeable or a shallow soil material that overlies an aquifer; exposed geologic formations that are identified as an aquifer; or a water course bisecting an aquifer*

GROUND WATER

The Wilcox Group undivided is a multi-aquifer system, composed of fluvial channel sand distributed within the lower permeability interchannel sands and clays. (Kaiser, 1990). Wilcox group is considerate the primary and most productive aquifer in the area. The aquifer is tapped by most of the local moderate to large-capacity wells. Locally, this aquifer is tapped by wells between about 240 and 1,250 feet deep. The aquifer is recharged as part of the precipitation that falls on the outcrops and infiltrates the soil layers and percolates to the generally shallow water table. Water also moves between overlying alluvial and terrace aquifers according to hydraulic head differences. Recharge to the deeper sands is generally limited to areas where these sands outcrop. In other areas, movement of groundwater into the deeper portions of the Wilcox Aquifer is insignificant because of the very low vertical permeability of the interbedded clay layers found in the Wilcox Group (Hall Southwest, 1990b). Water level fluctuations are mostly seasonal.

EVALUATIONS OF LOCAL RECHARGE POTENTIAL

T&S Dairy is located on a Recharge Area. The facility is located on the Queen City Sand Formation. These are deep, moderately permeable and rapidly permeable soils. A 50-foot clay strata located approximately 36 feet below the surface will prevent deep percolation of pollutants into the aquifer. RCSs are located on the Queen City Sand Formation and are designed so that no seepage will occur. There are 12 wells located on the facility. Certified well drillers constructed the wells. They are all producing wells. Surface completion was according to Specified Steel Sleeve (Rule 338.44 (3) (A", Specified Surface Slab (Rule 287.44 (2) (A)) and the Approved Alternate Method (Rule 319.71). There are no evident surface features, such as karstified rock, continuous fractured limestone bedrock, intermittent seeps, or thick sandy surfaces, which would indicate the percolation of pollutants into the ground water. An intermittent

unnamed tributary of Clear Creek is located on the west part of the facility. A thick sandy surface is a feature that needs special attention to avoid percolation into the ground water. This concern will be corrected by the following best management practices:

(1.) Application of wastes will be done at agronomic rates of less than 1 inch or less per application.
(2.) Strict observance of buffer zones around wells and natural waterways.
(3.) Careful monitoring of wastes water levels.
(4.) Maintenance of berms and waterways.
(5.) Monitoring of nutrient level in the soils.
(6.) Maintain a vigorous vegetative cover in at application fields.

A buffer zone of 100 feet is maintained to prevent any surface contaminants from entering the drainage. The facility is on a recharge zone. There are no features that would indicate pollution of the underground water if all best management practices were strictly adhered to. The SP and RCSs were constructed in soil materials that meet the minimum requirements of the General Permit No. TXG920000 Part III.A.6. (g)(3).

Recharge from Precipitation

According to the National Weather Service (NOAA), the average annual precipitation rate in Wood County is about 38.1 inches per year. A significant quantity of water that infiltrates to the water table moves slowly down the local hydraulic gradient and discharges through evapotranispiration or via seeps and springs into the surface drainage system. This rejected recharge supplies a major fraction of the base flow for streams in the area. The balance of the water is available to move downdip into the confined portions of the Wilcox Aquifer.

Retention Control Structures

All water contaminated with animal waste from the dairy operation is directed to the RCSs. A Texas Licensed Professional Geoscientist or Engineer certified the pond liner in the RCSs. (See liner certification documents) as meeting the minimum requirements considered protective of groundwater as established by the TCEQ. The RCSs are designed to hold all runoff water from the facility, including a 25 year- 24-hour rainfall event. During the inspection no evidence was found to show any mechanical or structural damage to the liner. The RCSs are being properly maintained and there was no indication of seepage or leakage. The embankments are free of trash, brushes or trees and walls are stabilized and no erosion or deterioration has taken place. Based on these facts, there is little or no potential for hydraulic connection between the RCSs and the underlying aquifer.

Wastewater Application Area

Sustaining and maintaining the vegetative cover and applying wastewater at agronomic rates will prevent nutrient build-up in the soil profile. Soils are sampled annually to determine Phosphorus levels and the wastewater application rates are adjusted according to the soil test analysis.

ARTIFICIAL RECHARGE FEATURE EVALUATION

Texas Railroad Commission Records

An inventory of oil and gas wells located on the property was conducted for this report. No wells are on the facility.

Local Water District

Wood County does not have a local groundwater district. There are no public water supply wells known to exist on the subject property.

Texas Water Development Board

Texas Water Development (TWDB) Ground Water Database Report Record of Wells and Test Holes Hopkins County, June 7, 2000, and Texas Water Development Board Water Data Interactive (TWDB WDI), was reviewed for registered wells within a 1-mile radius of the faculty site. A registered public well is located north of the dairy across SH 154.

Current and Previous Landowners

Mr. DeBoer stated there are no abandoned or operating oil or gas wells are located on or near the facility. Twelve private water wells are located on the facility. A certified well driller constructed the wells. Surface completion was in accordance with a Specified Surface Slab (Rule 287.44 (2) (A). The wells are 1250 feet deep and surface casing was cemented to a depth of 60 feet below ground level. The water wells are identified on the site map. The previous owner was not available to interview

USDA Natural Resources Conservation Service (Wood County)

An inquiry was made to the USDA-NRCS office in Quitman relating to artificial or natural recharge features, which may be present on the site. They were not aware of any additional features.

On-Site Inspection

A ground reconnaissance inspection was made on the property comprising T&S Dairy. A search for signs or features that could be adversely affected due to the operation of the facility was made. Other than the areas identified within the attached maps, no other suspect areas were observed.

METHODS USED

Natural and artificial recharge features were identified by the following techniques: on-site inspection of the dairy site, interviews with the landowner, review of Texas Railroad Commission records, review of published maps and reports (refer to bibliography), review of Soil Survey of Wood County, Texas, NRCS information, review of Texas Water Development Board Water Data Interactive (TWDB WDI), well driller's logs, the Geologic Atlas of Texas Texarkana and personal knowledge of the area. The previous owner was interviewed regarding recharge features.

CONCLUSIONS

1) The Wilcox Aquifer is the major water-bearing unit beneath the area. Deep Wilcox sand aquifers (greater than 100 feet deep) provide an important source groundwater to the area. It is highly unlikely the operations at the dairy will affect these deeper aquifers because of file presence of frequent low permeability clay beds in the Wilcox Group

2) The shallow fine-grained sand units present at the site do not represent a classic recharge feature for the regional aquifer system. A significant pathway between ground surface and the regional aquifers does not appear to exist at the site; however, a percentage of the annual precipitation will infiltrate through the unsaturated zone to the shallow aquifers underlying the site. Therefore, protective measures as Best Management Practices (BMPs) should be carried out to prevent any potential negative impacts to the underlying aquifer.

3) There are 12 producing private water wells located on the facility. A search of records and on-site inspection were made and no other wells were found. Other water wells not identified during this investigation could be near the site.

4) The existing RCSs were constructed prior to this application and meets 30 TAC subchapter B: §§321.31-321.47 requirements for in-situ soil material with a lack of hydrologic connection. The SP and RCSs are designed to hold all runoff water from the facility, including a 25 Year - 24-

hour rainfall event.

RECOMMENDATIONS

Since a percentage of the annual precipitation will infiltrate through the unsaturated zone to the shallow, local aquifers underlying the site, the facility will employ BMPs, which are protective of the local aquifer underlying the site. These protective measures will be taken to prevent the possible migration of contaminants from, the RCSs and the wastewater application areas to the underlying groundwater. As a minimum, these protective measures will include the following BMPs:

- Operations in and around the RCSs will take care not to damage the in-situ soil material. If the ponds are cleaned by a dragline, front-end loader or the waste storage pond liner disturbed, the dairy operator will request the pond liner be inspected and certified by a Texas Licensed Professional Engineer or Texas Licensed Professional Geoscientists
- Vegetative barriers will be utilized following the guidelines of NRCS codes 393 and 601.
- The operator will prohibit livestock entry into the RCSs.
- Pond marker will be used to monitored determine water level and avoid a discharge.
- Annual soil sampling to monitor nutrient levels in the soil
- Land application of wastewater will be applied on designated application areas and at agronomic rates as an organic fertilizer. Wastewater application rates will not exceed the infiltration rates of the soil.
- Over watering of wastewater will be avoided to prevent leaching of nutrients below the crop root zone.
- Wastewater will not be applied when the ground is frozen or saturated or during rainfall events.
- Irrigation practices will be managed to minimize ponding and puddling of wastewater
- Wastewater and manure will be applied at agronomic rates and not allowed to runoff. Diversions or terraces will be constructed if necessary, to prevent wastewater from leaving the application areas.
- Vegetative cover should be maintained on application fields.
- Wastewater will not be applied closer than 150 feet from any active water well. Wastewater will not be applied closer than 100 feet to waters of Texas. In addition, a vegetative buffer strip will be maintained between all waste application areas and waters of Texas.
- Dead animals will be properly buried in the designated burial area as identified on LMU Map according to 30 TAC subchapter B: §§321.31-321.47 requirements.
- Pesticides and other chemicals will not be stored near the water wells or disposed of in the waste storage pond.
-
- Soils in the waste application areas will be sampled annually in accordance with 30 TAC subchapter B: §§321.31-321.47.
- Thorough inspections of the RCSs, transport, treatment and disposal system will take place on regular intervals. If problems are encountered during these inspections, corrective action plans will be developed to address the specific problems encountered
- Strict observance of buffer zones around the wells, drainage ways and fresh water ponds should be maintained
- The existing water wells will receive regular inspections to protect the wells from contamination if required by this document. If deterioration of the wells is detected, prompt corrective action is required.
- Any abandoned wells encountered will be reported, inspected and properly sealed to prevent possible point source contamination to the underlying aquifer. A 150-foot buffer zone will be maintained between any future water supply wells drilled and the waste storage facilities and other potential pollutants. The water wells will be properly cemented, cased and protected

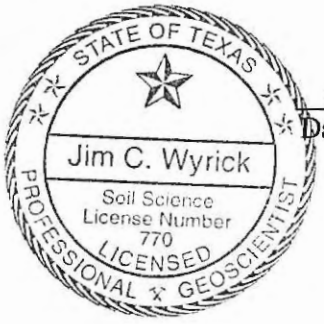
from inundation.

- If public water well is drilled on the dairy site, a 500 feet buffer will be maintained around the well and waste application areas.
- DOPA training provided by AgriLife Extension Service will be attended.

CERTIFICATION

The undersigned hereby certifies that natural recharge features and one potential artificial recharge feature exists as defined in 30 TAC subchapter B: §§321.31-321.47 Part I on tracts operated or controlled by T&S Dairy and utilized under this application. See Aquifer Protection Plan for the natural and artificial recharge features impact on the Aquifer.

Jm C. Wyrick
Professional Geoscientist, License Number 770



11/2/24
Date

AQUIFER PROTECTION PLAN

The artificial recharge features are 12 private water wells. The wells are used exclusively for private water supply. The well locations are shown on the Site Map. A licensed well driller drilled the wells. A buffer of at least 150 feet will be maintained between the wells and retention control structures, holding pens, and land management units.

The natural recharge features include surface water bodies, creeks, and tributaries. Structural and non-structural controls that will be used to protect the natural recharge features are as follows:

- Vegetative filter strips of Bermuda grass will filter, contain, and prevent the lateral movement of wastewater irrigation and manure.
- A water wellhead backflow prevention device has been added to the wells.
- Waste will be applied only where the LMU cover vegetation is growing and has crop demand for nutrients.
- Waste will be applied at the nutrient requirements of the vegetative cover at an agronomic application rate.
- Wastewater will be applied at a rate less than the permeability of the soil to prevent ponding and runoff.
- Wastewater application will be at rate that ensures that wastewater will be used by the vegetative cover.
- Vegetative buffers of 150 feet for will be maintained around any newly drilled private water wells.
- 100 feet of vegetative cover buffer between waste and wastewater application areas and surface water and watercourses will be maintained.
- Dead animals will not be buried near the wells
- The following potential pollutants will not be stored or applied with 150 feet of the wells: Manure, sludge, wastewater, dust, fuel storage tanks, pesticide and lubricants storage shed.

These controls will provide adequate protective measures for the natural recharge features.

Based on construction methods, in-situ soil material certification, and adherence to best management practices, this facility should not pose a hazard to ground water aquifer

J. C Wyrick

Jim C. Wyrick
Professional Geoscientist, License Number 770

STATE OF TEXAS
Jim C. Wyrick
Soil Science
License Number
770
LICENSED
PROFESSIONAL GEOSCIENTIST

11/2/24
Date

REFERENCES

Ashworth J. B., and J. Hopkins, 1995. *Aquifers of Texas*. Texas Water Development Board, Report 345.

Barnes V. E., 1979, Bureau of Economic Geology Report. *Geologic Atlas of Texas Texarkana Sheet, Bureau of Economic Geology Report*, The University of Texas at Austin.

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Parsons Engineering Science, Inc. *Groundwater Availability Model for the Northern Carrizo-Wilcox Aquifer Draft Report*, Prepared for: Texas Water Development Board Prepared September 2002

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Sellards, E.H, Adkins, A. D. Plummer, F.B, 1954, *The Geology of Texas, Volume I, Stratigraphy* The University of Texas at Austin, Bureau of Economic Geology Bulletin No. 3232. pages 612-620.

Texas Basin. *The University of Texas at Austin, Bureau of Economic Geology Report. Report of Investigations No.127.*

Texas Water Development Board Water Data Interactive (TWDB WDI).

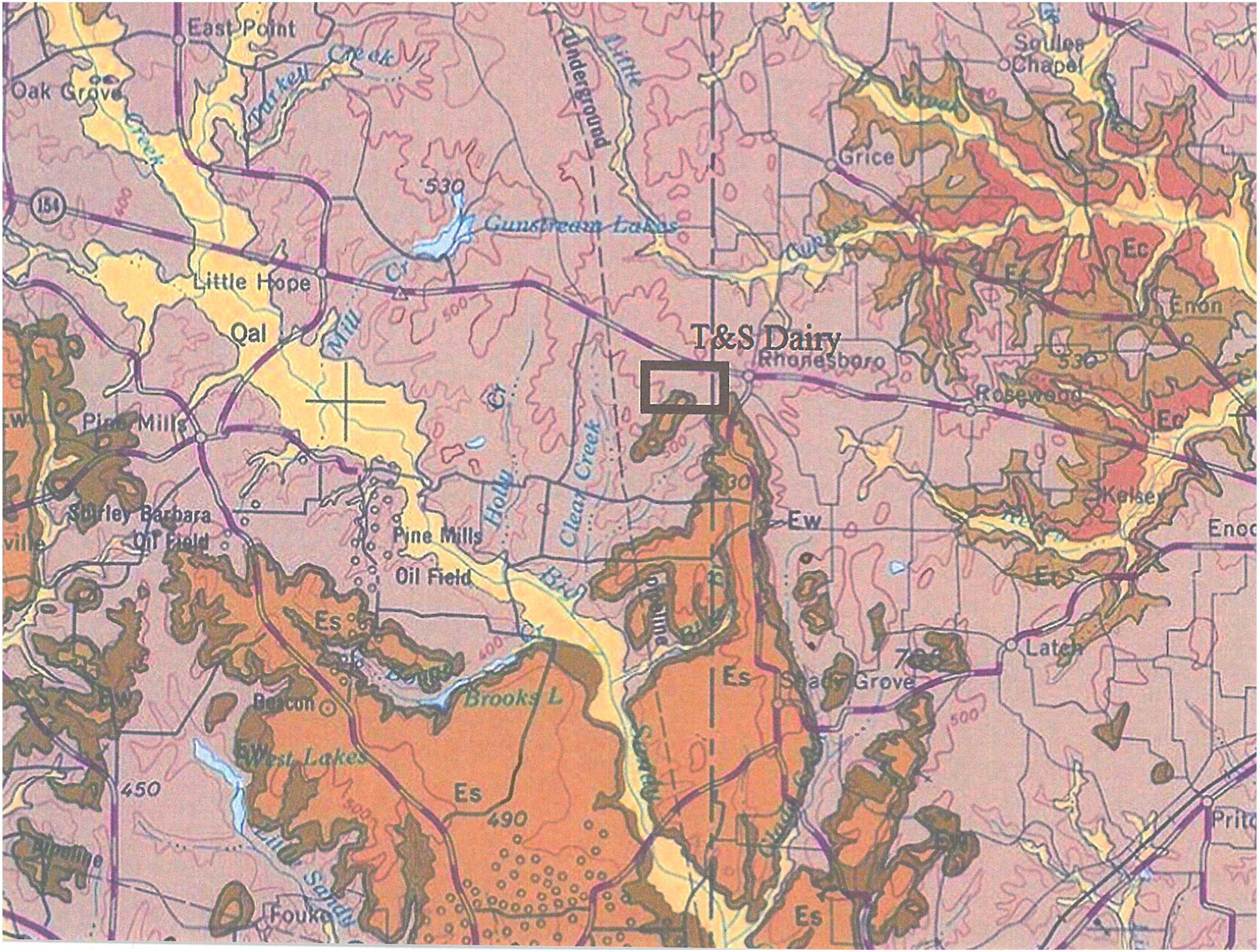
Texas Rail Road Commission Website.

Geology of Northeast Texas, C. Miller Drilling Co.

Water Well Drilling logs

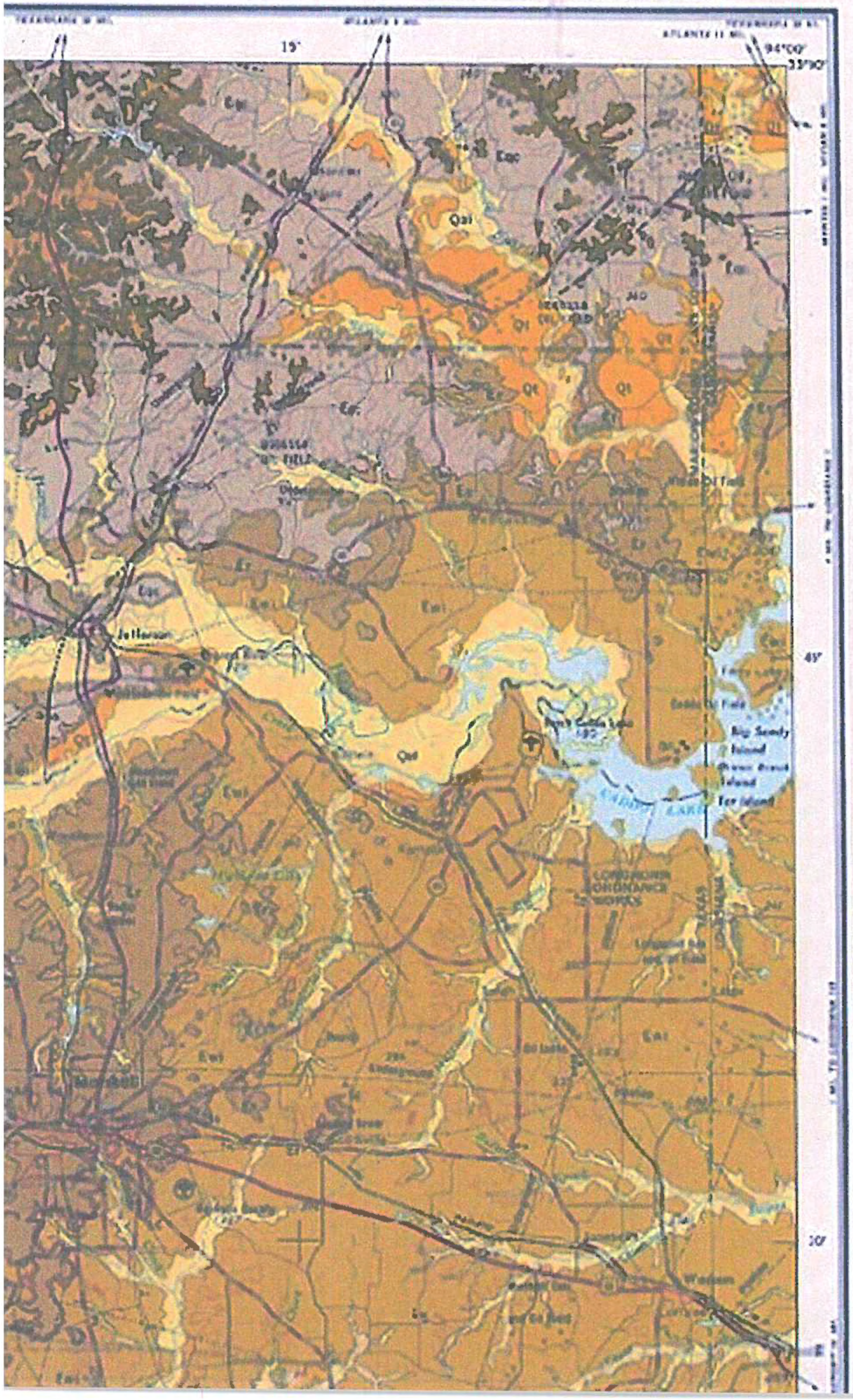
On-Site Inspection

Local Information



East Point
Oak Grove
Creek
Yarkell Creek
Underground
Little
Soulee Chapel
Grice
530
Gunstream Lakes
154
Little Hope
Qal
Mill Cr
500
T&S Dairy
Rhonesboro
Rosewood
Enon
Ec
Pine Mills
Shirley Barbara
Oil Field
Pine Mills
Oil Field
Holly Cr
Clear Creek
Ew
Kelsey
Enoch
Es
Brooks L
Beacon
West Lakes
450
490
Shady Grove
Latch
Fouke

TYLER SHEET



EXPLANATION

SEDIMENTARY ROCKS

Qal

Alluvium

Flood-plain deposits

Qt

Fluviatile terrace deposits undivided

Es

Sparta Sand

Quartz sand, fine to medium grained, light gray to brownish gray, slightly cohesive from silt and clay matrix, massive, locally cross-bedded, interbeds of sandy clay more abundant upward, locally carbonaceous; weathers various shades of light gray, at base hard, brown, ferruginous sandstone; lower unit [illegible] feet thick, upper part absent. Locally includes [illegible] Greensand Member, [illegible], quartz-glauconite greensand, grayish green, massive, locally cross-bedded; weathers dark reddish brown, abundant ironstone concretions

Ew

Weches Formation

Glauconite and quartz sand, grayish green to grayish olive green, thin bedded, locally cross-bedded to lenticular, clay interbeds light brown to moderate light gray, silty, [illegible], thin bedded; weathers moderate to dark reddish brown, locally forms limonitic and siderite iron ore and clay ironstone concretions; marine megafossils in southern part; [illegible] feet thick, range [illegible] feet

Eqc

Queen City Sand

Quartz sand, fine grained to locally medium grained, light gray to brownish gray, locally carbonaceous, and clay, gray to brown, silty, slightly lignitic, sand most abundant to west; weathers red and white mottled, ironstone concretions and ledges common; local beds of glauconite-quartz greensand, cross-bedded, weathers to ferruginous ledges and rubble; [illegible] feet thick, thins southeastward

Er

Reklaw Formation

Upper [illegible] feet, clay, brownish black to brownish gray, silty, [illegible], carbonaceous, laminated, interbeds of moderate reddish-brown clay; weathers light brown, ironstone concretions common; a few marine fossils. Lower [illegible] feet, quartz sand, fine to very fine grained, grayish green, glauconitic, argillaceous, massive, locally cross-bedded; weathers moderate brown to dark yellowish orange with clay ironstone ledges and rubble; fossils, clay ironstone, and clay decrease northward

Ec

Carrizo Sand

Upper part, very fine sand, silt, clayey silt, silty clay, medium to dark gray, carbonaceous; weathers moderate yellowish brown to dark reddish brown, indurated ledges of dark brownish-gray ironstone common. Lower part, quartz sand, fine to medium grained, light brownish gray, [illegible], massive, locally cross-bedded; weathers light gray to various shades of red. Thickness [illegible] feet

Ewi

Wilcox Group undivided

Mostly silts and sandy clay, various shades of gray, local beds of clay, lignite, silt, and quartz sand, in part carbonaceous, laminated to massive, locally cross-bedded; weathers to various shades of gray, brown, yellow, and red. Calcareous siltstone and ironstone concretions common; abundant plant fossils, a few marine fossils in southeastern part; [illegible]-1,[illegible] feet thick

EPK

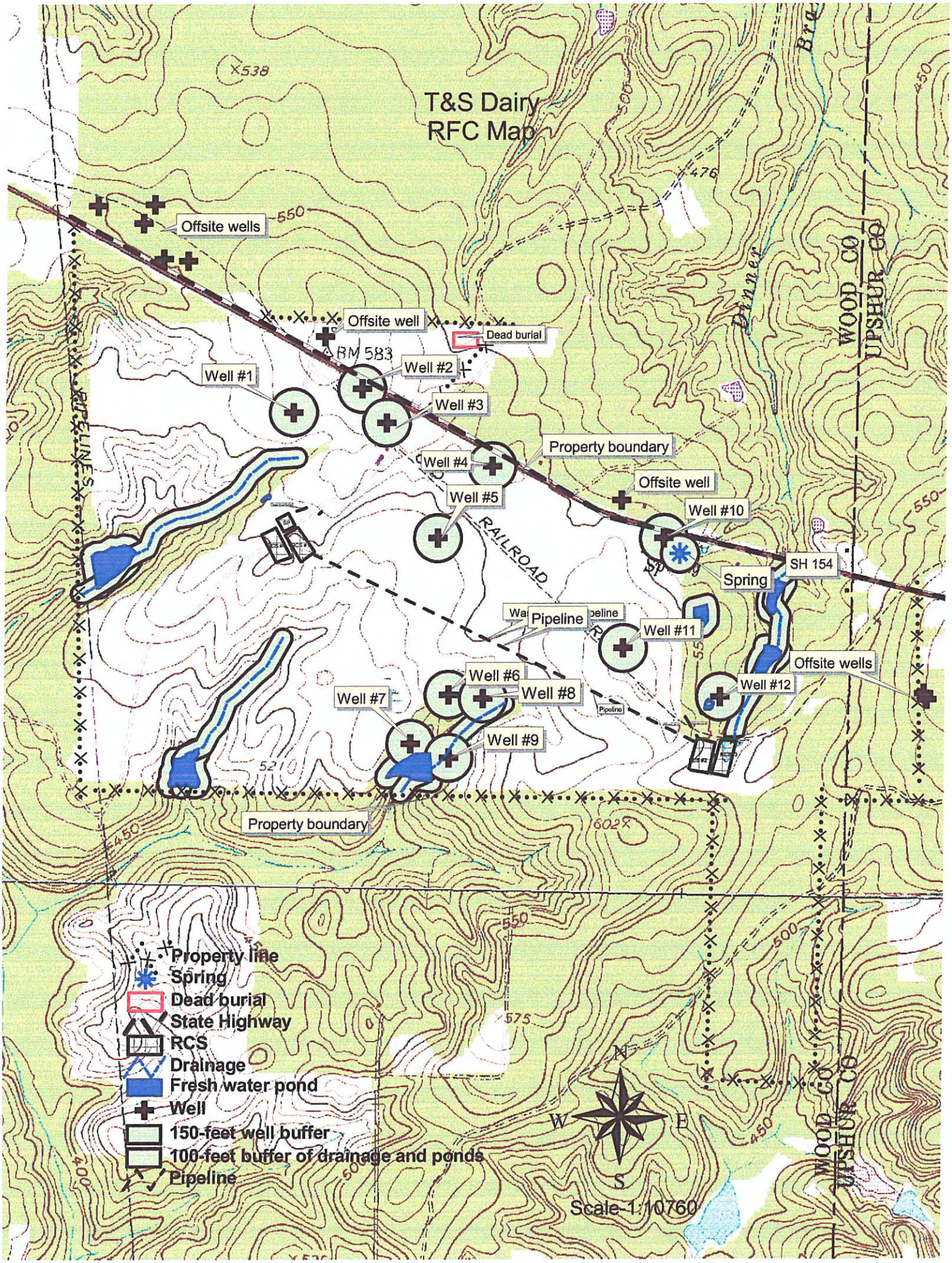
Eocene and Paleocene rocks undivided

Reklaw Formation, Carrizo Sand, Wilcox Group, and Midway Group on Brooks dome not separately shown

PEwp

Wills Point Formation

Clay, medium bluish gray, grayish gray, grayish green, brownish gray, silt increases upward, laminated to locally massive, glauconitic near base, [illegible] siltstone concretions com-


T&S Dairy
RFC Map
Offsite wells
Offsite well
Dead burial
BM 583
Well #1
Well #2
Well #3
Well #4
Well #5
Property boundary
Offsite well
Well #10
SH 154
Spring
RAILROAD
Pipeline
Well #11
Well #6
Well #8
Well #7
Well #9
Well #12
Offsite wells
Property boundary
PIPELINES
WOOD CO
UPSHUR CO
Property line
Spring
Dead burial
State Highway
RCS
Drainage
Fresh water pond
Well
150-feet well buffer
100-feet buffer of drainage and ponds
Pipeline
N
W
E
S
Scale-1:10760

T&S Dairy Well Location

Texas Water Development Board

September 4, 2024

TWDB Groundwater

Well Reports

0 0.15 0.3 0.6 mi

0 0.25 0.5 1 km

1:18,056

Esri, HERE, Garmin, (c) OpenStreetMap contributors

The data in Water Data Interactive represents the best available information provided by the TWDB and third-party cooperators of the TWDB. The TWDB provides information via this web site as a public service. Neither the State of Texas nor the TWDB assumes any legal liability or responsibility or makes any guarantees or warranties as to the accuracy, completeness or suitability of the information for any particular purpose. The TWDB systematically revises or removes data discovered to be incorrect. If you find inaccurate information or have questions, please contact WDI-Support@twdb.texas.gov.

TEXAS WATER DEVELOPMENT BOARD

Texas Water Development Board
Well Schedule

State Well No. 34 15 802 Previous Well No. _____ County WOOD 499

River Basin Sabine 05 Zone 1 Region 07 Lat. 32 45 51 Long. 095 10 07 Source of Coord. 1

Owner's Well No. _____ Location _____ 1/4, _____ 1.4, Section _____, Block _____, Survey _____

Owner TJ I DAIRY

Driller C. MILLER DRILLING

Address Rt. 2, Box 844-54, Winnsboro Tenant/Oper. MGR. Jim Henneke

Date Drilled 02 27 1989 Depth 00471 Source of Depth Datum D Altitude 570 Source of Alt. Datum A

Aquifer Carrizo-Wilcox 124CZWX Well Type W User _____

Well Construction Const. Method Mud Rotary H Casing Material PVC P

Completion Gravel pack w/ screen G Screen Material PVC P

Lift Data Pump Mfr. _____ Type Sub 5 No. Stages _____

Bowls Diam. _____ in. Setting 336 ft. Column Diam. _____ in.

Motor Mfr. _____ Fuel or Power ELEC E Horsepower _____

Yield Flow _____ GPM Pump 12 GPM Meas., Rept., Est. _____ Date 2-89

Performance Test Date _____ Length of Test _____ Production _____ GPM

Static Level _____ ft. Pumping Level _____ ft. Drawdown _____ ft. Sp.Cap. _____ GPM/ft.

Quality (Remarks _____

Water Use Primary Stock S Secondary IAR I Tertiary _____

Other Data Available Water Level M Water Quality W Logs _____ Other Data _____

Water Levels	Date	03 01 1989	Meas. 220.00	
	Date		Meas.	
	Date		Meas.	

Casing or Blank Pipe (C)
Well Screen or Slotted Zone (S)
Open Hole (O)
Cemented from 0 to 15

	Diam. (in.)	Setting (feet) From	To
1	C 04	0000	0404
2	S 04	0404	0450
3	C 04	0450	0470
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

(20 max)

Recorded By S. MOORE Date Record Collected or Updated 08 15 1991 Reporting Agency D 1

Remarks

Carrizo-Wilcox Aquifer

Well No. 34-15-802

900052
11/21/89

Please type or print in ink.
Send original copy by certified mail to the Texas Water Commission P.O. Box 13087 Austin, Texas 78711

State of Texas
WELL REPORT

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

Texas Water Well Drillers Board
P. O. Box 13087
Austin, Texas 78711

1) OWNER J & J Dairy (Name) Address Rt 2 Box 84A-54 (Street or RFD) Winnsboro, TX 75494 (City) (State) (Zip)

2) LOCATION OF WELL: County Wood 1½ miles in West (N.E., S.W., etc.) direction from Rhonesboro (Town)

Driller must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ Legal description:
Section No. _____ Block No. _____ Township _____
Abstract No. _____ Survey Name _____
Distance and direction from two intersecting section or survey lines _____
☒ See attached map.

3) TYPE OF WORK (Check): ☐ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☐ Domestic ☒ Industrial ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

5) DRILLING METHOD (Check): ☐ Driven ☒ Mud Rotary ☐ Air Hammer ☐ Jetted ☐ Bored ☐ Air Rotary ☐ Cable Tool ☐ Other _____

6) WELL LOG:
Date Drilling: Started 2-27 19 89 Completed _____ 19 ___

DIAMETER OF HOLE	Dia. (in.)	From (ft.)	To (ft.)
	8	Surface	471

From (ft.)	To (ft.)	Description and color of formation material
0	280	Sand w/clay strks
280	290	Shale
290	298	Sand w/shale strks
298	318	Shale
318	340	Shale w/ sand strks
340	353	Sand
353	408	Shale w/sand strks
408	448	Sand w/small shale strks
448	471	Shale w/sand strks

(Use reverse side if necessary)

7) BOREHOLE COMPLETION:
☐ Open Hole ☐ Straight Wall ☐ Undereamed
☒ Gravel Packed ☐ Other _____
If Gravel Packed give interval . . . from 380 ft. to 468 ft.

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mgf., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
4	N	PVC Casing	0	404	Sch40
4	N	PVC Screen	404	450	Sch 40
4	N	PVC Casing	450	470	"

9) CEMENTING DATA [Rule 287.44(1)]
Cemented from 0 ft. to 15 ft. No. of Sacks Used 4
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Poured
Cemented by Driller

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed [Rule 287.44(2)(A)]
☐ Pitless Adapter Used [Rule 287.44(3)(B)]
☒ Approved Alternative Procedure Used [Rule 287.71]

11) WATER LEVEL:
Static level 220 ft. below land surface Date 3-89
Artesian flow _____ gpm. Date _____

12) PACKERS: Type _____ Depth _____

13) TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc., 336 ft.

14) WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 12 gpm with 1 ft. drawdown after ____ hrs.

15) WATER QUALITY:
Did the drilling penetrate any strata which contained undesirable constituents? ☐ Yes ☒ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☒ No

RECEIVED
JUN 3 1990
TEXAS WATER COMMISSION

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME C. Miller Drilling (Type or Print) Well Driller's License No. 2464

ADDRESS Rt 2 Box 84A-40 (Street or RFD) Winnsboro, TX (City) 75494 (State) (Zip)

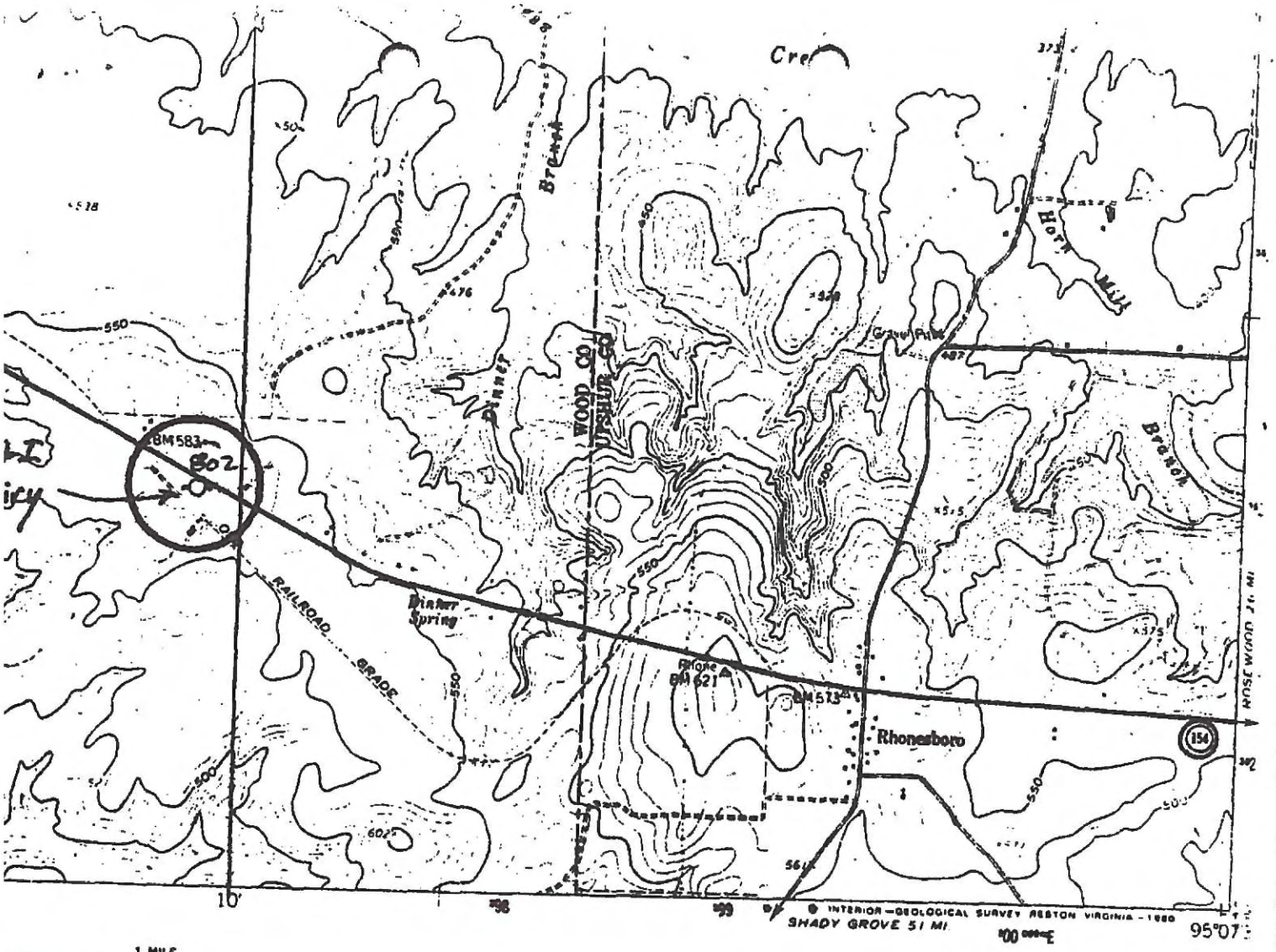
(Signed) Cory L. Miller (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only
Well No. 34-15-9
Located on map _____

WWD-012 (Rev. 07/16/88) TEXAS WATER COMMISSION COPY

34-15-802 X



34-15

VIRGINIA 22092
QUEST

3295-442

RHONESBORO, TEX.
N3245 - W9507 5/7 5

1960
PHOTOREVISED 1980
DMA 6949 I SW-SERIES V882

Wood County
J & I Dairy

34-15-802

end original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711

Please use black ink.

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) OWNER Johannes DeGoede (Name) ADDRESS Rt 2 Box 84 B3 Winnsboro TX 75494 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Wood . 1 miles in West (NE, SW, etc.) direction from Winnsboro (Town)

Driller must complete the legal description below with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ LEGAL DESCRIPTION:

Section No. _____ Block No. _____ Township _____ Abstract No. _____ Survey Name _____

Distance and direction from two intersecting section or survey lines _____

☒ SEE ATTACHED MAP

3) TYPE OF WORK (Check):
☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):
☐ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply ☒ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

5) DRILLING METHOD (Check):
☒ Mud Rotary ☐ Air Hammer ☐ Jetted ☐ Bored ☐ Driven ☐ Air Rotary ☐ Cable Tool ☐ Other _____

6) WELL LOG:

Date Drilling: Started 7-25 19 94 Completed 7-25 19 94

DIAMETER OF HOLE		
Dia. (in.)	From (ft.)	To (ft.)
7	Surface	102

7) BOREHOLE COMPLETION:
☐ Open Hole ☐ Straight Wall ☐ Underreamed
☒ Gravel Packed ☐ Other _____
If Gravel Packed give interval . . . from 30 ft. to 102 ft.

From (ft.)	To (ft.)	Description and color of formation material
0	5	Clay
5	20	Red sand
20	42	White clay
42	72	White sand-coarse
72	82	Clay
82	92	Coarse white sand
92	102	Gray clay & lignite

(Use reverse side if necessary)

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
4	N	PVC Casing	0	32	Sch 40
4	N	PVC Screen	32	92	Sch 40
4	N	PVC Casing	92	102	Sch 40

9) CEMENTING DATA [Rule 287.44(1)]
Cemented from 0 ft. to 15 ft. No. of Sacks Used 6
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Poured
Cemented by Driller

TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc.. 85 ft.

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed [Rule 287.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 287.44(3)(A)]
☐ Pitless Adapter Used [Rule 287.44(3)(B)]
☐ Approved Alternative Procedure Used [Rule 287.71]

WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☐ Jetted ☐ Estimated
Yield: 75 gpm with 45 ft. drawdown after 1 hrs.

11) WATER LEVEL:
Static level 39 ft. below land surface Date 7-25 94
Artesian flow _____ gpm. Date _____

WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☒ No

12) PACKERS: Type Depth

I certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME C Miller Drilling (Type or print) WELL DRILLER'S LICENSE NO. 02464

ADDRESS Rt 2 Box 84B3 Winnsboro TX 75494
(Street or RFD) (City) (State) (Zip)

_____ (Signed) _____
(Licensed Well Driller) (Registered Driller Trainee)

Attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only: Well No. _____ Located on map _____

WR-1 (Rev. 05-18-90)

nd original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711

Please use black ink.

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) WNER Johannes DeGoede (Name) ADDRESS Rt 3 Box 84 B5 (Street or RFD) Winnsboro (City) TX (State) 75494 (Zip)

2) LOCATION OF WELL: County Wood . 1 miles in West (NE, SW, etc.) direction from Chonesboro (Town)

Driller must complete the legal description below with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ LEGAL DESCRIPTION:

Section No. _____ Block No. _____ Township _____ Abstract No. _____ Survey Name _____

Distance and direction from two intersecting section or survey lines _____

☒ SEE ATTACHED MAP

3) TYPE OF WORK (Check):
☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):
☐ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply ☒ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

5) DRILLING METHOD (Check):
☒ Mud Rotary ☐ Air Hammer ☐ Jetted ☐ Bored ☐ Air Rotary ☐ Cable Tool ☐ Other _____ ☐ Driven

6) WELL LOG:

Date Drilling: Started 7-12 19 94 Completed 7-13 19 94

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
7	Surface	142

7) BOREHOLE COMPLETION:
☐ Open Hole ☐ Straight Wall ☐ Underreamed
☒ Gravel Packed ☐ Other _____
If Gravel Packed give interval . . . from 40 ft. to 142 ft.

From (ft.)	To (ft.)	Description and color of formation material
0	12	Clay
12	20	Sand
20	50	Sandy clay & stks
50	110	Coarse Sand
110	142	Gray clay & lignite

(Use reverse side if necessary)

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
4	N	PVC Casing	0	62	Sch 40
4	N	PVC Screen	62	112	Sch 40
4	N	PVC Casing	112	142	Sch 40

9) CEMENTING DATA [Rule 287.44(1)]
Cemented from 0 ft. to 10 ft. No. of Sacks Used 4
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Poured
Cemented by Driller

10) SURFACE COMPLETION
☒ Specified Surface Slab Installed [Rule 287.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 287.44(3)(A)]
☐ Pitless Adapter Used [Rule 287.44(3)(B)]
☐ Approved Alternative Procedure Used [Rule 287.71]

11) WATER LEVEL:
Static level 49 ft. below land surface Date 7-16-94
Artesian flow _____ gpm. Date _____

12) PACKERS: Type Depth

13) TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., _____ ft.

14) WELL TESTS:
Type Test ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 70 gpm with 60 ft. drawdown after 1 hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☒ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME Miller Drilling (Type or print) WELL DRILLER'S LICENSE NO. 02464

ADDRESS Rt 3 Box 84B5 (Street or RFD) Winnsboro (City) TX (State) 75494 (Zip)

(Licensed) _____ (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only: Well No. _____ Located on map _____

-012 (Rev. 05-15-90)

end original copy by certified mail to: Texas Water Commission, P.O. Box 13087, Austin, Texas 78711

Please use black ink.

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

State of Texas
WELL REPORT

Texas Water Well Drillers Board
P.O. Box 13087
Austin, Texas 78711

1) OWNER Johnnie DeGoede (Name) ADDRESS Rt 2 Box 34 33 (Street or RFD) Winnsboro (City) TX (State) 7549[illegible] (Zip)

2) LOCATION OF WELL: County Wood . 1 miles in West (NE, SW, etc.) direction from Jhonesboro (Town)

Driller must complete the legal description below with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ LEGAL DESCRIPTION:

Section No. _____ Block No. _____ Township _____ Abstract No. _____ Survey Name _____

Distance and direction from two intersecting section or survey lines _____

☒ SEE ATTACHED MAP

3) TYPE OF WORK (Check):
☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):
☐ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply ☒ Irrigation ☐ Test Well ☐ Injection ☐ De-Watering

5) DRILLING METHOD (Check):
☐ Driven ☒ Mud Rotary ☐ Air Hammer ☐ Jetted ☐ Bored ☐ Air Rotary ☐ Cable Tool ☐ Other _____

6) WELL LOG:

Date Drilling: Started 7-12 19 94 Completed 7-12 19 94

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
7	Surface	166

7) BOREHOLE COMPLETION:
☐ Open Hole ☐ Straight Wall ☐ Underreamed
☒ Gravel Packed ☐ Other _____
If Gravel Packed give interval . . . from 50 ft. to 166 ft.

From (ft.)	To (ft.)	Description and color of formation material
0	50	Sand
50	74	Sandy clay
74	130	Sand-loose-white
130	156	mostly sand w/clay strks
156	166	Gray clay & lignite

(Use reverse side if necessary)

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
4	"	PVC Casing	0	74	Sch 40
4	"	PVC Screen .012	74	154	Sch 40
4	"	PVC Casing	154	166	Sch 40

9) CEMENTING DATA (Rule 287.44(1))
Cemented from 0 ft. to 15 ft. No. of Sacks Used 6
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Poured
Cemented by Driller

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed (Rule 287.44(2)(A))
☒ Specified Steel Sleeve Installed (Rule 287.44(3)(A))
☐ Pitless Adapter Used (Rule 287.44(3)(B))
☐ Approved Alternative Procedure Used (Rule 287.71)

11) WATER LEVEL:
Static level 51 ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

12) PACKERS: Type Depth

13) TYPE PUMP:
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder ☐ Other _____
Depth to pump bowls, cylinder, jet, etc., 140 ft.

14) WELL TESTS:
Type Test: ☐ Pump ☐ Bailer ☒ Jetted ☐ Estimated
Yield: 65 gpm with 90 ft. drawdown after 24 hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☒ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☒ No

I (or) certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME C Miller Drilling (Type or print) WELL DRILLER'S LICENSE NO. 02464

ADDRESS Rt 3 Box 34555 (Street or RFD) Winnsboro (City) TX (State) 75494 (Zip)

(Typed) _____ (Licensed Well Driller) (Signed) _____ (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only: Well No. _____ Located on map _____

Please use black ink.
Send original copy by certified mail to the Texas Water Commission
P.O. Box 13087
Austin, Texas 78711

State of Texas
WATER WELL REPORT

ATTENTION OWNER: *Confidentiality Privilege Notice on Reverse Side*

Texas Water Well Drillers Board
P. O. Box 13087
Austin, Texas 78711

1) OWNER Johannes DeGoede (Name) Address Rt 2 Box 84 B3 (Street or RFD) Winnsboro (City) Tx (State) 75494 (Zip)

2) LOCATION OF WELL: County Wood 1 miles in West (N.E., S.W., etc.) direction from Rhonesboro (Town)
Dairy

Driller must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ Legal description:
Section No. _____ Block No. _____ Township _____
Abstract No. _____ Survey Name _____
Distance and direction from two intersecting section or survey lines _____
☑ See attached map.

3) TYPE OF WORK (Check):
☑ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):
☑ Domestic ☐ Industrial ☐ Monitor ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Injection ☐ Other _____

5) DRILLING METHOD (Check):
☑ Mud Rotary ☐ Air Hammer ☐ Jetted ☐ Bored ☐ Driven ☐ Air Rotary ☐ Cable Tool ☐ Other _____

6) WELL LOG:
Date Drilling: Started 5-2 19 88 Completed 5-2 19 88

DIAMETER OF HOLE	Dia. (in.)	From (ft.)	To (ft.)
	8	Surface	141

7) BOREHOLE COMPLETION:
☐ Open Hole ☐ Straight Wall ☐ Underreamed
☑ Gravel Packed ☐ Other _____
If Gravel Packed give interval . . . from 60 ft. to 140 ft.

From (ft.)	To (ft.)	Description and color of formation material
0	2	Sand Soil
2	3	Iron ore gravel
3	8	Red sand/White clay
8	46	Sand
46	50	Clay
50	62	Sand & clay
62	86	Sand
86	106	Loose Sand
06	110	clay strks
10	120	Sand w/clay strks
20	134	Looser Sand
34	134	rock
34	137	Sand
37	139	Loose Sand
9	141	hard clay

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfr., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
4	N	PVC Casing	0	87	Sch 40
5	S	PVC Screen-Wilson	87	132	5
8	S	PVC Casing	132	141	8

9) CEMENTING DATA [Rule 319.44(b)]
Cemented from 0 ft. to 15 ft. No. of Sacks Used 5
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Poured
Cemented by Driller

10) SURFACE COMPLETION
☐ Specified Surface Slab Installed [Rule 319.44(c)]
☐ Pitless Adapter Used [Rule 319.44(d)]
☑ Approved Alternative Procedure Used [Rule 319.71]

11) WATER LEVEL:
Static level 101 ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

12) PACKERS: Type Depth

13) TYPE PUMP:
☐ Turbine ☐ Jet ☑ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc.. 125 ft.

(Use reverse side if necessary)

Page 1 of 2

☐ Reconditioning ☐ Plugging | ☐ Irrigation ☐ Test Well ☐ Injection ☐ Other _____ | ☐ Air Rotary ☐ Cable Tool ☐ Other _____

6) WELL LOG:

Date Drilling: Started 5-2 19 88 Completed 5-2 19 88

DIAMETER OF HOLE	Dia. (in.)	From (ft.)	To (ft.)
	8	Surface	141

From (ft.)	To (ft.)	Description and color of formation material
0	2	Sand Soil
2	3	Iron ore gravel
3	8	Red sand/White clay
8	46	Sand
46	50	Clay
50	62	Sand & clay
62	86	Sand
86	106	Loose Sand
106	110	Clay strks
110	120	Sand w/clay strks
120	134	Looser Sand
134	134	rock
134	137	Sand
137	139	Loose Sand
139	141	hard clay

Page 2 of 2

(Use reverse side if necessary)

7) BOREHOLE COMPLETION:

☐ Open Hole ☐ Straight Wall ☐ Underreamed
☑ Gravel Packed ☐ Other _____

If Gravel Packed give interval . . . from 60 ft. to 140 ft.

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mgf., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casing Screen
4	N	PVC Casing	0	87	Sch 40
5	S	PVC Screen-Wilson	87	132	5
5	S	PVC Casing	132	141	5

9) CEMENTING DATA [Rule 319.44(b)]

Cemented from 0 ft. to 15 ft. No. of Sacks Used 5
_____ ft. to _____ ft. No. of Sacks Used _____
Method used Poured
Cemented by Driller

10) SURFACE COMPLETION

☐ Specified Surface Slab Installed [Rule 319.44(c)]
☐ Pitless Adapter Used [Rule 319.44(d)]
☑ Approved Alternative Procedure Used [Rule 319.71]

11) WATER LEVEL:

Static level 101 ft. below land surface Date _____
Artesian flow _____ gpm. Date _____

12) PACKERS: Type Depth

13) TYPE PUMP:

☐ Turbine ☐ Jet ☑ Submersible ☐ Cylinder
☐ Other _____
Depth to pump bowls, cylinder, jet, etc., 125 ft.

14) WELL TESTS:

Type Test: ☑ Pump ☐ Bailer ☑ Jetted ☐ Estimated
Yield: 25 gpm with 23' ft. drawdown after 1 hrs.

15) WATER QUALITY:

Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☑ No
If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? _____ Depth of strata _____
Was a chemical analysis made? ☐ Yes ☑ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME C. Miller Drilling (Type or Print) Water Well Driller's License No. 2464 W

ADDRESS Rt 2 Box 84 A-40 (Street or RFD) Winnsboro (City) Texas (State) 75494 (Zip)

Corey E. Miller (Licensed Water Well Driller) (Signed) _____ (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

For TWC use only
Well No. _____
Located on map _____

TWC 1392 (Rev. 06-10-85) DRILLER'S COPY

WELL REPORT

Austin, TX 78711-3087
512-239-0530

1) OWNER Johannes DeGoede (Name) ADDRESS Rt 8 Box 84799 (Street or RFD) winnsboro (City) Tx (State) 75494 (Zip)

2) ADDRESS OF WELL: County Wood Same (Street, RFD or other) (City) (State) (Zip) GRID #

3) TYPE OF WORK (Check): ☑ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check): ☐ Monitor ☐ Environmental Soil Boring ☑ Domestic ☐ Industrial ☐ Irrigation ☐ Injection ☐ Public Supply ☐ De-watering ☐ Testwell
If Public Supply well, were plans submitted to the TNRCC? ☐ Yes ☐ No

5)

6) WELL LOG:
Date Drilling: Started 7-12 19 87 Completed 7-16 19 87

DIAMETER OF HOLE

Dia. (in.)	From (ft.)	To (ft.)
7	Surface	560

7) DRILLING METHOD (Check): ☐ Driven ☐ Air Rotary ☑ Mud Rotary ☐ Bored ☐ Air Hammer ☐ Cable Tool ☐ Jetted ☐ Other

N

From (ft.)	To (ft.)	Description and color of formation material
0	140	Sand & Clay streaks
140	270	Shale
270	294	Shale w/ sand strks
294	365	Shale
365	440	Shale w/ sand strks
440	478	Shale
478	560	Sand w/ shale strks

(Use reverse side if necessary)

8) Borehole Completion (Check): ☐ Open Hole ☐ Straight Wall ☐ Underreamed ☑ Gravel Packed ☐ Other
If Gravel Packed give interval ... from 340 ft. to 560 ft.

CASING, BLANK PIPE, AND WELL SCREEN DATA:

Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.) From	Setting (ft.) To	Gage Casting Screen
4	N	PVC Casing	0	480	Sch 40
5	5	PVC Screen	480	500	5
		PVC Casing	500	555	
		PVC Screen	555	600	

9) CEMENTING DATA [Rule 338.44(1)]
Cemented from 0 ft. to 10 ft. No. of sacks used 4
ft. to ft. No. of sacks used
Method used poured
Cemented by Driller
Distance to septic system field lines or other concentrated contamination 300 ft.
Method of verification of above distance owner

10) SURFACE COMPLETION
☑ Specified Surface Slab Installed [Rule 338.44(2)(A)]
☐ Specified Steel Sleeve Installed [Rule 338.44(3)(A)]
☐ Pitless Adapter Used [Rule 338.44(3)(b)]
☐ Approved Alternative Procedure Used [Rule 338.71]

11) WATER LEVEL:
Static level 214 ft. below land surface Date 7-20-87
Artesian flow gpm. Date

12) PACKERS: Type .. Depth

13) TYPE PUMP:
☐ Turbine ☐ Jet ☑ Submersible ☐ Cylinder ☐ Other
Depth to pump bowls, cylinder, jet, etc., 399 ft.

14) WELL TESTS:
Type test: ☐ Pump ☐ Bailer ☑ Jetted ☐ Estimated
Yield: 25 gpm with 200 ft. drawdown after 1 hrs.

15) WATER QUALITY:
Did you knowingly penetrate any strata which contained undesirable constituents?
☐ Yes ☑ No If yes, submit "REPORT OF UNDESIRABLE WATER"
Type of water? Depth of strata
Was a chemical analysis made? ☐ Yes ☑ No

ereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I derstand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

)MPANY NAME C. Miller Drilling (Type or print) WELL DRILLER'S LICENSE NO. 2464

.ESS (Street or RFD) (City) (State) (Zip)

gned) (Licensed Well Driller) (Signed) (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

-0199 (Rev. 11-01-94)

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 34-15-801

groundwater division

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	3415801	**Well Type**	Withdrawal of Water
County	Wood	**Well Use**	Domestic
River Basin	Sabine	**Water Level Observation**	Miscellaneous Measurements
Groundwater Management Area	11	**Water Quality Available**	No
Regional Water Planning Area	D - North East Texas	**Pump**	Turbine
Groundwater Conservation District		**Pump Depth** (feet below land surface)	
Latitude (decimal degrees)	32.766389	**Power Type**	Electric Motor
Latitude (degrees minutes seconds)	32° 45' 59" N	**Annular Seal Method**	
Longitude (decimal degrees)	-95.171111	**Surface Completion**	
Longitude (degrees minutes seconds)	095° 10' 16" W	**Owner**	Paulson
Coordinate Source	+/- 1 Second	**Driller**	Collier
Aquifer Code	124QCSP - Queen City Sand and Sparta Sand	**Other Data Available**	
Aquifer	Queen City/Sparta	**Well Report Tracking Number**	
Aquifer Pick Method		**Plugging Report Tracking Number**	
Land Surface Elevation (feet above sea level)	583	**U.S. Geological Survey Site Number**	
Land Surface Elevation Method	Interpolated From Topo Map	**Texas Commission on Environmental Quality Source Id**	
Well Depth (feet below land surface)	110	**Groundwater Conservation District Well Number**	
Well Depth Source	Memory of Owner	**Owner Well Number**	
Drilling Start Date		**Other Well Number**	
Drilling End Date	0/0/1962	**Previous State Well Number**	
Drilling Method		**Reporting Agency**	Texas Water Development Board
Borehole Completion		**Created Date**	9/27/1993
		Last Update Date	

Remarks

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
4	Blank	Steel				

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Texas Water Development Board

Texas Water Development Board (TWDB)
Groundwater Database (GWDB)
Well Information Report for State Well Number 34-15-802

groundwater

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	3415802	**Well Type**	Withdrawal of Water
County	Wood	**Well Use**	Stock
River Basin	Sabine	**Water Level Observation**	Miscellaneous Measurements
Groundwater Management Area	11	**Water Quality Available**	No
Regional Water Planning Area	D - North East Texas	**Pump**	Submersible
Groundwater Conservation District		**Pump Depth** (feet below land surface)	
Latitude (decimal degrees)	32.764167	**Power Type**	Electric Motor
Latitude (degrees minutes seconds)	32° 45' 51" N	**Annular Seal Method**	
Longitude (decimal degrees)	-95.168889	**Surface Completion**	
Longitude (degrees minutes seconds)	095° 10' 08" W	**Owner**	J. & I. Dairy
Coordinate Source	+/- 1 Second	**Driller**	C. Miller Drilling
Aquifer Code	124CZWX - Carrizo Sand and Wilcox Group, Undifferentiated	**Other Data Available**	Drillers Log
Aquifer	Carrizo-Wilcox	**Well Report Tracking Number**	
Aquifer Pick Method		**Plugging Report Tracking Number**	
Land Surface Elevation (feet above sea level)	570	**U.S. Geological Survey Site Number**	
Land Surface Elevation Method	Interpolated From Topo Map	**Texas Commission on Environmental Quality Source Id**	
Well Depth (feet below land surface)	471	**Groundwater Conservation District Well Number**	
Well Depth Source	Driller's Log	**Owner Well Number**	
Drilling Start Date		**Other Well Number**	
Drilling End Date	2/27/1989	**Previous State Well Number**	
Drilling Method	Mud (Hydraulic) Rotary	**Reporting Agency**	Texas Water Development Board
Borehole Completion	Gravel Pack w/Screen	**Created Date**	8/15/1991
		Last Update Date	

Remarks Jetted yield 12 GPM in 1989. Cemented from 0 to 15 feet. Gravel packed from 380 to 468 feet. Pump set at 336.

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
4	Blank	Plastic (PVC)			0	404
4	Screen	Plastic (PVC)			404	450
4	Blank	Plastic (PVC)			450	470

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Texas Water Development Board

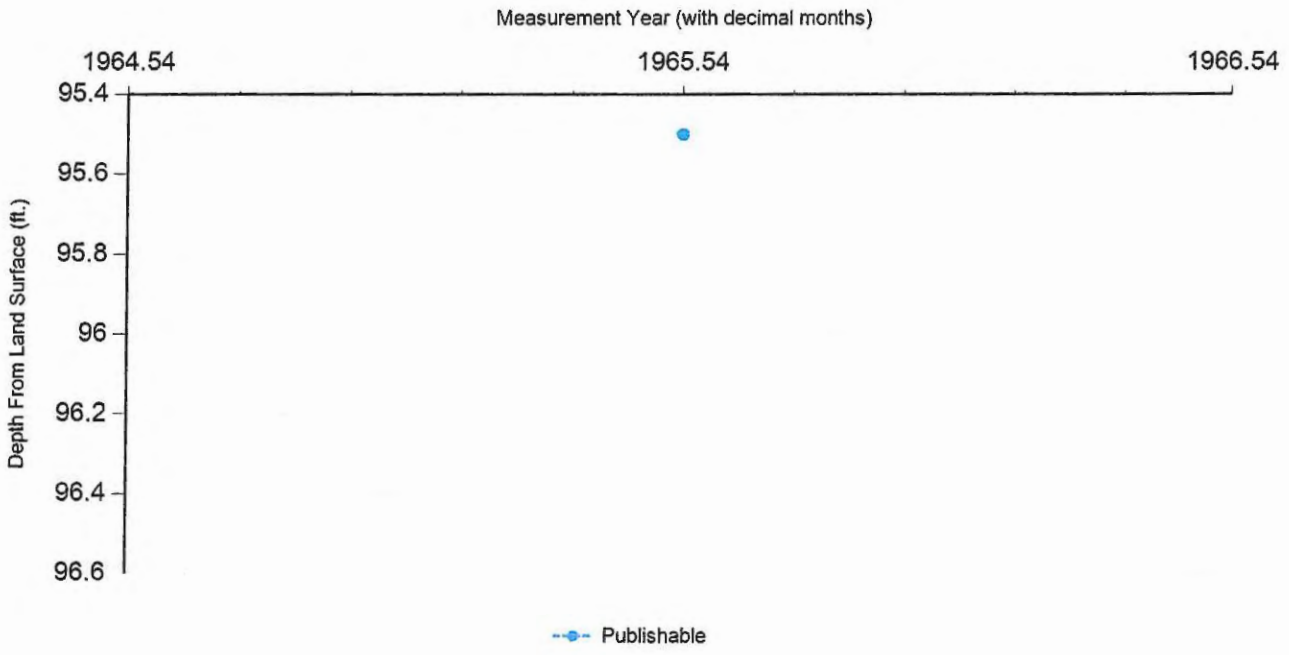
Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 34-15-801

groundwater

Water Quality Analysis - No Data Available

GWDB DISCLAIMER: Except where noted, all of the information provided in the Texas Water Development Board (TWDB) Groundwater Database (http://www.twdb.texas.gov/groundwater/data/gwdbrpt.asp) is believed to be accurate and reliable; however, the TWDB assumes no responsibility for any errors appearing in rules or otherwise. Further, TWDB assumes no responsibility for the use of the information provided. PLEASE NOTE that users of these data are responsible for checking the accuracy, completeness, currency and/or suitability of all information themselves. TWDB makes no guarantees or warranties as to the accuracy, completeness, currency, or suitability of the information provided via the Groundwater Database (GWDB). TWDB specifically disclaims any and all liability for any claims or damages that may result from providing GWDB data or the information it contains. For additional information or answers to questions concerning the TWDB GWDB, contact the Groundwater Data Team at GroundwaterData@twdb.texas.gov.

Water Level Measurements

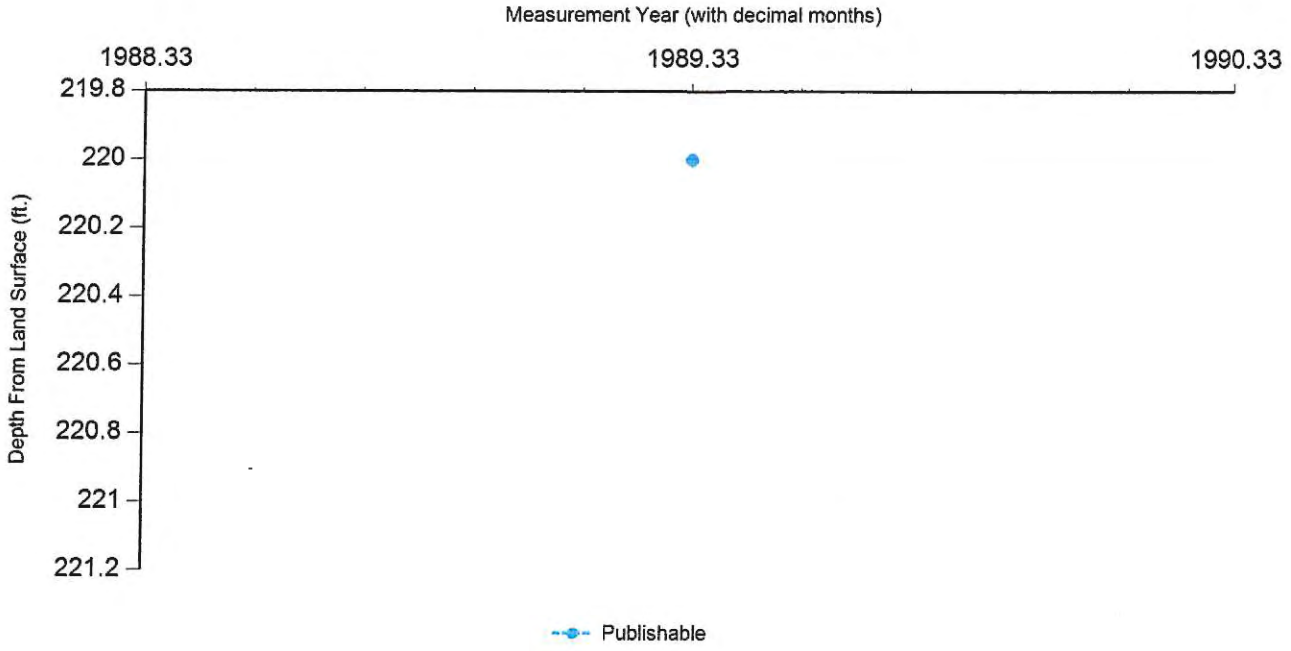


Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	7/16/1965		95.5		487.5	1	Other or Source of Measurement Unknown	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Level Measurements



Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	3/0/1989		220		350	1	Registered Water Well Driller	Unknown		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis - No Data Available

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Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 34-15-901

groundwater

GWDB Reports and Downloads

Well Basic Details

Scanned Documents

State Well Number	3415901	**Well Type**	Withdrawal of Water
County	Wood	**Well Use**	Domestic
River Basin	Cypress	**Water Level Observation**	Miscellaneous Measurements
Groundwater Management Area	11	**Water Quality Available**	Yes
Regional Water Planning Area	D - North East Texas	**Pump**	Jet
Groundwater Conservation District		**Pump Depth** (feet below land surface)	
Latitude (decimal degrees)	32.761667	**Power Type**	Electric Motor
Latitude (degrees minutes seconds)	32° 45' 42" N	**Annular Seal Method**	
Longitude (decimal degrees)	-95.160834	**Surface Completion**	
Longitude (degrees minutes seconds)	095° 09' 39" W	**Owner**	O. W. French
Coordinate Source	+/- 1 Second	**Driller**	Collier
Aquifer Code	124QNCT - Queen City Sand of Claiborne Group	**Other Data Available**	
Aquifer	Queen City	**Well Report Tracking Number**	
Aquifer Pick Method		**Plugging Report Tracking Number**	
Land Surface Elevation (feet above sea level)	545	**U.S. Geological Survey Site Number**	
Land Surface Elevation Method	Interpolated From Topo Map	**Texas Commission on Environmental Quality Source Id**	
Well Depth (feet below land surface)	127	**Groundwater Conservation District Well Number**	
Well Depth Source	Owner	**Owner Well Number**	
Drilling Start Date		**Other Well Number**	
Drilling End Date	0/0/1962	**Previous State Well Number**	
Drilling Method	Mud (Hydraulic) Rotary	**Reporting Agency**	Texas Water Development Board
Borehole Completion	Screened	**Created Date**	9/27/1993
		Last Update Date	8/26/1994

Remarks

Casing

Diameter (in.)	Casing Type	Casing Material	Schedule	Gauge	Top Depth (ft.)	Bottom Depth (ft.)
4	Blank	Steel			0	105
2	Screen	Steel			105	115

Well Tests - No Data

Lithology - No Data

Annular Seal Range - No Data

Borehole - No Data

Plugged Back - No Data

Filter Pack - No Data

Packers - No Data

Water Level Measurements

Status Code	Date	Time	Water Level (ft. below land surface)	Change value in ( ) indicates rise in level	Water Elevation (ft. above sea level)	Meas #	Measuring Agency	Method	Remark ID	Comments
P	7/22/1965		76.5		468.5	1	Texas Commission on Environmental Quality	Steel Tape		

Code Descriptions

Status Code	Status Description
P	Publishable

Water Quality Analysis

Sample Date: 7/22/1965 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** U.S. Geological Survey

Sampled Aquifer: Queen City Sand of Claiborne Group

Analyzed Lab: U.S. Geological Survey Lab **Reliability:** From well not sufficiently pumped; not filtered or preserved

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		8.19	mg/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		10	mg/L	
00910	CALCIUM (MG/L)		2.5	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		2.2	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)		0.1	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		11	mg/L	
01046	IRON, DISSOLVED (UG/L AS FE)		40	ug/L	
01045	IRON, TOTAL (UG/L AS FE)		60	ug/L	
00920	MAGNESIUM (MG/L)		1.2	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		8.7	mg/L	
00400	PH (STANDARD UNITS), FIELD		6.3	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		1	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SI02)		12	mg/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.38		
00932	SODIUM, CALCULATED, PERCENT		36	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)	calculated	3	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		44	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		0.4	mg/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		36	mg/L	

Water Quality Analysis

Sample Date: 7/25/1977 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Queen City Sand of Claiborne Group

Analyzed Lab: Texas Department of Health **Reliability:** Collected from pumped well, but not filtered or preserved

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		5	mg/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		6.1	mg/L	
00910	CALCIUM (MG/L)		2	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		3	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)	<	0.1	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		9	mg/L	
00920	MAGNESIUM (MG/L)		1	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		3.3	mg/L	
00400	PH (STANDARD UNITS), FIELD		6.8	SU	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SI02)		16	mg/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.43		
00932	SODIUM, CALCULATED, PERCENT		41	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		3	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		33	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)	<	4	mg/L	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		35	mg/L	

Texas Water Development Board

Texas Water Development Board (TWDB) Groundwater Database (GWDB) Well Information Report for State Well Number 34-15-901

groundwater

Water Quality Analysis

Sample Date: 6/30/1986 **Sample Time:** 0000 **Sample Number:** 1 **Collection Entity:** Texas Water Development Board

Sampled Aquifer: Queen City Sand of Claiborne Group

Analyzed Lab: Texas Department of Health **Reliability:** From well not sufficiently pumped; not filtered or preserved

Collection Remarks: No Data

Parameter Code	Parameter Description	Flag	Value*	Units	Plus/Minus
00415	ALKALINITY, PHENOLPHTHALEIN (MG/L)		0	mg/L	
00410	ALKALINITY, TOTAL (MG/L AS CACO3)		6	mg/L	
00440	BICARBONATE ION, CALCULATED (MG/L AS HCO3)		7.32	mg/L	
00910	CALCIUM (MG/L)		1	mg/L	
00445	CARBONATE ION, CALCULATED (MG/L AS CO3)		0	mg/L	
00940	CHLORIDE, TOTAL (MG/L AS CL)		2	mg/L	
00950	FLUORIDE, DISSOLVED (MG/L AS F)	<	0.1	mg/L	
00900	HARDNESS, TOTAL, CALCULATED (MG/L AS CACO3)		6	mg/L	
01045	IRON, TOTAL (UG/L AS FE)		60	ug/L	
00920	MAGNESIUM (MG/L)	<	1	mg/L	
71851	NITRATE NITROGEN, DISSOLVED, CALCULATED (MG/L AS NO3)		2.13	mg/L	
00400	PH (STANDARD UNITS), FIELD		5.6	SU	
00937	POTASSIUM, TOTAL (MG/L AS K)		1	mg/L	
71860	RESIDUAL SODIUM CARBONATE, CALCULATED		0		
00955	SILICA, DISSOLVED (MG/L AS SI02)		13	mg/L	
00931	SODIUM ADSORPTION RATIO, CALCULATED (SAR)		0.34		
00932	SODIUM, CALCULATED, PERCENT		39	PCT	
00929	SODIUM, TOTAL (MG/L AS NA)		2	mg/L	
00094	SPECIFIC CONDUCTANCE, FIELD (UMHOS/CM AT 25C)		27	MICR	
00945	SULFATE, TOTAL (MG/L AS SO4)		1	mg/L	
00010	TEMPERATURE, WATER (CELSIUS)		20	C	
70301	TOTAL DISSOLVED SOLIDS , SUM OF CONSTITUENTS (MG/L)		26	mg/L	

** Value may not display all significant digits for parameter in results, check Scanned Documents for laboratory paperwork..*

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STATE OF TEXAS WELL REPORT for Tracking #12439

Owner:	**John Clements**	Owner Well #:	**No Data**
Address:	**Rt.4 Box 255X Big Sandy, TX 75755**	Grid #:	**34-15-9**
Well Location:	**HWY 154 West of Gilmer at Rain Tree Est. Gilmer, TX 75644**	Latitude:	**32° 45' 15" N**
		Longitude:	**095° 08' 30" W**
Well County:	**Upshur**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **9/12/2002** Drilling End Date: **9/18/2002**

Borehole:

Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
7.875	0	20
6.75	20	542

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

Filter Pack Intervals:

Top Depth (ft.)	Bottom Depth (ft.)	Filter Material	Size
354	542	Gravel	

Annular Seal Data:

Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
0	10	3

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **No Data**

Distance to Septic Field or other concentrated contamination (ft.): **100+**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **260 ft.** below land surface on **2002-09-18** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **370**

Well Tests: **Jetted** **Yield: 12 GPM with 380 ft. drawdown after 1 hours**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **No**

Did the driller knowingly penetrate any strata which contained injurious constituents?: **Unknown**

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: **C. Miller Drilling**

7355 East SH 154
Winnsboro, TX 75494

Driller Name: **Cory L. Miller** License Number: **2464**

Comments: **1.5 Hp. 230V (1512BGT22)**
S/N pump 0802D232012
S/N Motor 02G18
Model # 244309904

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	23	Sand
23	24	Rock
24	56	Shale W/ Lig Strks.
56	62	Sand
62	220	Shale
220	238	Shale W/ Sand Strks.
238	284	Shale
284	312	Sand
312	376	Shale
376	377	Rock
377	404	Shale
404	414	Sand W/ Shale Strks.
414	450	Shale W/ Sand Strks.
450	455	Sand
455	464	Shale W/ Sand Strks.
464	478	Shale

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.) New/Used Type Setting From/To (ft.)
4" N Sch-40 Casing 0 to 404
4" N .032 Screen 404 to 535
4" N Sch-40 Casing 535 to 542

478	542	Sand W/ Shale Strks.

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

STATE OF TEXAS WELL REPORT for Tracking #112186

Owner:	**Pritchett Water Supply Corp.**	Owner Well #:	**1**
Address:	**3670 SH 155 South Gilmer, TX 75644**	Grid #:	**34-15-9**
		Latitude:	**32° 45' 23" N**
Well Location:	**12223 W SH 154 Winnsboro, TX 75494**	Longitude:	**095° 08' 58" W**
Well County:	**Upshur**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Test Well**

Drilling Start Date: **5/8/2006** Drilling End Date: **5/10/2006**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**7.875**	**0**	**722**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
Annular Seal Data:	**0**	**10**	**4 cement**
	500	**530**	**5 cement**

Seal Method: **Top poured/bottom pumped**

Sealed By: **Driller**

Distance to Property Line (ft.): **50**

Distance to Septic Field or other concentrated contamination (ft.): **100**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Driller / Owner**

Surface Completion: **Surface Sleeve Installed**

Water Level: **371 ft.** below land surface on **2007-05-13** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **460**

Well Tests: **Jetted** **Yield: 35 GPM with 79 ft. drawdown after 1 hours**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **Yes**

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: **C. Miller Drilling**

7355 SH 154 East
Winnsboro, TX 75494

Driller Name: **2464**

License Number: **2464**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	5	Clay
5	17	Sand w/clay strks.
17	22	Shale/clay
22	120	Shale
120	136	Sand w/shale strks.
136	155	Sand
155	180	Shale
180	197	Sand
197	252	Shale w/sand strks.
252	287	Shale
287	290	Sand
290	336	Shale
336	354	Sand w/shale strks. 80/20
354	420	Shale w/sand strks.
420	421	Rock
421	436	Sand
436	452	Shale w/sand strks.
452	453	Rock

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4.5	N	SDR 17 PVC	0 580
4	N	SCH 40 PVC	580 595
4	N	SCH 40 Screen	595 705 .016
4	N	SCH 40 PVC	705 712

453	457	Shale w/sand strks.
457	480	Sand
480	494	Shale w/sand strks.
494	520	Sand
520	532	Shale
532	533	Rock
533	552	Shale/rock
552	558	Sand w/shale strks.
558	590	Shale w/sand and lignite
590	610	Sand
610	616	Sand w/shale strks.
616	622	Shale w/sand strks.
622	705	Sand w/shale strks.
705	722	Shale

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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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

STATE OF TEXAS WELL REPORT for Tracking #127002

Owner:	**Pritchett Water Supply Corp.**	Owner Well #:	**22**
Address:	**3670 SH 155 South Gilmer, TX 75645**	Grid #:	**34-15-9**
Well Location:	**Hwy 154-3 Miles West of Rhonesboro Gilmer, TX 75644**	Latitude:	**32° 45' 22" N**
		Longitude:	**095° 08' 58" W**
Well County:	**Upshur**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Public Supply**

Drilling Start Date: **7/3/2007** Drilling End Date: **7/18/2007** **Plans Approved by TCEQ - YES**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
22	**590**	**728**
16.75	**0**	**590**
9.875	**728**	**732**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Under-reamed**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**590**	**320cem w/6% gel**

Seal Method: **Pressure pumped**

Sealed By: **Driller**

Distance to Property Line (ft.): **75+**

Distance to Septic Field or other concentrated contamination (ft.): **150+**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Driller / Owner**

Surface Completion: **Surface Slab Installed**

Water Level: **394 ft.** below land surface on **2007-10-25** Measurement Method: **Unknown**

Packers: **12" x 16" 590 ft.**

Type of Pump: **Submersible** Pump Depth (ft.): **525**

Well Tests: **Pump** **Yield: 440 GPM with 105 ft. drawdown after 36 hours**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	No Data

Chemical Analysis Made: **Yes**

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: **C. Miller Drilling**

7355 SH 154 East
Winnsboro, TX 75494

Driller Name: **2464** License Number: **2464**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	2	Surface sand
2	23	Sandy clay
23	24	Rock
24	120	Shale
120	154	Sand
154	210	Shale
210	250	Shale w/sand strks.
250	340	Shale
340	400	Shale w/sand & lignite strks.
400	446	Sand w/shale strks.
446	447	Rock
447	465	Shale
465	466	Rock
466	600	Shale w/sand strks.
600	630	Sand
630	660	Shale w/sand strks.
660	690	Sand
690	732	Shale w/sand strks.

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.) New/Used Type Setting From/To (ft.)
12 3/4 OD N Steel Casing 0 590
8 5/8 OD N Steel Lap Pipe 505 593
8 5/8 OD N Stainless Steel Screen 593 713 .016
8 5/8 OD N Steel Blank Pipe 713 720

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #274167

Owner:	**Robert Mead**	Owner Well #:	**3**
Address:	**P.O. Box 358 Dallas, TX 75313**	Grid #:	**34-15-8**
		Latitude:	**32° 46' 06" N**
Well Location:	**C.R. 3540 Hawkins, TX 75765**	Longitude:	**095° 10' 33" W**
Well County:	**Wood**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **11/4/2011** Drilling End Date: **11/4/2011**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	**7.875**	**0**	**200**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

Filter Pack Intervals:

Top Depth (ft.)	Bottom Depth (ft.)	Filter Material	Size
70	**200**	**Gravel**	**16/30**

Annular Seal Data:

Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
0	**10**	**4 cement**

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **50+**

Distance to Septic Field or other concentrated contamination (ft.): **100+**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner & Driller**

Surface Completion: **Surface Sleeve Installed**

Water Level: **3 GPM** artesian flow on **2011-11-11** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **160**

Well Tests: **Jetted** **Yield: 42 GPM with 160 ft. drawdown after 1 hours**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	Pottable

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: **C. Miller Drilling**

7355 St. Hwy 154 East
Winnsboro, TX 75494

Driller Name: **Cory L. Miller** License Number: **2464**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	18	Tan & Red Sand & Clay
18	21	Clay
21	46	Tan Sand
46	72	Clay
72	175	Tan & White Sand w/ Small Clay strks
175	200	Shale

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.) New/Used Type Setting From/To (ft.)
4.5 New SDR 17 PVC Casing 0 - 90
4 New Sch 40 PVC Casing 90 - 100
4 New Sch 40 PVC Screen 100 - 185 .016
4 New Sch 40 PVC Casing 185 - 192

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #282818

Owner:	**Maria Mandonado**	Owner Well #:	**1**
Address:	**Cr. 3580 Winnsboro, TX 75494**	Grid #:	**34-15-8**
Well Location:	**Cr. 3580 Winnsboro, TX 75494**	Latitude:	**32° 46' 11" N**
		Longitude:	**095° 10' 39" W**
Well County:	**Wood**	Elevation:	**560 ft. above sea level**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **2/16/2012** Drilling End Date: **2/17/2012**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
7.875	**0**	**102**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

Filter Pack Intervals:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
12	**102**	**Gravel**	**16/30**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**12**	**4 cement**

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **50+**

Distance to Septic Field or other concentrated contamination (ft.): **100+**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner & Driller**

Surface Completion: **Surface Sleeve Installed**

Water Level: **58 ft.** below land surface on **2012-02-17** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **83**

Well Tests: **Jetted** **Yield: 11 GPM with 27 ft. drawdown after 1 hours**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	Pottable

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: **C. Miller Drilling**

7355 St. Hwy 154 East
Winnsboro, TX 75494

Driller Name: **Cory L. Miller** License Number: **2464**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	3	Surface Sand
3	6	Sandy Clay
6	50	Tan & Red Sand
50	60	Tan Clay
60	90	Tan & White Sand
90	102	Gray Shale

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4	New	Sch 40 PVC	Casing 0 - 60
4	New	Sch 40 PVC	Screen 60 - 90 .016
4	New	Sch 40 PVC	Casing 90 - 95

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #301223

Owner:	**JOESPH FULLFER**	Owner Well #:	**1**
Address:	**7172 STATE HWY 154 WINNSBORO, TX 75494**	Grid #:	**34-15-8**
		Latitude:	**32° 46' 12" N**
Well Location:	**7172 ST. HWY 154 WINNSBORO, TX 75494**	Longitude:	**095° 10' 44" W**
Well County:	**Wood**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **8/1/2012** Drilling End Date: **8/3/2012**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
8	**0**	**84**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

Filter Pack Intervals:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
60	**84**	**Gravel**	**16/30**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**4**	**5 CEMENTS**
4	**60**	**15 HOLEPLUGS**

Seal Method: **MIXED AND POURED**

Sealed By: **DAVID BIRD RODNEY BIRD DENNIS MOODY**

Distance to Property Line (ft.): **60**

Distance to Septic Field or other concentrated contamination (ft.): **120**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **TAPE**

Surface Completion: **Surface Sleeve Installed**

Water Level: **54 ft.** below land surface on **2012-08-04** Measurement Method: **Unknown**

Packers: **NONE**

Type of Pump: **Submersible** Pump Depth (ft.): **80**

Well Tests: **Jetted** **Yield: 12 GPM after 2 hours, no drawdown specified**

Plug Information:

Description (number of sacks & material)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
N/A		

Water Quality:

Strata Depth (ft.)	Water Type
35	FRESH

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: **BIRD'S WATER WELL DRILLING**

192 CR 3801
HAWKINS, TX 75765

Driller Name: **R.L. BIRD** License Number: **3059**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	3	SURFACE SOIL
3	15	ORANGE CLAY
15	16	ROCK
16	27	RED SAND
27	35	BROWN SAND
35	80	LIGHT BROWN SAND
80	81	LIGNIGHT
81	85	WHITE CLAY

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4	N	PVC	CASING FROM 0-64FT SCH 40
4	N	PVC	SCREEN .016 SLOT FROM 64-84FT SCH 40

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #341943

Owner:	**Gabriel Ruiz**	Owner Well #:	**No Data**
Address:	**6879 Greenhill Gilmer, TX 75644**	Grid #:	**34-15-8**
Well Location:	**CR. 3580 Winnsboro, TX 75494**	Latitude:	**32° 46' 15" N**
		Longitude:	**095° 10' 36" W**
Well County:	**Wood**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **8/16/2013** Drilling End Date: **8/20/2013**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
7.875	**0**	**160**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

Filter Pack Intervals:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
60	**160**	**Gravel**	**16/30**

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
0	**10**	**4 cmt**

Seal Method: **Poured**

Sealed By: **Driller**

Distance to Property Line (ft.): **50+**

Distance to Septic Field or other concentrated contamination (ft.): **100+**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner & Driller**

Surface Completion: **Surface Sleeve Installed**

Water Level: **87 ft.** below land surface on **No Data** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **140**

Well Tests: **Jetted** **Yield: 12 GPM with 53 ft. drawdown after 1 hours**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	Pottable

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: **C. Miller Drilling**

7355 St. Hwy 154 East
Winnsboro, TX 75494

Driller Name: **Cory L. Miller** License Number: **2464**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	5	Surface Sand
5	15	Red Clay
15	70	Tan & Red Clay & Sand
70	120	Gray Shale
120	145	Sand
145	160	Shale

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.)	New/Used	Type	Setting From/To (ft.)
4	New	Sch 40 PVC	Casing 0 - 120
4	New	Sch 40 PVC	Screen 120 - 150 .016
4	New	Sch 40 PVC	Casing 150 - 155

IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #359187

Owner:	**Mary Lawrence**	Owner Well #:	**No Data**
Address:	**P.O. Box 412 Quitman, TX 75783**	Grid #:	**34-15-8**
Well Location:	**340 Ward St. Quitman, TX 75783**	Latitude:	**32° 46' 06" N**
		Longitude:	**095° 10' 36" W**
Well County:	**Wood**	Elevation:	**581 ft. above sea level**
Type of Work:	**New Well**	Proposed Use:	**Irrigation**

Drilling Start Date: **2/3/2014** Drilling End Date: **2/12/2014**

Borehole:

Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
7.875	0	655

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed; Straight Wall**

Filter Pack Intervals:

Top Depth (ft.)	Bottom Depth (ft.)	Filter Material	Size
500	655	Gravel	16/30

Annular Seal Data:

Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
0	10	4 cmt
440	500	7 cmt w/ 6%gel

Seal Method: **Top poured / bottom pumped**

Sealed By: **Driller**

Distance to Property Line (ft.): **50+**

Distance to Septic Field or other concentrated contamination (ft.): **100+**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Owner & Driller**

Surface Completion: **Surface Sleeve Installed**

Water Level: **196 ft.** below land surface on **No Data** Measurement Method: **Unknown**

Packers: **No Data**

Type of Pump: **Submersible** Pump Depth (ft.): **280**

Well Tests: **Jetted** **Yield: 70 GPM with 54 ft. drawdown after 1 hours**

Water Quality:

Strata Depth (ft.)	Water Type
No Data	Pottable

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: **C. Miller Drilling**

7355 St Hwy 154 East
Winnsboro, TX 75494

Driller Name: **Cory L. Miller** License Number: **2464**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	5	Surface Sand
5	13	Clay
13	164	Gray Shale
164	226	Dark Sand
226	318	Shale
318	419	Dark Sand / fine
419	555	Gray Shale w/ Small Sand strks
555	641	Light Gray Sand / med.
641	655	Shale

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia. (in.) New/Used Type Setting From/To (ft.)
4.5 New SDR 17 PVC Casing 0 - 560
4 New SCH 40 PVC Casing 560 - 580
4 New SCH 40 PVC Screen 580 - 640 .016
4 New SCH 40 PVC Casing 640 - 645

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #512719

Owner:	**RICO DEBOER**	Owner Well #:	**1**
Address:	**19008 FM 3079 CHANDLER, TX 75758**	Grid #:	**34-15-8**
Well Location:	**116 PR 7573 WINNSBORO, TX**	Latitude:	**32° 45' 49.84" N**
		Longitude:	**095° 10' 14.96" W**
Well County:	**Wood**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **8/8/2018** Drilling End Date: **8/11/2018**

Borehole:

Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
7.875	0	484

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

Filter Pack Intervals:

Top Depth (ft.)	Bottom Depth (ft.)	Filter Material	Size
364	484	Gravel	

Annular Seal Data:

Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
0	284	Unknown 30 Bags/Sacks

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **1000**

Distance to Septic Field or other concentrated contamination (ft.): **200**

Distance to Septic Tank (ft.): **UNKNOWN**

Method of Verification: **UNKNOWN**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **200 ft.** below land surface on **2018-08-11**

Packers: **Unknown**

Type of Pump: **Submersible** Pump Depth (ft.): **444**

Well Tests: **Jetted** **Yield: 20 GPM with 200 ft. drawdown after 24 hours**

Water Quality:

Strata Depth (ft.)	Water Type
0 - 200	GOOD

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: **Folmar Drilling Co.**

P.O. Box 158
Pickton, TX 75471

Driller Name: **John Todd Folmar** License Number: **54781**

Comments: **No Data**

Report Amended on 6/6/2019 by Request #28034

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	24	SURFACE
24	184	SANDY SHALE & SAND
184	264	SHALE
264	284	SANDY SHALE & SHALE
284	464	SANDY SHALE & SAND
464	484	SHALE

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
4	Unknown	New Plastic (PVC)	40	-1	404
4		New Plastic (PVC)	40	404	464
4		New Plastic (PVC)	40	464	484

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Texas Department of Licensing and Regulation
P.O. Box 12157
Austin, TX 78711
(512) 334-5540

STATE OF TEXAS WELL REPORT for Tracking #512791

Owner:	**RICO DEBOER**	Owner Well #:	**2**
Address:	**19008 FM 3079 CHANDLER, TX 75758**	Grid #:	**34-15-8**
Well Location:	**116 PR 7573 WINNSBORO, TX**	Latitude:	**32° 45' 49.74" N**
		Longitude:	**095° 10' 14.48" W**
Well County:	**Wood**	Elevation:	**No Data**
Type of Work:	**New Well**	Proposed Use:	**Domestic**

Drilling Start Date: **9/23/2018** Drilling End Date: **9/29/2018**

Borehole:

Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
9.875	**0**	**724**

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Filter Packed**

Filter Pack Intervals:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Filter Material*	*Size*
524	**724**	**Gravel**	

Annular Seal Data:

Top Depth (ft.)	*Bottom Depth (ft.)*	*Description (number of sacks & material)*
24	**204**	**hole plug 40 Bags/Sacks**
204	**504**	**Unknown 30 Bags/Sacks**

Seal Method: **Pressure**

Sealed By: **Driller**

Distance to Property Line (ft.): **1000**

Distance to Septic Field or other concentrated contamination (ft.): **200**

Distance to Septic Tank (ft.): **UNKNOWN**

Method of Verification: **UNKNOWN**

Surface Completion: **Surface Sleeve Installed** **Surface Completion by Driller**

Water Level: **370 ft.** below land surface on **2018-09-29**

Packers: **Unknown**

Type of Pump: **Submersible** Pump Depth (ft.): **651**

Well Tests: **Jetted** **Yield: 100 GPM with 220 ft. drawdown after unspecified hours**

Water Quality:

Strata Depth (ft.)	Water Type
0 - 200	GOOD

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: **Folmar Drilling Co.**

P.O. Box 158
Pickton, TX 75471

Driller Name: **John Folmar** License Number: **54781**

Comments: **No Data**

Lithology:
DESCRIPTION & COLOR OF FORMATION MATERIAL

Top (ft.)	Bottom (ft.)	Description
0	24	SURFACE
24	184	SAND & SANDY SHALE
184	264	SHALE
264	464	SANDY SHALE & SAND
464	484	SHALE
464	524	SHALE

Casing:
BLANK PIPE & WELL SCREEN DATA

Dia (in.)	Type	Material	Sch./Gage	Top (ft.)	Bottom (ft.)
6	Unknown	New Unknown	40	-1	624
6		New Unknown	40 0.020	624	724

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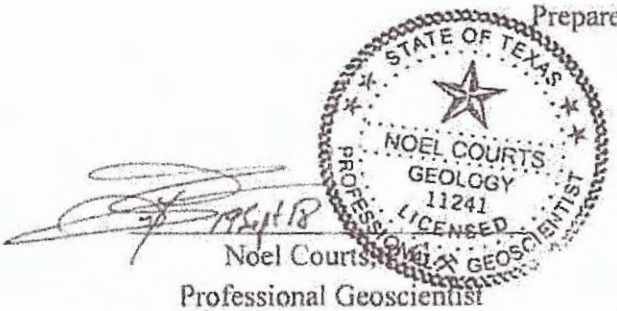
Austin, TX 78711
(512) 334-5540

T&S DAIRY - (Covered Feedlane - Replacement Heifers / Dry Cows)

AGRICULTURAL WASTE MANAGEMENT PLAN

WOOD COUNTY

Prepared by:



Noel Courts
Professional Geoscientist
M.E Lowther Consulting, LLC

Gerry Kendall, P.E.
Professional Engineer
Kendall Cross Timbers Consulting - F-18041

IN COOPERATION WITH:

NATURAL RESOURCES CONSERVATION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

MANURE PRODUCTION DATA
FOR CONFINED ANIMAL FEEDING OPERATIONS

TYPE OF ANIMAL (Dairy=0, Swine=1, Laying Hens=2, Beef Feedlot=3, Sheep Feedlot=4, Horses=5, Turkeys=6, Broilers=7) => 0

Feeding Facilities For: Dairy

	Buildings, Concrete Pens & Alleys	Open Lots	Total
Number of Animals	400	0	
Average Liveweight per Head, lbs/hd	975	0	
Total Liveweight,lbs	390,000	0	
Confinement Period, hours/hd/day	4.2	0.0	4.2
Adjusted Total Liveweight, lbs	68,250	0	68,250
Wet Manure Production, lbs/day	6,962	0	6,962
Dry Manure Production, lbs/day	1,003	0	1,003
Dry Manure Production, tons/year	183	0	183
Volatile Solids (VS) Production, lbs/day	736	0	736
Total Nitrogen Production, lbs/day	37	0	37
Total Phosphorus (P2O5), lbs/day	18	0	18
Total Potassium (K2O), lbs/day	32	0	32
Sodium Production, lbs/day	5	0	5
COD Production, lbs/day	915	0	915
BOD5 Production, lbs/day	142	0	142

Engineering Job Approval Authority Job Class for Ag. Waste Management System: _____
This practice, Ag. Waste Management System, meets specifications, signed by:

_____ Date: _____

Remarks

9/25/18

F-18041

VOLUME OF MANURE & WASTEWATER FROM CONFINEMENT BUILDINGS

Wet Manure Production	=	835	gal/day
Water Used for Manure Removal			
a. Dry Manure Production	=	1003	lbs/day
b. Water Volume Required for Manure Removal			
1. Flush Systems:			
(Enter gallons water per pound of dry manure production, range 8-12 gal/lb)	=>	0	
Total flush water	=	0	gal/day
2. Manual Scrape/Wash System (Enter gallons of water per pound of dry manure production, Range: 3 - 6 gal/lb)	=>	3	
Total manual wash water	=	3010	gal/day
Cleanup and Washwater (Default=10 gal/hd/day)	=>	0	gal/hd/day
	=	0	gal/day
Other Water That Enters Wastewater System	=>	5	gal/hd/day
[e.g. drinking water, etc.(12 gal/hd/day)]	=	2000	gal/day
Total Process Generated Wastewater Volume			
Daily Volume	=	5845	gal/day
Less Volume of Recycled Wastewater Used for Manure Removal	=>	0	gal/day
Design Wastewater Storage Volume, Minimum Allowable			
Minimum Storage Days (Use Exhibit 2)*	=>	25	days
Minimum Design Storage Volume	=	0.45	ac-ft
Net Manure and Wastewater Volume for Land Application			
Monthly Volume	=	0.55	ac-ft/month
Annual Sludge Accumulation Rate, ac-ft	=	0.08	
Desired Sludge Storage Volume in Pond	=>	0.08	ac-ft
Sludge Cleanout Interval	=	1.0	years
Design Sludge Accumulation Storage Volume (Not to be less than 1 Year accumulation)	=	0.08	ac-ft

* Use Exhibit 2 of Texas Water Commission regulations for your particular location.

STATE OF TEXAS
GERRY KENDALL
123674
LICENSED
PROFESSIONAL ENGINEER

9/25/18

ESTIMATED VOLUME OF RUNOFF FROM OPEN LOTS

Total area draining into Runoff Control Structure (RCS)				
a. Area of open lot surface		=>	0.00	acres
b. Area between open lot surface and RCS		=>	0.55	acres
c. Surface area of RCS		=>	3.67	acres
d. Total area (#1.a + #1.b + #1.c)		=	4.22	acres
Design rainfall (25-year frequency, 24-hour duration storm), inches (Use Exhibit 1)	1)	=>	8.00	inches
Design runoff depth, inches (Use exhibit 3)				
a. For Open Lot Surface * CN		=>	0	
			0.00	inches
b. For Area Between Lots and RCS ** CN		=>	85	
			6.21	inches
c. For Surface Area of RCS		=	8.00	inches
Design runoff volume from 25-year, 24-Hour storm				
a. For Open Lot Surface		=	0.0	ac-ft
b. For Area Between Lots and RCS		=	0.3	ac-ft
c. For Surface Area of RCS		=	2.4	ac-ft
d. Total Design Runoff Volume		=	2.7	ac-ft

NOTE: Runoff Control Structures must be capable of storing Design Runoff Volume plus Design Storage Volume, if runoff and process generated wastewater streams are combined.

* Use NRCS soil cover complex curve No. 90 for unpaved (soil) lots and curve No. 95 for concrete surfaces.

** Use appropriate NRCS soil cover complex curve number for particular type of cover. Contact local Natural Resources Conservation Service field office for assistance.

SUMMARY OF REQUIRED AND DESIGNED STORAGE PONDS

Minimum Design Wastewater Storage Volume	0.45	ac-ft
Minimum Design Runoff Storage Volume	2.73	ac-ft
MTV & Sludge Accumulation Storage Volume	0.85	ac-ft
Additional Capacity Allowance	13.61	ac-ft
Total Capacity Designed	17.64	ac-ft

Primary Anaerobic Manure Treatment Lagoons, Sheet 5 of 10., Use Where Applicable.

STATE OF TEXAS
GERRY KENDALL
123674
LICENSED
PROFESSIONAL ENGINEER

Gerry Kendall
F-123674
9/25/18

DESIGN BASIS FOR
PRIMARY ANAEROBIC MANURE TREATMENT LAGOONS

(WHERE APPLICABLE)

Design Factor			
		Dairy	
Adjusted Total Liveweight Contributing Manure to Lagoon	=	13650	lbs
Recommended Unit Treatment Volume (see footnote)	=>	0.00	
(RUTV), cubic feet/pound liveweight	=	3.00	
Total Treatment Volume	=	0.9	
Design checks (see footnotes):			
a. Volatile Solids (VS) Loading Rate	=	0.0180	
b. Hydraulic Retention Time (HRT),	=	52	days
c. Estimated Sludge Cleanout Interval,			
1. Sludge Accumulation Rate, cu ft/year/lb liveweight	=	0.250	
2. Sludge Cleanout Interval	=	6.0	years
Additional Capacity Allowance for:			
a. Design Runoff Volume, (one stage lagoons o	=>	0.0	ac-ft
b. Sludge storage	=>	0.0	ac-ft
c. Additional Storage	=>	0.0	ac-ft
Total Primary Lagoon Capacity	=	0.9	ac-ft

THIS PAGE IS NOT APPLICABLE TO THIS PLAN

Notes: 2. If user entry area equals 0, then default values are used (dairy=3, swine=1.75, poultry,laying hens=2.5, beef=2, sheep=2, horses=2). User may specify alternate value which will override template default.

4.a. VS Loading Rate--Volatile Solids Production (Worksheet I, #10) / Total Treatment Volume. Desired range is 0.0025-0.0040 lbs VS/day/cu ft for odor control.

4.b. Hydraulic Retention Time--Total Treatment Volume / Total Manure and Wastewater Volume. Desired range is 160-400 days for good treatment.

4.c. Sludge Cleanout Interval (when half full)

$$\text{Interval} = \frac{\text{Total Treatment Volume (cuft)} \times 0.5}{\text{Adj. Total Live Wt.} \times \text{Sludge Accum. Rate}}$$

LAND AREA FOR DISPOSAL OF MANURE OR EFFLUENT FROM TREATMENT LAGOONS,

BASED ON PLANT-AVAILABLE NITROGEN (PAN)

		Buildings		Open Lots	
Total Daily Nitrogen Production	=	37	more->	0	lbs/day
Total Annual Nitrogen Production	=	13626	more->	0	lbs/yr
Percent Nitrogen Loss from manure storage or treatment system*	=>	20	more->	50	percent
Annual Nitrogen Loss from manure storage or treatment system	=	2725	more->	0	lbs/yr
Total Annual Nitrogen Remaining	=	10901	more->	0	lbs/yr
Availability of Nitrogen in Manure or Effluent,% (Normal range is 80-95% in lagoon effluent; 50-80% in fresh or pit-stored manure; or 40-50% in feed lot manure)	=>	80	more->	50	percent
Annual Plant-Available Nitrogen (PAN) Applied to Soil		8721	more->	0	lbs/yr
PAN Losses from Soil Surface Application**	** =>	20	more->	20	percent
PAN Losses from Soil Surface Application	=	1744	more->	0	lbs/yr
PAN Entering Soil	=	6977	more->	0	lbs N/yr

Land Required for Various PAN Application Rates:

Assumed PAN Application Rate, lbs/ac/yr	Buildings Acres		Open Lots Acres		Total Acres
100	70	+	0	=	70
150	47	+	0	=	47
200	35	+	0	=	35
300	23	+	0	=	23
400	17	+	0	=	17

* Nitrogen Loss from Lagoon Surface--Normal loss is 40-65% for primary treatment lagoons with 200 days or more storage; 10-20% from liquid manure settling basins or storage pits; and 40-50% from open feedlot surface.

** Normal range of nitrogen loss from soil surface is 15-35% for surface application or soil injection. Losses are highest in warm weather and on high pH soils.

STATE OF TEXAS
GERRY KENDALL
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9/25/18

WATER BUDGET ANALYSIS

DRAINAGE AREA	4.22	ACRES	RUNOFF CONTROL STRUCTURE DATA		
MANURE PROD. RCS AREA	3.67	ACRES	LOCATION NO.	29	FIELD OFFICE QUITMAN
					COUNTY WOOD
SLUDGE ACCUMULATION	0.85	AC-FT	30-DAY CURVE NUMBERS		CROPS FOR WATER DEMAND
MIN. WASTEWATER STORE	0.45	AC-FT	POND	79.0	Bermudagrass 0.00 AC
ADDITIONAL STORAGE	13.61	AC-FT	FIELD	49.0	Bermuda/SmGr 185.00 AC
SUBTOTAL	14.91	AC-FT	IRRIG. EFFICIENCY, %	75.00	Sorghum/SmGr 0.00 AC
25YR-24HR RUNOFF	2.73	AC-FT	IRRIGATION DEPTH, IN/YR	0.38	Small Grain 0.00 AC
TOTAL POND CAPACITY	17.64	AC-FT	EVAPORATION. COEFF.	71.75	Assumed Seepage 0.0 ACFT

MONTH	RAINFALL (1) IN	RUNOFF (2) IN	INFLOW TO POND (3) AC-FT	OTHER INFLOW (3a) AC-FT	EFFECTIVE RAINFALL (4) IN	GROSS EVAP (5) IN	NET POND EVAP (6) AC-FT	CROP DEMAND (10) AC-FT	ACTUAL WITHDRAWL (10b) AC-FT	STORAGE at E.O.M (11) AC-FT	SURF AREA at E.O.M (12) AC	SPILL (13) AC-FT
										0.85	2.95	0.00
JAN	3.12	0.09	0.45	0.55	3.03	2.95	0.01	20.57	0.98	0.85	2.95	0.00
FEB	3.44	0.16	0.53	0.55	3.28	2.52	0.10	29.24	0.98	0.85	2.95	0.00
MAR	3.83	0.25	0.64	0.55	3.58	3.94	0.40	71.86	0.79	0.85	2.95	0.00
APR	4.29	0.39	0.77	0.55	3.90	4.61	0.53	97.53	0.79	0.85	2.95	0.00
MAY	4.98	0.63	0.98	0.55	4.35	4.94	0.58	95.60	0.95	0.85	2.95	0.00
JUN	3.88	0.26	0.66	0.55	3.62	6.33	0.94	75.77	0.27	0.85	2.95	0.00
JUL	2.48	0.01	0.29	0.55	2.47	7.37	0.84	72.38	0.00	0.85	2.95	0.00
AUG	2.42	0.01	0.28	0.55	2.41	7.25	0.82	67.69	0.00	0.85	2.95	0.00
SEP	3.26	0.12	0.49	0.55	3.14	5.72	0.63	32.53	0.20	0.85	2.95	0.00
OCT	4.10	0.33	0.72	0.55	3.77	4.65	0.55	28.64	0.72	0.85	2.95	0.00
NOV	3.85	0.26	0.65	0.55	3.59	3.11	0.21	11.82	0.98	0.85	2.95	0.00
DEC	3.86	0.26	0.65	0.55	3.60	2.30	0.03	4.77	1.17	0.85	2.95	0.00
TOTALS	43.51	2.77	7.10	6.55	40.74	54.79	5.82	608.41	7.83		Reset:	0
	43.51					54.79			7.83	Checks		

STORAGE-AREA TABLE FOR RUNOFF CONTROL STRUCTURE

STORAGE DATA TYPE R (C - CIRCULAR, R - RECTANGULAR, or S - STAGE DATA)

CIRCULAR		RECTANGULAR	
DEPTH, FT	0.0	DEPTH, FT	5.4
SIDE SLOPE, RATIO	0.00	SIDE SLOPE, RATIO	4.00
TOP DIAMETER, FT	0.00	END SLOPE, RATIO	4.00
FREE BOARD, FT	0.00	TOP WIDTH, FT	345.00
BOTTOM DIAMETER, FT	0.00	TOP LENGTH, FT	463.00
SURFACE AREA, AC	0.00	FREE BOARD, FT	2.00
VOLUME, ACFT	0.00	BOTTOM WIDTH, FT	302.01
		BOTTOM LENGTH, FT	420.01
		SURFACE AREA, AC	3.67
		VOLUME, ACFT	17.64

THIS WATER BUDGET VERIFIES THAT 25YR - 24HR STORM RUNOFF STORAGE ALLOCATION IS MAINTAINED THROUGHOUT THIS CLIMATIC CYCLE.

NOTE: USER INPUT VALUES FOR NUTRIENTS USED IN NUTRIENT BALANCE WORKSHEET!

DEPTH, FT 0.0 STAGE

FREE BOARD, FT 0.00

Leave Extra Rows at Bottom with Blanks or Zeros.

ROW #	DEPTH FT	AREA AC
BOTTOM	0.00	0.00
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		

STAGE STORAGE DATA SUMMARY

METHOD: RECTANGULAR

ROW #	DEPTH FT	AREA AC	STORE ACFT	WIDTH FT	LENGTH FT
0	0.00	2.91	0.00	302.01	420.01
1	0.54	2.98	1.58	306.31	424.31
2	1.07	3.06	3.21	310.61	428.61
3	1.61	3.13	4.87	314.91	432.91
4	2.15	3.20	6.57	319.21	437.21
5	2.69	3.28	8.31	323.51	441.51
6	3.22	3.35	10.09	327.80	445.80
7	3.76	3.43	11.92	332.10	450.10
8	4.30	3.51	13.78	336.40	454.40
9	4.84	3.59	15.69	340.70	458.70
10	5.37	3.67	17.64	345.00	463.00
11	6.37	3.82	21.38	353.57	471.57
12	7.37	3.97	25.25	361.00	479.00
BOT. 25YR-10DAY	4.62	3.56	14.91	340.70	458.70
SPILLWAY	5.37	3.67	17.64	345.00	463.00
FREE BOARD	7.37	3.97	25.25	361.00	479.00

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GERRY KENDALL
123674
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PROFESSIONAL ENGINEER

Gerry Kendall
9/25/18

WATER BUDGET ANALYSIS

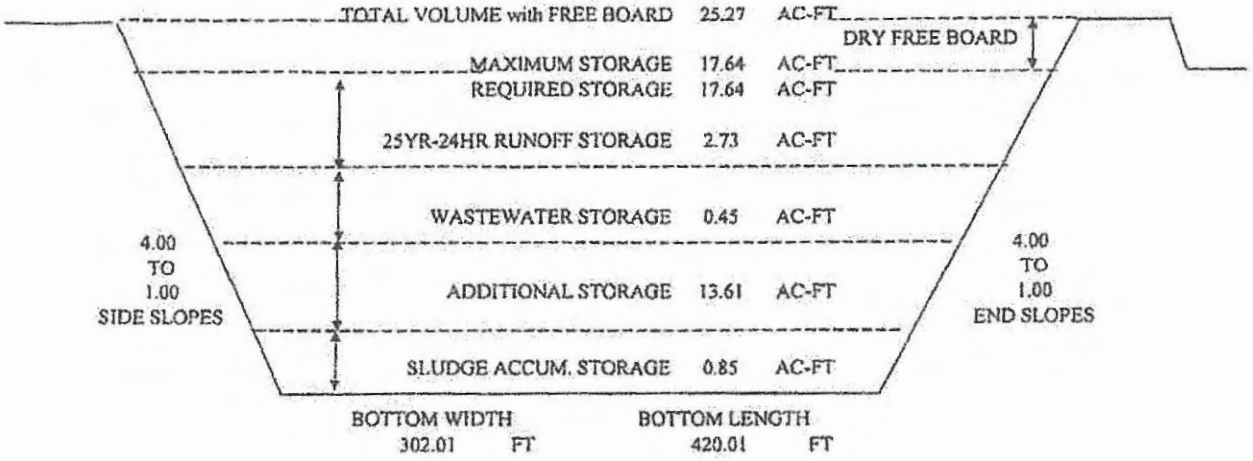


DIAGRAM OF RUNOFF CONTROL STRUCTURE

CONSUMPTIVE USE FOR SPECIFIC CROP AREAS (IN/MONTH)							NET CROP DEMAND (C.U.-EFF.RAINFALL) (IN/MONTH)					
FIELD	0	4,5,6	3	0	0	0	0	4,5,6	3	0	0	0
VEGETATION	Bermudagrass Pastureland	Bermuda/SmGr Pastureland	Sorghum/SmGr Cropland	Small Grain Cropland	Grain Sorghum Cropland	Alfalfa Pastureland	Bermudagrass Pastureland	Bermuda/SmGr Pastureland	Sorghum/SmGr Cropland	Small Grain Cropland	Grain Sorghum Cropland	Alfalfa Pastureland
JAN	1.92	4.36	2.44	2.44	0.00	0.90	0.00	1.33	0.00	0.00	0.00	0.00
FEB	2.31	5.18	2.87	2.87	0.00	1.20	0.00	1.90	0.00	0.00	0.00	0.00
MAR	3.76	8.24	4.48	4.48	0.00	3.00	0.18	4.66	0.90	0.90	0.00	0.00
APR	4.81	10.23	8.74	5.42	3.32	3.70	0.91	6.33	4.84	1.52	0.00	0.00
MAY	5.50	10.55	10.49	5.05	5.44	6.60	1.15	6.20	6.14	0.70	1.09	2.25
JUN	6.27	8.53	9.40	2.26	7.14	6.90	2.65	4.91	5.78	0.00	3.52	3.28
JUL	7.16	7.16	7.82	0.00	7.82	7.60	4.69	4.69	5.35	0.00	5.35	5.13
AUG	6.80	6.80	1.75	0.00	1.75	5.30	4.39	4.39	0.00	0.00	0.00	2.89
SEP	5.25	5.25	0.00	0.00	0.00	5.50	2.11	2.11	0.00	0.00	0.00	2.36
OCT	4.47	5.63	1.16	1.16	0.00	3.80	0.70	1.86	0.00	0.00	0.00	0.03
NOV	2.54	4.36	1.82	1.82	0.00	1.70	0.00	0.77	0.00	0.00	0.00	0.00
DEC	1.98	3.91	1.93	1.93	0.00	1.00	0.00	0.31	0.00	0.00	0.00	0.00

STATE OF TEXAS
GERRY KENDALL
123674
LICENSED
PROFESSIONAL ENGINEER

Gerry Kendall

F-19041 9/20/18

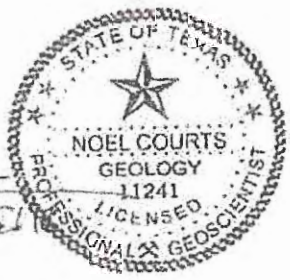
CERTIFICATIONS FOR THE AS-BUILT RETENTION CONTROL STRUCTURE (RCS #1)

T&S Dairy
7880 East HWY 154
Winnsboro, Texas 75494

Wood County, Texas

Report for:
Nico DeBoer

Prepared By:



Noel Courts, P.G.
Professional Geoscientist
License No. 11241

M.E. LOWTHER CONSULTING, LLC
ENVIRONMENTAL MANAGEMENT CONSULTANTS

IN COOPERATION WITH:

Gerky Kendall, P.E.
License No. 123674
KENDALL CROSS TIMBERS CONSULTING
Firm Registration No. 15041

February 2, 2018

T&S DAIRY
TXG920108
7880 East HWY 154
Winnsboro, Texas 75494
Wood County

Dear Mr. DeBoer:

Thank you for choosing Kendall Cross Timbers Consulting for your engineering services. The following is the certification required by the TCEQ for the Retention Control Structure #1 (RCS #1).

RCS #1's capacity was measured and calculated by an on-site survey. The RCS is an existing pit-type pond that was constructed prior to 1991 and was resurveyed for current "as-built" capacity. The measured capacity of RCS #1 is 13.57 ac-ft.

Sincerely,

STATE OF TEXAS
NOEL COURTS
GEOLOGY
11241
LICENSED
PROFESSIONAL GEOSCIENTIST

2/6/18

Noel Courts, P.G.
License No. 11241

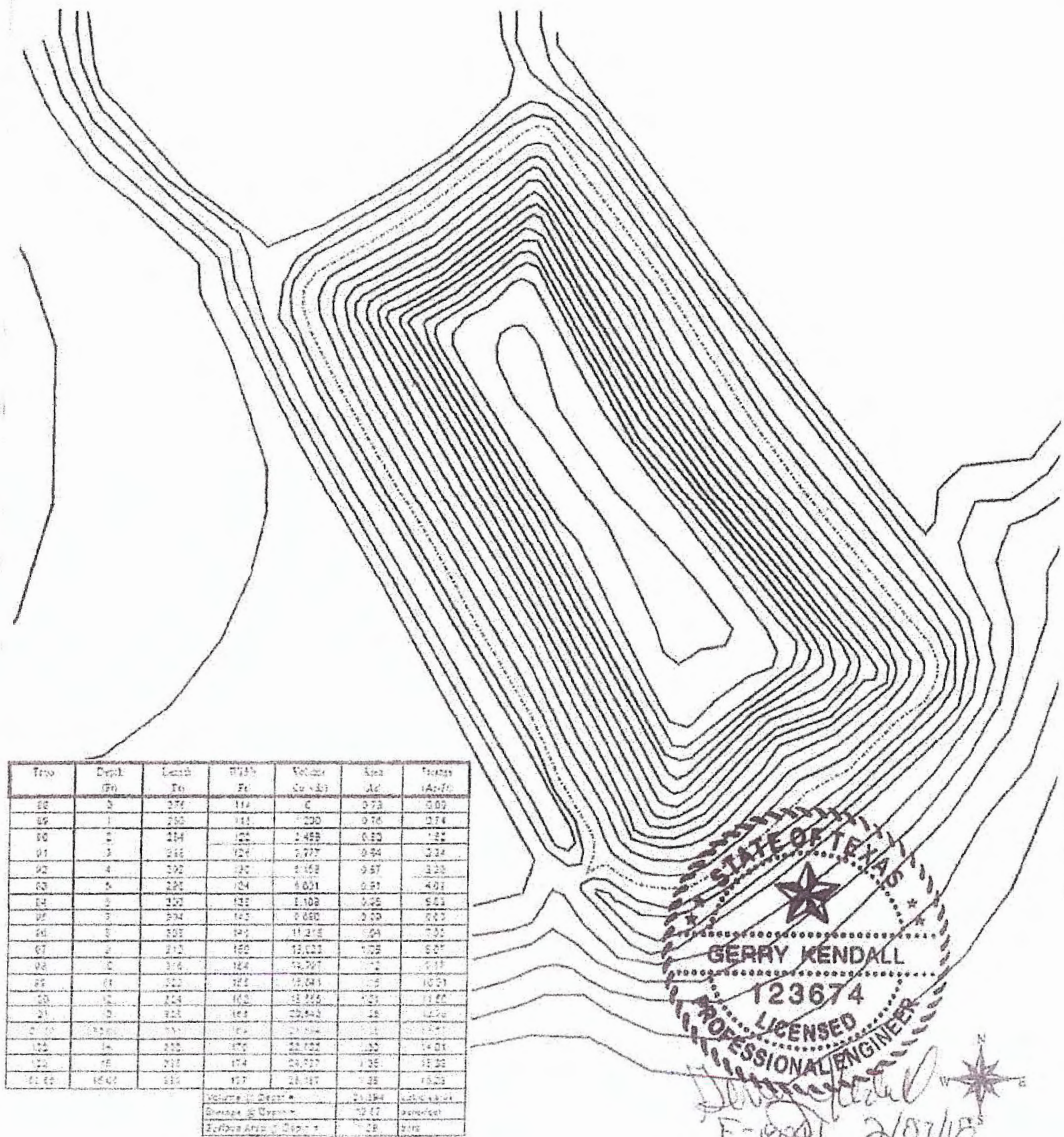
STATE OF TEXAS
GERRY KENDALL
123674
LICENSED
PROFESSIONAL ENGINEER

Gerry Kendall, P.E.
License No. 123674
2/07/18
F-12041

RCS #1 - Survey Map

T&S Dairy
Nico DeBoer
Date: 02/06/2018

M.E. Lowther Consulting, LLC
Noel Courts, P.G.
325-692-5878



Elev	Depth (Ft)	Length Ft	Width Ft	Volume (Cu-Yd)	Area (Ac)	Storage (Ac-Ft)
88	0	276	114	0	0.73	0.00
89	1	250	118	1,230	0.76	0.74
90	2	284	122	2,459	0.80	1.52
91	3	288	126	3,777	0.84	2.34
92	4	292	130	5,158	0.87	3.20
93	5	296	134	6,601	0.91	4.09
94	6	300	138	8,108	0.95	5.03
95	7	304	142	9,680	0.99	6.00
96	8	308	146	11,318	1.04	7.02
97	9	312	150	13,023	1.08	8.07
98	10	316	154	14,797	1.12	9.17
99	11	320	158	16,641	1.16	10.31
100	12	324	162	18,555	1.21	11.50
101	13	328	166	20,543	1.25	12.73
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
102	14	332	170	22,702	1.33	14.01
103	15	336	174	24,797	1.35	15.33
103.65	15.65	338	177	26,187	1.38	15.23
			Volume @ Depth =		21,394	cubic yards
			Storage @ Depth =		13.17	acre-feet
			Surface Area @ Depth =		1.28	acre

Goode

INLAND ENGINEERING AND SURVEYING

Telephone (512) 302-1750
Fax (512) 302-1751

2304 HANCOCK DRIVE #1A
AUSTIN, TEXAS 78756

April 16, 1999

Job No. 99151

Johannes DeGoede Dairy
Rt. 2, Box 84 - B3
Winnsboro, Texas 75494

R.C.S. # 2
R.C.S. # 3

Re: Certification of Waste Storage Ponds
Johannes DeGoede Dairy

Mr. DeGoede,

Measurements and calculations of the waste storage ponds at your dairy site has been completed. The maximum storage capacity for pond # 1 is 10.26 ac-ft. The maximum storage capacity for pond # 2 is 7.38 ac-ft.

Certification by

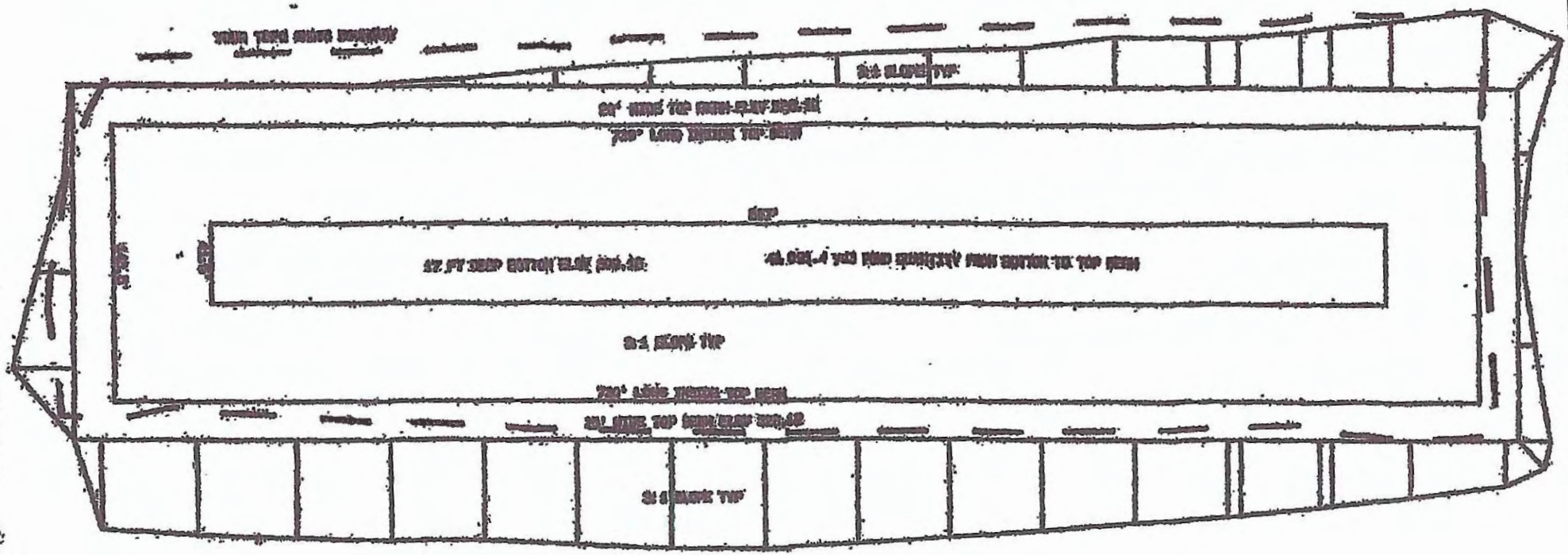
Jerry E. Holligan

STATE OF TEXAS
JERRY E. HOLLIGAN
29146
REGISTERED
PROFESSIONAL ENGINEER

Jerry E. Holligan, P.E.
Registered Professional Engineer, No. 29146
State of Texas

99151 wps

T&S Dairy RCS # 4
As-built Drawing



50' | 50' | 50' | 50'

STATE OF TEXAS
MAX NORTON BERRY
44452
REGISTERED
PROFESSIONAL ENGINEER

M. BERRY & ASSOCIATES
F-10104

Retention Control Structure (RCS #4) Calculations

NOTE: YOU CAN ENTER DATA ONLY IN YELLOW SHADED CELLS

Producers Name:	T&S Dairy
County:	Wood

Depth (Ft)	Length (Ft)	Width (Ft)	Slope L 1/ (H:V)	Slope W 2/ (H:V)
17	730	143.5	6	6

Bottom of Pond @ 0 Depth & Up					
Depth (Ft)	Length (Ft)	Width (Ft)	Volume (Cu. yds)	Area (Ac)	Storage (Ac-Ft)
0	628	41.5	0	0.60	0.00
1	634	47.5	1,040	0.69	0.64
2	640	53.5	2,232	0.79	1.38
3	646	59.5	3,577	0.88	2.22
4	652	65.5	5,080	0.98	3.15
5	658	71.5	6,742	1.08	4.18
6	664	77.5	8,566	1.18	5.31
7	670	83.5	10,554	1.28	6.54
8	676	89.5	12,711	1.39	7.88
9	682	95.5	15,037	1.50	9.32
10	688	101.50	17,536	1.60	10.87
11	694	107.50	20,210	1.71	12.53
12	700	113.50	23,063	1.82	14.30
13	706	119.50	26,097	1.94	16.18
14	712	125.50	29,313	2.05	18.17
15	718	131.50	32,716	2.17	20.28
16	724	137.50	36,308	2.29	22.51
17	730	143.50	40,091	2.40	24.85
18	736	149.50	44,069	2.53	27.32

Slope L is combined or sum of both end slopes

Slope W is combined or sum of both side slopes

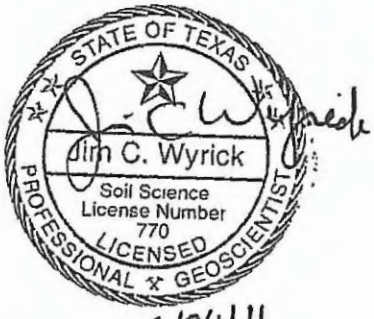
Volume @ Depth =	40,091	cubic yards
Storage @ Depth =	24.85	acre-feet
Surface Area @ Depth =	2.40	acre

HYDROLOGIC CONNECTION INVESTIGATION
Retention Control Structure RCS#1

T&S Dairy
7880 E State Highway 154
Winnsboro, TX 75494

Wood County, Texas

Report for
Nico DeBoer



5/24/11

Prepared By
Jim C. Wyrick, PG
EAST TEXAS ENVIRONMENT SERVICES
315 Highland Dr.
Sulphur Springs, Texas 75482
903-243-0400

INTRODUCTION

This investigation was performed in accordance with request for services and authorization to proceed granted by Nico DeBoer owner of T&S, Wood County, Texas. Field operations were conducted on June 24, 2011.

The purpose of this investigation was to define and evaluate the in-situ soil material in RCS#1 to determine if it meets the minimum criteria for hydraulic conductivity tested at optimal moisture content and thickness as described in General Permit No. TXG920000 Part III.A.6.(g)(3).

Specifically this study was planned to determine the following in-site soil properties:

- Hydraulic Conductivity equal to or less than 1×10^{-7} cm/sec.
- Depth of suitable in-situ soil material has a minimum thickness of 1.5 feet.

PROJECT DESCRIPTION

This investigation was conducted to determine if the soil material in the RCS meet TCEQ requirements as suitable as an in-situ soil material. Also included in this report is a detailed drawing showing the soil sampling location.

INVESTIGATION PROCEDURE

Depth of the in-situ soil material was verified by using a two-inch soil bucket auger, six-foot long with a five-foot extension. Six borings were made to a depth of 1.5 feet below the bottom in RCS#1. On completion the sample holes was backfilled with native soil cuttings. Determining in-place hydraulic conductivity was done by driving a thin-walled tube into the soil mass to obtain a relativity undisturbed sample according to ASTM D1587. The samples were taken in the RCS sidewall just above the wastewater level in the RCS. The soil samples were shipped in the tube sampler and sealed to prevent moisture loss and shipped to ADJ Services, Inc. Lab, Longview, Texas determined the hydraulic conductivity using ASTM D 5084 (see attached report). Samples were collected and analyzed in accordance with TXG920000 part III.A.6(g)(5).

FINDINGS AND CONCLUSION

The in-situ soil material identified during this investigation should be of sufficient thickness and with a hydraulic conductivity of no greater 1×10^{-7} tested at optimun moisture content as detailed in TCEQ TXG920000 Part II.A.(g)(3). Hydraulic conductivity at this rate will insure there will be no significant leakage from the RCS. The in-situ soil material in the RCS also has a thickness of 1.5 feet or greater meeting the thickness requirement in Part III.A.6 (g)(3). The field investigation found no significant leakage from the RCS. Therefore it has been determined that a liner is not needed to prevent a significant hydrologic connection between wastewater and the waters in the state. A 100-foot walkout inspection around the RCSs did not disclose any evidence of water wells, springs, seeps, or water bodies.

LAB RESULTS

Lab results of material tested: (See attached ADJ Services lab report)

Sample ID	Location	Permeability	TCEQ Minimum Requirement
#1	North Side wall	4.63×10^{-8}	1×10^{-7}
#2	East Side wall	3.68×10^{-8}	1×10^{-7}
#3	South Side wall	3.80×10^{-8}	1×10^{-7}
#4	West Side wall	4.45×10^{-8}	1×10^{-7}

FIELD OPERATIONS

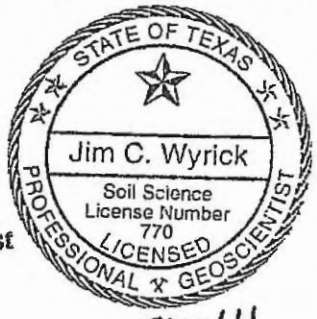
Jim Wyrick, Professional Geoscientist, made the soil borings, collected the hydraulic conductivity samples and visually identified the characteristic of the in-situ soil material.

BIOLOGICAL SEALING

The existing RCS on the dairy have been in service since 2004. Pond sealing from manure storage will reduce the permeability of in-situ soil material in the RCS to meets the minimum criteria of hydraulic conductivity no greater than 1×10^{-7} cm/sec at optimal moisture content. This conclusion is based on research has indicating in-situ soils on the sides and bottom of the RCS will seal and reduce the permeability of the soil-liquid interface at least partially as a result of physical, chemical, and biological processes. The soil structure can also be altered in the process of metabolizing organic material. Suspended solids settle out of suspension and physically clog the pores of the soil mass. Anaerobic bacteria produce by-products that accumulate at the soil-water interface and reinforce the seal. As organic material is metabolized, the soil structure also can be altered. Chemicals in animal waste, such as salts, can disperse soil, which may be beneficial in reducing seepage. Under these conditions the hydraulic conductivity of the soil can be decreased several orders of magnitude in a few weeks following contact with a RCS. The in-situ soil material identified during this investigation has an estimated hydraulic conductivity of less than 1×10^{-7} manure sealing will decrease the hydraulic conductivity.

LIMITATIONS

Geotechnical investigations are characterized by the presence of a calculated risk that soil and groundwater conditions may not have been fully revealed by this exploratory boring investigation. This risk derives from the practical necessity of basing interpretations and design conclusions on a limited sampling of the subsoil stratigraphy at the project site. The observations described in this report are based on the conditions that existed at the boring location at the time it was drilled. It is conceivable that soil conditions throughout the site may vary from those observed in the exploratory boring. ETES is not responsible for the conclusions, opinions, or recommendations made by others based on the contents of this report. My professional services have been performed, findings obtained, and recommendations prepared in accordance with generally accepted geotechnical principles and practices. These warranties are in lieu of other warranties either expressed or implied.



Jim C. Wyrick, Professional Geoscientist

5/24/11

ADJ SERVICES INC
A Woman Owned Business

705 Coleman Dr.
Longview, Texas 75605
Phone: 903-759-3111
Fax: 903-759-3126
E-mail: adjse-tx@sbcglobal.net

July 25, 2011

Test for Hydraulic Conductivity

To: East Texas Environmental Services
317 Highland Dr.
Sulphur Springs, Texas 75482
Attn: Jim Wyrick

Project No.: 11-6002
Report No.: Wyrick- DeBoer-11-105
P.O. No. verbal

Project: T$S Dairy
RCS#1

Mr. Wyrick;

As requested ADJ Services, Inc. has completed the soil testing for the above referenced project site. The purpose of the testing was to conduct hydraulic conductivity testing on two soil samples shipped to our Longview Office. The soil sample was shipped in a drive ring sampler and sealed to prevent moisture loss.

The sample was prepared and tested in accordance with ASTM D5084 Test Procedure. The test results are as follows;

Sample	1	2
Test Procedure:	ASTM D5084	ASTM D5084
Specimen ID:	T&S #1	T&S #2
Soil Description:	Reddish brown clay loam	Reddish brown clay loam
Specimen Height:	1.45 inches	1.40 inches
Initial Moisture	(%): 20.0	(%): 19.9
Final Moisture	(%): 25.0	(%): 24.8
Surcharge:	Yes psi-25	Yes psi-25
Hydraulic Conductivity (cm/sec)	4.63 -8 (cm/sec)	3.68 x 10 -8 (cm/sec)

Sample	3	4
Test Procedure:	ASTM D5084	ASTM D5084
Specimen ID:	T&S #3	T&S #4
Soil Description:	Red with gray clay	Brown gray clay loam
Specimen Height:	1.50 inches	1.49 inches
Initial Moisture	(%): 20.8	(%): 20.6
Final Moisture	(%): 23.1	(%): 22.9
Surcharge:	Yes psi-25	Yes psi-25
Hydraulic Conductivity (cm/sec)	3.80 x10 -8 (cm/sec)	4.45 x 10 -8 (cm/sec)

Test meets minimum 1.0 x 10 -7 cm/sec; Soil acceptable for lagoon liner as is.

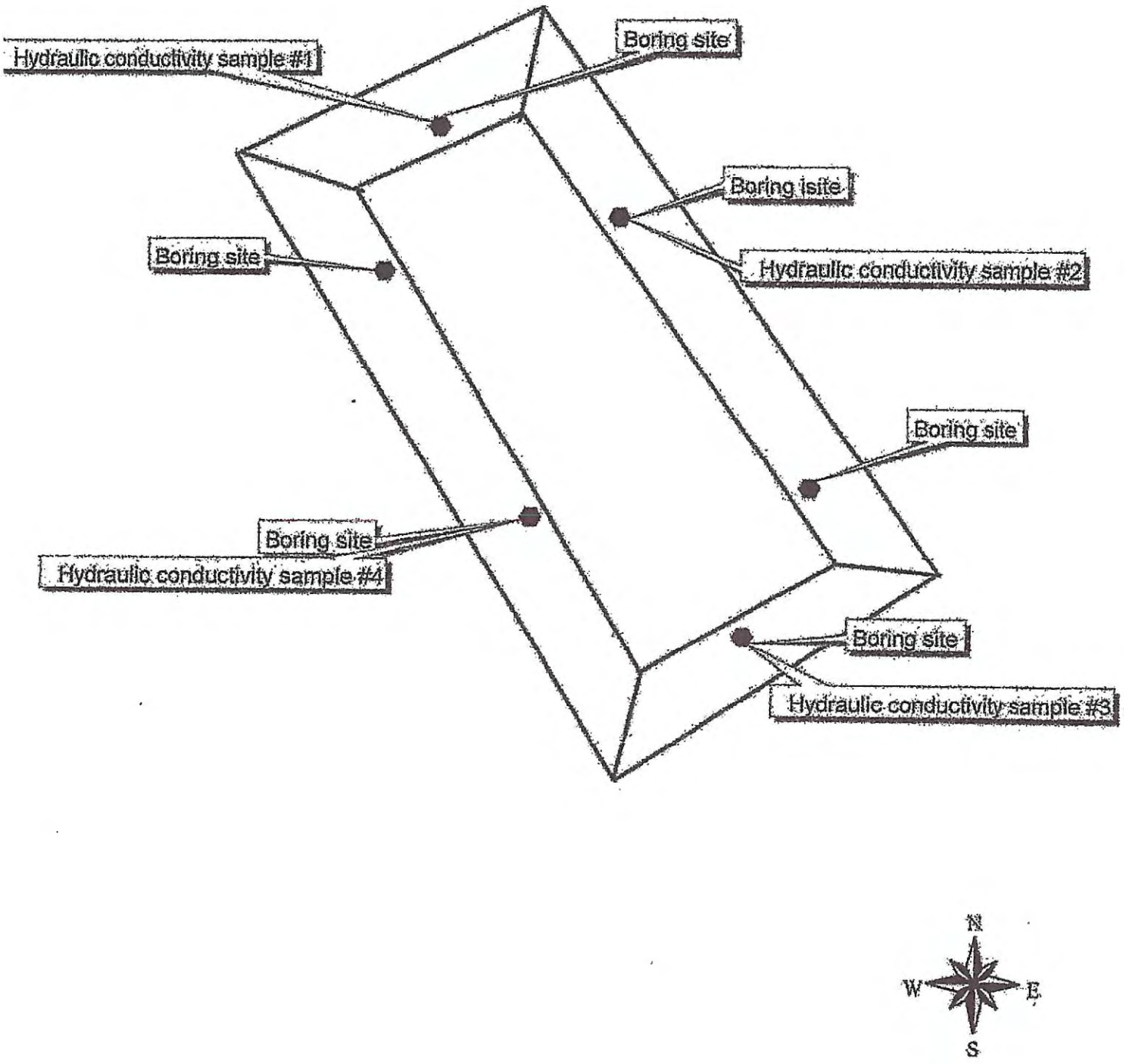
This should provide you with the information needed. Please contact me if you have any questions.

Very truly yours,
ADJ Services, Inc.
Co. Reg. No. F-1003

James Kim Winn, P.E. On behalf of ADJ Services, Inc.

7/25/11

In-place hydraulic conductivity sampling locations



Professional Service Industries, Inc.
Bernhard & Wright Division

SP

October 3, 1991
Our File No. 336-16314

J & I Dairy, Inc.
Rt 2, Box 84-A54
Winnsboro, TX 75404

Reference: Wastewater Retention Liner, Original Pond
J & I Dairy
Permit No. 03255

Gentlemen:

Reference is made to your Permit No. 03255 issued August 9, 1991 by the Texas Water Commission (TWC). As you are aware, one of the special provisions of the permit requires testing of the liner for Wastewater Retention Facilities.

As you have requested, we have investigated the soil liner of the original lagoon directly South of the freestall barns. This pond is active, and would be extemely disruptive to the Dairy operations to pump it out for a direct evaluation of the soil liner. Accordingly, on September 9, 1991, we drilled three (3) soil borings around the perimeter area of the original pond. Undisturbed samples of the subsurface materials were obtained to depths of approximately 20 feet.

Laboratory testing was conducted on samples of the soil obtained. Logs of the borings are attached, and list the various tests conducted. Tests included Atterberg limits, amount passing the No. 200 sieve, and falling head permeability tests.

A review of the field and laboratory test data indicate that the in-situ sidewall and bottom liner for the original pond meet the requirements listed in the special provisions of the permit.

Route 8, Box 665 • 12807 Highway 155 South • Tyler, TX 75703 • Phone: 903/561-1757 • Fax: 903/561-6904

We trust that this information will be of assistance to you in the continued operation of J & I Dairy, Inc. Please call should you have any questions or comments.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

David A. Wright, P.E.
Division Manager

Mitchell M. Bernhard
Senior Division Manager

DAW:kh
L10-03-1

cc: Texas Water Commission
Enforcement Support Unit
P. O. Box 13087
Austin, TX 78711-3087

TWC
District 5 Office
2916 Teague Dr.
Tyler, TX 75701-3734

DIST 5 Reg 2 SP

Professional Service Industries, Inc.

DEC 22 1992

December 16, 1992

Texas Water Commission
P. O. Box 13087
Capitol Station
Austin, Texas 78711-3087

Texas Water Commission
RECEIVED
DEC 29 1992
Field Operations
District 5

Attention: Mr. Thomas G. Haberly,
Watershed Management Division

Reference: Permit No. 03255-000
J & I Dairy, Inc.

Gentlemen:

Reference is made to your letter dated October 27, 1992; to J & I Dairy, Inc., subject as above.

Regarding Item No. 1 in your letter, requiring the permittee to furnish certification by a Texas Registered Professional Engineer that existing pond linings meet criteria in the permit, please be advised that this was completed as described in our letter dated October 3, 1991 to the permittee. A copy of this correspondence is attached for your records.

It is our understanding that the permittee will provide certification that all facility wells are cased if producing or plugged if non-producing.

Based on previous inspection visits to the dairy, our observations indicate that, to the best of our knowledge, the facilities have been built according to permit requirements.

Route 8, Box 685 • 12907 Highway 155 South • Tyler, TX 75703 • Phone: 903/581-1767 • Fax: 903/561-6904

Texas Water Commission
December 16, 1992
Page No. (2)

We trust that this information will be of assistance in maintaining your records. Please call should you have any questions or comments.

Respectfully submitted,

PROFESSIONAL SERVICE INDUSTRIES, INC.

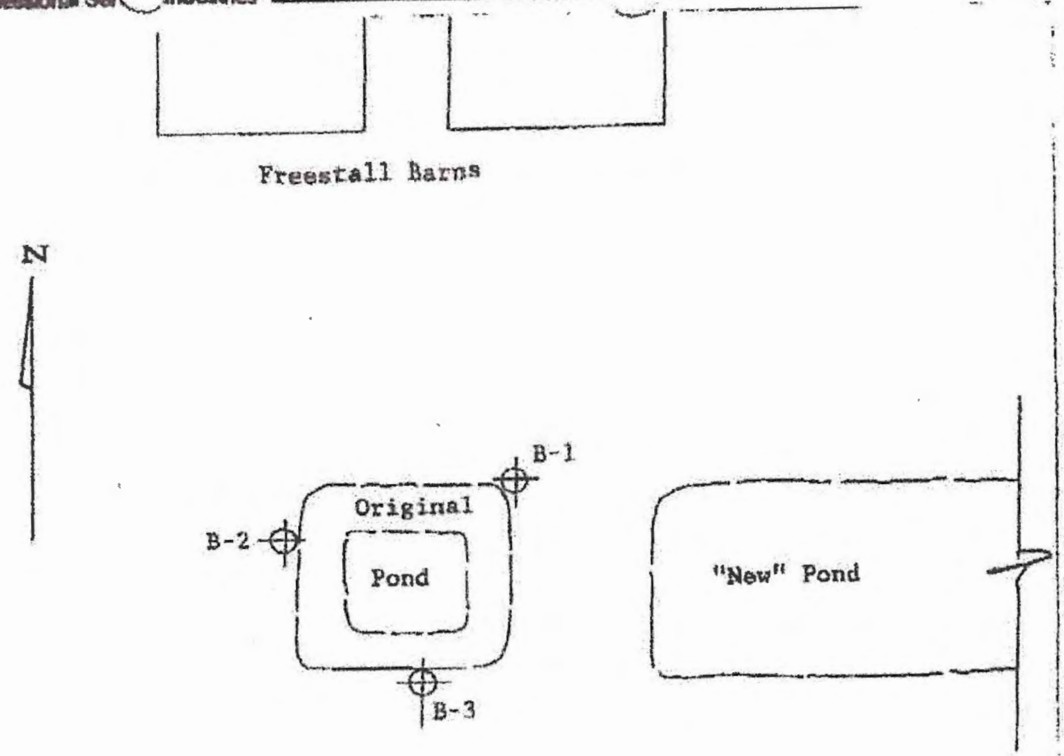
David A. Wright, P.E.
Branch Manager

DAW:kh
L12-16-1

cc: J & I Dairy, Inc.
Rt 2, Box 84-A54
Winnsboro, TX 75494

Attachment: Letter dated October 3, 1991 and attachments thereto

Professional Ser[illegible] Industries



Note: Not to scale. Original Pond approximately 12' x 12' x 12-17' deep.

PROJECT NAME	Plan of Borings	
J & I Dairy, Inc. Permit No. 03255	PROJECT NO. 336-16314	DATE October 1991

Professional Service Industries, Inc.

RECORD OF SUBSURFACE EXPLORATION

Boring B-1

Project Name: J & I DAIRY, INC. Date of Boring: September 9, 1991

Site: Winnsboro, Texas Project No.: 336-16314

DESCRIPTION	DEPTH	ELEV.	SAMPLE	N	M_c	REMARKS		
						LL	PI	-200
SURFACE								
1.5' GRAY SAND								
RED CLAYEY SAND			ST-1			35	17	48
	5		ST-2					
			ST-3			39	19	45
	10		ST-4					
	15		ST-5			34	16	42
			ST-6					
20.0'	20							
End of Boring @ 20.0' Dry on completion								
NOTE: A falling head permeability test was conducted on the undisturbed sample from 15' - 17'.								
Results: $k = 6.9 \times 10^{-8}$ cm/sec								

Professional Service Industries, Inc.

RECORD OF SUBSURFACE EXPLORATION

Boring B-2

Project Name: J & I DAIRY, INC. Date of Boring: September 9, 1991

Site: Winnsboro, Texas Project No.: 336-16314

DESCRIPTION	DEPTH	ELEV.	SAMPLE	N	M_c	REMARKS		
SURFACE						LL	PI	-200
RED CLAYEY SAND			ST-1			38	19	47
	5		ST-2			33	17	51
RED, TAN CLAYEY SAND			ST-3					
	10		ST-4			36	18	45
14.5'			ST-5					
TAN & RED CLAYEY SAND	15		ST-6			32	15	39
20.0'			ST-7					
	20							
End of Boring @ 20.0'								
Seepage @ 15.0'								
Dry upon completion								
NOTE: A falling head permeability test was conducted on the undisturbed sample from 15' - 17'.								
Results: k = 9.0 x 10-8 cm/sec								

Professional Service Industries, Inc.

RECORD OF SUBSURFACE EXPLORATION

Boring B-3

Project Name: J & I DAIRY, INC. Date of Boring: September 9, 1991

Site: Winnsboro, Texas Project No.: 336-16314

DESCRIPTION	DEPTH	ELEV.	SAMPLE	N	M_c	REMARKS		
SURFACE						LL	PI	-200
1.0' GRAY SAND								
LIGHT GRAY, RED CLAYEY SAND			ST-1			32	16	40
	5		ST-2					
6.0'								
RED CLAYEY SAND			ST-3			31	17	39
	10		ST-4					
			ST-5					
	15		ST-6			39	20	56
			ST-7					
20.0'	20							
End of Boring @ 20.0' Dry upon completion								

NOTE: A falling head permeability test was conducted on the undisturbed sample from 3' - 5'.

Results: $k = 6.4 \times 10^{-8}$ cm/sec

W. E. S. T.

WINN ENVIRONMENTAL SERVICES TEAM, INC

Rcs #2

RECEIVED
JAN 18 1996
TNRCC - AGRICULTURE SECTION
AGRICULTURE TEAM

FINAL LAGOON LINER EVALUATION

CLIENT: J. H. DeGOEDE
RT. 8, BOX 84799
WINNSBORO, TX. 75494

JOB NO: 95-0008
REPORT NO: DG-DWP-95-100
P.O.NO: VERBAL
DATE: MARCH 27, 1995

PROJECT: J. H. DeGOEDE DAIRY LAGOON, WINNSBORO, TEXAS Permit

As requested by Mr. DeGoede, a Winn Environmental Services Team, Inc. representative was was present on March 17, 1995, at the above referenced project. The purpose of this visit was to obtain samples of the lagoon's clay liner to determine the following:

1. Depth of Clay Liner
2. Atterberg Limits - ASTM D-4318
3. Percent Passing No. 200 Mesh Sieve - ASTM D-1140
4. Moisture Density Relation of Soil - ASTM D-698 and In-Place Density - ASTM D-2922

Depth of the clay liner material was verified by using a pick-ax for digging purposes. Atterberg Limits and Percent Passing No. 200 Mesh Sieve samples were obtained from the soil cuttings created during the depth verification process. All other samples were tested in accordance with applicable ASTM test procedure unless stated otherwise. Upon completion all sample holes were backfilled with a mixture of dry bentonite clay combined with native soil cuttings. Test results and locations are as follows:

1.0. Depth Verification of Lagoon Liner Material

LOCATION	SOIL DESCRIPTION	ACTUAL DEPTH	MINIMUM SPECIFICATIONS
North Bottom	RED & GRAY SANDY CLAY	12" +	12" +
South Bottom	RED & GRAY SANDY CLAY	12" +	12" +
East Bottom	RED & GRAY SANDY CLAY	12" +	12" +
West Bottom	RED & GRAY SANDY CLAY	12" +	12" +
North Sidewall	RED & GRAY SANDY CLAY	12" +	12" +
South Sidewall	RED & GRAY SANDY CLAY	12" +	12" +
East Sidewall	RED & GRAY SANDY CLAY	12" +	12" +
West Sidewall	RED & GRAY SANDY CLAY	12" +	12" +

P.O. BOX 7351 / 1900 SE LOOP 281 / LONGVIEW, TX 75607
(903)758-1271, FAX (903)758-2702, (800) 520-1271, SULPHUR SPRINGS BRANCH (903) 885-5313

2.0. Atterberg Limits - ASTM D-4318

3.0. Percent Passing No. 200 Mesh Sieve - ASTM D-1140

Atterberg Limits and Percent Passing No. 200 Mesh Sieve samples were obtained from the soil cuttings created during the depth verification process. Test results are as follows:

LOCATION, DEPTH AND SOIL DESCRIPTION	ATTERBERG LIMITS (ASTM D-4318)			PERCENT PASSING NO. 200 SIEVE (ASTM D-1140)
	LIQUID LIMIT (LL)	PLASTIC LIMIT (PL)	PLASTICITY INDEX (PI)	
WEST BOTTOM RED & GRAY SANDY CLAY	34	15	19	47
EAST BOTTOM RED & GRAY SANDY CLAY	32	16	16	40

4.0. Moisture Density Relation of Soil - ASTM D-698

Proctor Number: DG-1
Preparation Used: MOIST
Test Procedure: ASTM D-698A
Rammer Type: MANUAL
Material Description: RED & GRAY SANDY CLAY

Maximum Dry Density (lbs/cu.ft.): 100.8

Optimum Moisture (Percent): 15.8

A copy of the moisture density curve is attached.

RECEIVED
JAN 18 1996
TNRCC - AGRICULTURE SECTION
AGRICULTURE TEAM

MOISTURE-DRY UNIT WEIGHT CURVE

PROJECT:	J. H. DeGOEDE DAIRY WASTE POND WINNSBORO, TEXAS
PROCTOR NUMBER:	DG-1
TEST PROCEDURE:	ASTM D-698A
SAMPLE LOCATION:	BOTTOM OF LAGOON
MATERIAL DESCRIPTION:	RED & GRAY SANDY CLAY

TEST RESULTS

MAXIMUM DRY UNIT WEIGHT (lbs/cu.ft.):	100.8
OPTIMUM MOISTURE CONTENT (Percent):	15.8

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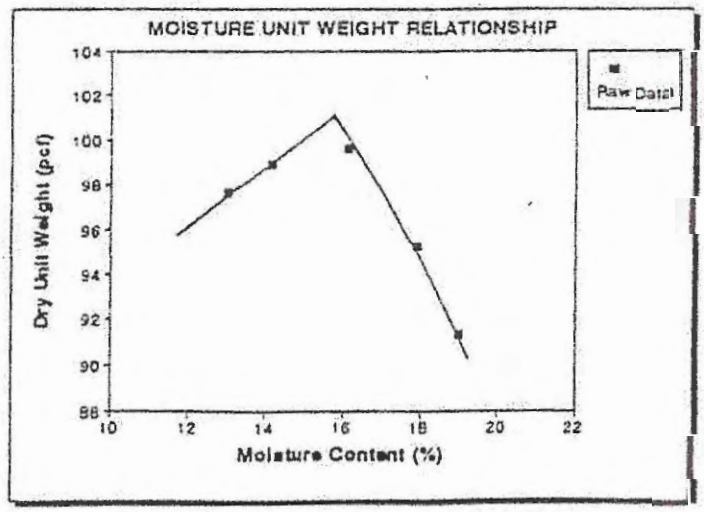
AGRICULTURE TEAM



4.0.a. In-Place Nuclear Densities - ASTM D-2922

In-Place Nuclear Densities were obtained with nuclear equipment using back scatter method.

LOCATION	IN-PLACE NUCLEAR DENSITY RESULTS	PERCENT COMPACTION
EAST BOTTOM OF LAGOON	96	98.1%
WEST BOTTOM OF LAGOON	98.9	95.2%

The above in-place nuclear densities were compared with the density obtained from the standard proctor method (ASTM D-698).

All tests meet minimum project specifications unless marked *. The technician for Winn Environmental Services Team, Inc. was Paul McNish.

Review of the test results above indicates that there are adequate clay soils on site to construct the proposed lagoon. A Winn Environmental Services Team, Inc. field engineering technician shall inspect the proposed lagoon bottom and side wall areas to ensure the soils are the same as tested and to verify the in-place density (compaction) of the soil.

At this time no engineering design for the lagoon is expected, pending the field inspection as listed above.

If we can be of further assistance, please contact us at your convenience.

Very truly yours,
WINN ENVIRONMENTAL SERVICES TEAM, INC.

James Kim Winn, P.E.
Project Engineer

Athar Ali Syed
Graduate Geotechnical Engineer

JKW/dw
cc: SCS Office, Mr. Jim Griffin

RECEIVED
JAN 18 1996
TNRCC - AGRICULTURE SECTION
AGRICULTURE TEAM

RCS #13

A.C. Lowther
Licensed Professional Geoscientist
P.O. Box 78
Dublin, Texas 76446

April 8, 2006

Texas Commission on Environmental Quality
Applications and Enforcement Section
Agriculture and Rural Assistance Division
P.O. Box 13067
Austin, Texas 78711-3087

Re: DeGoode Dairy

A.C. Lowther has completed sampling and testing of the soil liner for the settling basin on the DeGoode Dairy in Wood County, Texas. The test results including sample thickness, Atterberg limits, permeability, and percent passing the number 200 sieve are tabulated on the attached report. Our findings indicate the soils meet the criteria established by the TCEQ.

Sincerely,

A.C. Lowther, LPGS

STATE OF TEXAS
A. C. Lowther
Soil Science
1132
LICENSED PROFESSIONAL GEOSCIENTIST

10-06

Submitted By:

Signed By:

Date:

A.C. Lowther
Licensed Professional Geoscientist
P.O. Box 78
Dublin, Texas 76446

Name: Johannes DeGoede Dairy
7800 E. State Hwy. 154
Winnsboro, Texas 75494-7110

Pond No. Recertify Settling Basin Date sampled 2-20-06 Sampled by: A.C. Lowther

Test Location	No. 1	No.2	No.3	No.4	Minimum Req.
Soil Description					
Color (Munsell)	Red (2.5 YR) 4/8	Red			
Texture (ASRM D-422	Sandy clay	Sandy clay			
Unified	CL	CL			
Sample Depth	18	18			18
Afterburg Limits (ASTM D-423					
Liquid Limits %36.0		30.9			30
Plastic Limit % 13.7		15.5			
Plasticity Index %22.3		15.4			15
Passing No. 200 Seive %65		54			30
Permeability (ASTM-D-2434)	8.5 X 10 - 8				1 X 10 - 7

In-Place Density
(ASTM D-1556)

Sample No.	Field Moisture %	Optimum Moisture %	Field Density (#/Cu.Ft.)	Maximum Density (#/Cu.Ft.)	Density (% Maximum)

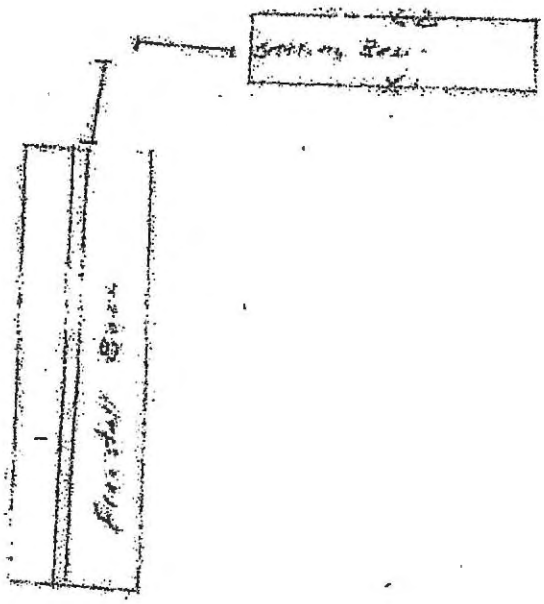
(Vertical side)

SOIL SAMPLE LOCATIONS

Name: DeGoode Dairy

Depth of Samples (BGL): 2.0 feet

Sampled By: A.C. Lowther



HYDROLOGIC CONNECTION INVESTIGATION
Retention Control Structure #4

T&S Dairy
7880 E State Highway 154
Winnsboro TX 75494

Report for
Nico DeBoer

6/17/24

Prepared By

Jim C. Wyrick, PG
EAST TEXAS ENVIRONMENT SERVICES
315 Highland Dr.
Sulphur Springs, Texas 75482
903-243-0400
email –wyrick@suddenlink.net

INTRODUCTION

This investigation was performed in accordance with request for services and authorization to proceed granted by Nico DeBoer owner of T&S Dairy, field operations were conducted on June 17, 2024.

The purpose of this investigation was to define and evaluate the soil material in the RCS to determine if the hauled in soil liner soils meets the minimum criteria for hydraulic conductivity tested at optimal moisture content and thickness as described in General Permit No. TXG920000 Part III.A.6.(g)(3).

Specifically, this study was planned to determine the following soil properties:

- Hydraulic conductivity equal to or less than 1 x 10^{-7} cm/sec. and not exceed a specific discharge.
- Depth of suitable in-situ soil material has a minimum thickness of 1.5 feet.

PROJECT DESCRIPTION AND INVESTIGATION PROCEDURE

The RCS was newly constructed prior to sampling and contained no water. The thickness of the soil liner material was verified using a six-foot long, four-inch soil bucket auger, with borings made deeper than 1.5 feet in two locations at the bottom and one in each sidewall. Samples for hydraulic conductivity were gathered at all of these boring sites. The soil samples were visually examined to assess their texture and depth, and were found to closely resemble the samples collected for hydraulic conductivity testing. After the examination, the holes from which the samples were taken were refilled with the surrounding native soil cuttings. To determine the in-place hydraulic conductivity, a thin-walled 10inch Shelby tube was driven into the soil mass in order to obtain a relatively undisturbed soil sample as per ASTM D1587 standards. The samples were then sealed in the Shelby tube sampler to prevent any moisture loss during transport to TRI Environmental for further analysis. In the soil engineering lab, the hydraulic conductivity was determined using the ASTM D 5084 Falling Head/Rising Tail Method, Constant Volume Apparatus. All samples were collected and analyzed in compliance with TXG920000 part III.A.6 (g)(5). A detailed map depicting the locations of the soil sampling sites is included with this report.

FINDINGS AND OTHER OBSERVATIONS

The soil material found during this study has a suitable thickness and hydraulic conductivity rating to insure there should not be any significant leakage from the RCSs. An inspection conducted within a 100-foot radius around the RCSs did not reveal any signs of water wells, springs, seeps, or water bodies.

FIELD OPERATIONS

Jim Wyrick, Professional Geoscientist, made the soil borings, collected the hydraulic conductivity samples and visually classified the characteristic of the in-situ soil material.

CONCLUSION

The soil material within the RCS has a hydraulic conductivity not exceeding 1 x 10-7 cm/sec at optimal moisture content, meeting the minimum criteria. It also has a thickness of at least 1.5 feet, satisfying the requirement outlined in Part III.A.6 (g)(3). The specific discharge calculated for the soil material meets the standards set in TXG920000 Part III.A.6 (g)(3). There is no significant hydrologic connection present, and as a result, there is no risk of significant leakage allowing wastewater to migrate into state water sources.

LIMITATIONS

Geotechnical investigations involve a calculated risk due to the possibility that soil and groundwater conditions may not be fully disclosed by the exploratory boring. This risk arises from the need to base interpretations and design decisions on a limited sampling of the subsurface at the project site. The recommendations provided in this report were developed based on the conditions at the specific boring location when it was conducted. It is possible that soil conditions across the site may differ from those observed during the boring. ETES cannot be held responsible for any conclusions, opinions, or recommendations made by others using the information in this report. The professional services, findings, and recommendations presented in this report were carried out in line with accepted geotechnical principles and practices. These warranties are provided in place of any other warranties, whether stated or implied.

Jim C. Wyrick, Professional Geoscientist

STATE OF TEXAS
Jim C. Wyrick
Soil Science
License Number
770
LICENSED
PROFESSIONAL GEOSCIENTIST

6/17/24

TRI ENVIRONMENTAL

TESTING, RESEARCH, CONSULTING AND FIELD SERVICES

Austin, TX - USA | CA - USA | SC - USA | Gold Coast - Australia | Suzhou - China | Sao Paulo, Brazil | Johannesburg - Africa

Hydraulic Conductivity (ASTM D5084)

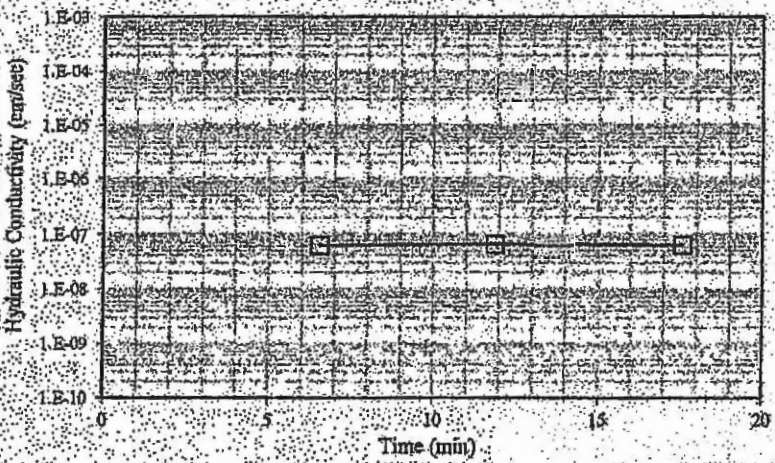
Client: ETES
Project: T&S Dairy RCS#54
Sample ID: RCS#4-B1

TRI Log #: 24-000740.1

Sample Condition	Initial	Final
	Intact	Post-Test
Diameter (in)	2.83	2.84
Height (in)	4.92	4.88
Mass (g)	1080.4	1078.1
Sample Area (in^2)	6.29	6.34
Water Content (%)	20.7	18.3
Total Unit Weight (pcf)	133.0	132.9
Dry Unit Weight (pcf)	110.2	112.3
Specific Gravity (Assumed)	2.75	
Degree of Saturation	102.0	95.5
Void Ratio	0.56	0.53
Porosity	0.36	0.35
1 Pore Volume (cc)	181.5	174.9

Eff. Confining Stress (psi)	5.0
Back-Pressure	80.0
B-Value Prior to Permeation	0.95
Permeant	De-Aired Tap Water

Method F—Constant Volume–Falling Head by mercury, rising tailwater elevation			
Manometer Constants		Aa (cm^2)	0.767
M1	0.0302	Ap (cm^2)	0.0314
M2	1.041	Z_p (cm)	0
Time, t	Trial Constant, Z_t	Gradient	K_{20}
Min	-	-	cm/s
6.5	19.0	19.1	6.2E-08
11.9	18.4	18.5	6.4E-08
17.6	17.9	18.0	6.2E-08
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Average, Last 2 Readings			6.3E-08



Kelby Broussard 7/15/2024

Analysis & Quality Review/Date

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI preserves and maintains client confidentiality. TRI shall not reproduce this report except in full, without prior approval of TRI.

TRI ENVIRONMENTAL, INC.
9063 Bee Caves Rd. - Austin, TX 78733 - USA | FAX 800.880.TEST or 512.263.2101

Hydraulic Conductivity (ASTM D5084)

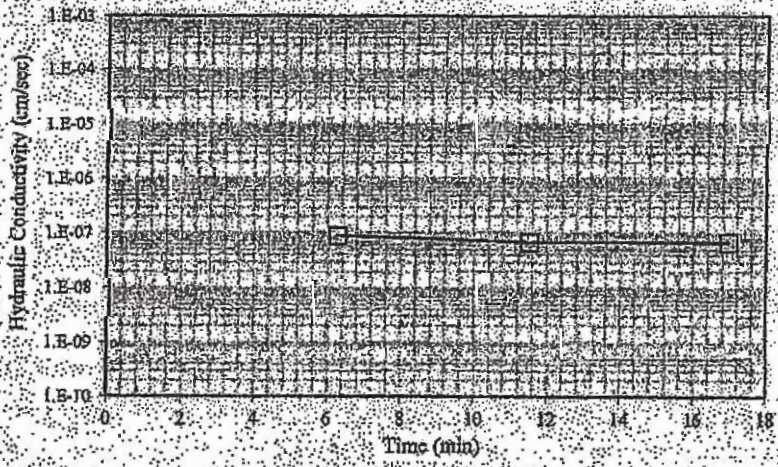
Client: ETES
Project: T&S Dairy RCS#5
Sample ID: RCS#5-B2

TRI Log # 24000740.2

Sample Condition	Initial	Final
	Intact	Post-Test
Diameter (in)	2.83	2.86
Height (in)	4.98	4.91
Mass (g)	1093.3	1094.3
Sample Area (in^2)	6.31	6.53
Water Content (%)	20.7	17.1
Total Unit Weight (pcf)	132.6	130.1
Dry Unit Weight (pcf)	109.9	111.0
Specific Gravity (Assumed)	2.75	
Degree of Saturation	101.2	86.4
Void Ratio	0.56	0.55
Porosity	0.36	0.35
1 Pore Volume (cc)	185.0	186.3

Eff. Confining Stress (psi)	5.0
Back-Pressure	80.0
B-Value Prior to Permeation	0.99
Permeant	De-Aired Tap Water

Method F—Constant Volume–Falling Head by mercury, rising tailwater elevation			
Manometer Constants		Aa (cm^2)	0.767
M1	0.0302	Ap (cm^2)	0.0314
M2	1.041	Z_p (cm)	0
Time, t	Trial Constant, Z_1	Gradient	K_{20}
Min	-	-	cm/s
6.3	18.9	18.8	6.7E-08
11.5	18.1	18.0	6.7E-08
17.0	17.6	17.5	6.7E-08
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
Average, Last 2 Readings			6.7E-08



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Analysis & Quality Review/Date

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TESTING, RESEARCH, CONSULTING AND FIELD SERVICES

Austin, TX - USA | CA - USA | SC - USA | Gold Coast - Australia | Suzhou - China | Sao Paulo, Brazil | Johannesburg - Africa

Hydraulic Conductivity (ASTM D5084)

Client: ETES
Project: T&S Dairy RCS#4
Sample ID: RCS#4-S-1

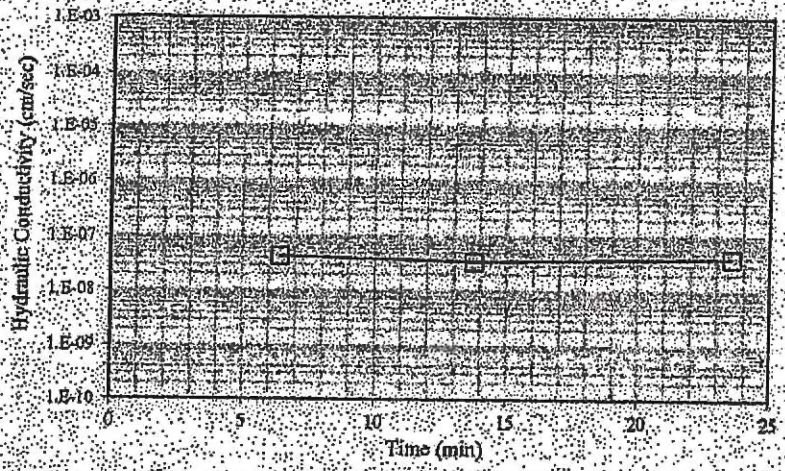
TRI Log # 24000740.3

Sample Condition	Initial	Final
	Intact	Post-Test
Diameter (in)	2.84	2.90
Height (in)	4.43	4.32
Mass (g)	963.8	964.7
Sample Area (in^2)	6.34	6.61
Water Content (%)	15.4	18.6
Total Unit Weight (pcf)	130.6	128.8
Dry Unit Weight (pcf)	113.2	108.5
Specific Gravity (Assumed)	2.75	
Degree of Saturation	82.0	88.2
Void Ratio	0.52	0.58
Porosity	0.34	0.37
1 Pore Volume (cc)	156.7	171.8

Eff. Confining Stress (psi)	5.0
Back-Pressure	80.0
B-Value Prior to Permeation	0.99
Permeant	De-Aired Tap Water

Method F—Constant Volume–Falling Head by mercury, rising tailwater elevation

Manometer Constants		Aa (cm^2)	0.767
M1	0.0302	Ap (cm^2)	0.0314
M2	1.041	Z_p (cm)	0
Time, t	Trial Constant, Z_1	Gradient	K_{20}
Min	-	-	cm/s
6.4	18.6	20.7	4.3E-08
13.6	16.1	20.2	3.4E-08
23.6	17.7	19.7	3.9E-08
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
"	"	"	"
Average, Last 2 Readings			3.7E-08



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Hydraulic Conductivity (ASTM D5084)

Client: ETES
Project: T&S Dairy RCS#~~6~~4
Sample ID: RCS#~~6~~4-S2

TRI Log # 24000740.4

Sample Condition	Initial	Final
	Intact	Post-Test
Diameter (in)	2.83	2.86
Height (in)	5.32	5.20
Mass (g)	1177.6	1174.7
Sample Area (in^2)	6.29	6.40
Water Content (%)	14.3	19.6
Total Unit Weight (pcf)	134.0	134.4
Dry Unit Weight (pcf)	117.2	112.4
Specific Gravity (Assumed)	2.75	
Degree of Saturation	85.0	102.1
Void Ratio	0.46	0.53
Porosity	0.32	0.34
1 Pore Volume (cc)	173.8	188.2

Eff. Confining Stress (psi)	5.0
Back-Pressure	80.0
B-Value Prior to Permeation	0.93
Permeant	De-Aired Tap Water

Method F—Constant Volume–Falling Head by mercury, rising tailwater elevation

Manometer Constants		A_a (cm^2)	0.787
M1	0.0302	A_p (cm^2)	0.0314
M2	1.041	Z_p (cm)	0
Time, t	Trial Constant, Z_1	Gradient	K_{20}
Min	-	-	cm/s
6.3	18.5	17.2	4.7E-08
14.5	18.1	16.8	4.6E-08
23.5	17.6	16.4	4.3E-08
-	-	-	-
-	-	-	-
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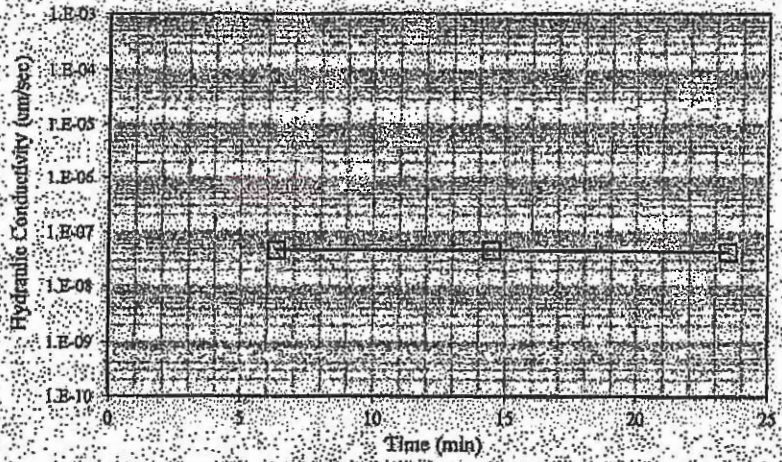
Average, Last 2 Readings			4.5E-08



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Hydraulic Conductivity (ASTM D5084)

Client: ETES
Project: T&S Dairy RCS#5
Sample ID: RCS#5-S3

TRI Log # 24000740.5

Sample Condition	Initial	Final
	Intact	Post-Test
Diameter (in)	2.85	2.85
Height (in)	5.00	4.95
Mass (g)	1102.7	1104.7
Sample Area (in^2)	6.40	6.37
Water Content (%)	22.3	16.4
Total Unit Weight (pcf)	131.3	133.3
Dry Unit Weight (pcf)	107.4	114.5
Specific Gravity (Assumed)	2.75	
Degree of Saturation	102.4	90.6
Void Ratio	0.60	0.50
Porosity	0.37	0.33
1 Pore Volume (cc)	196.1	171.9

Eff. Confining Stress (psi)	5.0
Back-Pressure	80.0
B-Value Prior to Permeation	0.96
Permeant	De-Aired Tap Water

Method F—Constant Volume–Falling Head by mercury, rising tailwater elevation

Manometer Constants		A_a (cm^2)	0.787
M1	0.0362	A_p (cm^2)	0.0314
M2	1.041	Z_p (cm)	0
Time, t	Trial Constant, Z_1	Gradient	K_{20}
Min	-	-	cm/s
8.3	20.0	19.8	4.6E-08
17.4	19.4	19.1	4.3E-08
26.4	18.7	18.5	4.5E-08
-	-	-	-
-	-	-	-
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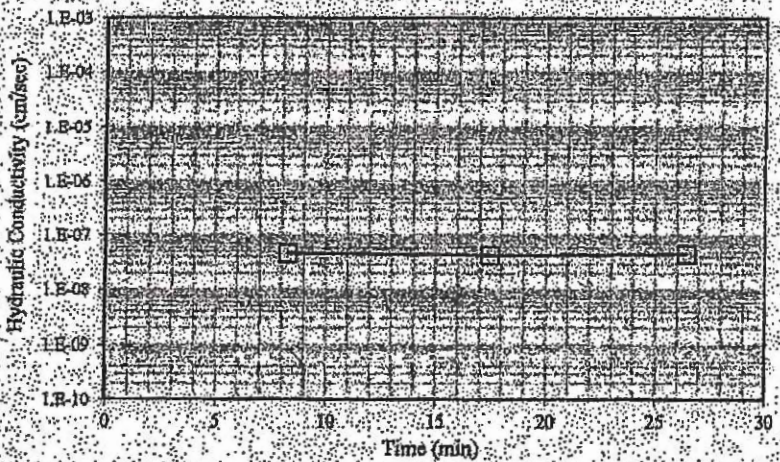
Average, Last 2 Readings			4.4E-08



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Hydraulic Conductivity (ASTM D5084)

Client: ETES
Project: T&S Dairy RCS#4
Sample ID: RCS#4-S-4

TRI Log # 24000740.6

Sample Condition	Initial	Final
	Intact	Post-Test
Diameter (in)	2.83	2.85
Height (in)	4.06	3.98
Mass (g)	898.8	903.3
Sample Area (in^2)	6.28	6.39
Water Content (%)	18.7	17.9
Total Unit Weight (pcf)	134.3	135.4
Dry Unit Weight (pcf)	113.1	114.9
Specific Gravity (Assumed)	2.75	
Degree of Saturation	99.5	99.5
Void Ratio	0.52	0.49
Porosity	0.34	0.33
1 Pore Volume (cc)	142.3	137.6

Eff. Confining Stress (psi)	5.0
Back-Pressure	80.0
B-Value Prior to Permeation	0.95
Permeant	De-Aired Tap Water

Method F—Constant Volume–Falling Head by mercury, rising tailwater elevation

Manometer Constants		Aa (cm^2)	0.767
M1	0.0302	Ap (cm^2)	0.0314
M2	1.041	Z_p (cm)	0
Time, t	Trial Constant, Z_1	Gradient	K_{20}
Min	-	-	cm/s
8.3	19.8	24.1	1.2E-07
17.5	17.9	21.8	1.2E-07
26.5	16.0	19.5	1.1E-07
-	-	-	-
-	-	-	-
-	-	-	-
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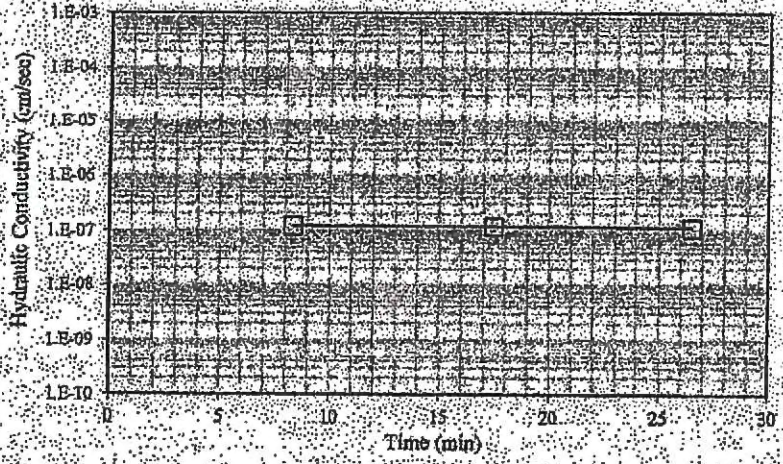
Average, Last 2 Readings			1.2E-07



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Hydraulic Conductivity (ASTM D5084)

Client: ETES
Project: T&S Dairy RCS#4
Sample ID: RCS#4-B1

TRI Log #: 24-000740.1

Sample Condition	Initial	Final
	Intact	Post-Test
Diameter (in)	2.83	2.84
Height (in)	4.92	4.88
Mass (g)	1080.4	1078.1
Sample Area (in^2)	6.29	6.34
Water Content (%)	20.7	18.3
Total Unit Weight (pcf)	133.0	132.9
Dry Unit Weight (pcf)	110.2	112.3
Specific Gravity (Assumed)	2.75	
Degree of Saturation	102.0	95.5
Void Ratio	0.56	0.53
Porosity	0.36	0.35
1 Pore Volume (cc)	181.5	174.9

Eff. Confining Stress (psi)	5.0
Back-Pressure	80.0
B-Value Prior to Permeation	0.95
Permeant	De-Aired Tap Water

Method F—Constant Volume–Falling Head by mercury, rising tailwater elevation

Manometer Constants		A_a (cm^2)	0.767
M1	0.0302	A_p (cm^2)	0.0314
M2	1.041	Z_p (cm)	0
Time, t	Trial Constant, Z_t	Gradient	K_{20}
Min	-	-	cm/s
6.5	19.0	19.1	6.2E-08
11.9	18.4	18.5	6.4E-08
17.6	17.9	18.0	6.2E-08
-	-	-	-
-	-	-	-
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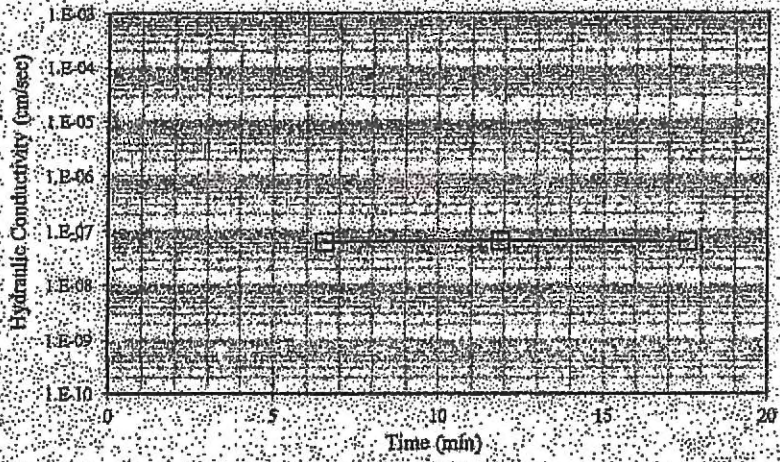
-	-	-	-
Average, Last 2 Readings			6.3E-08



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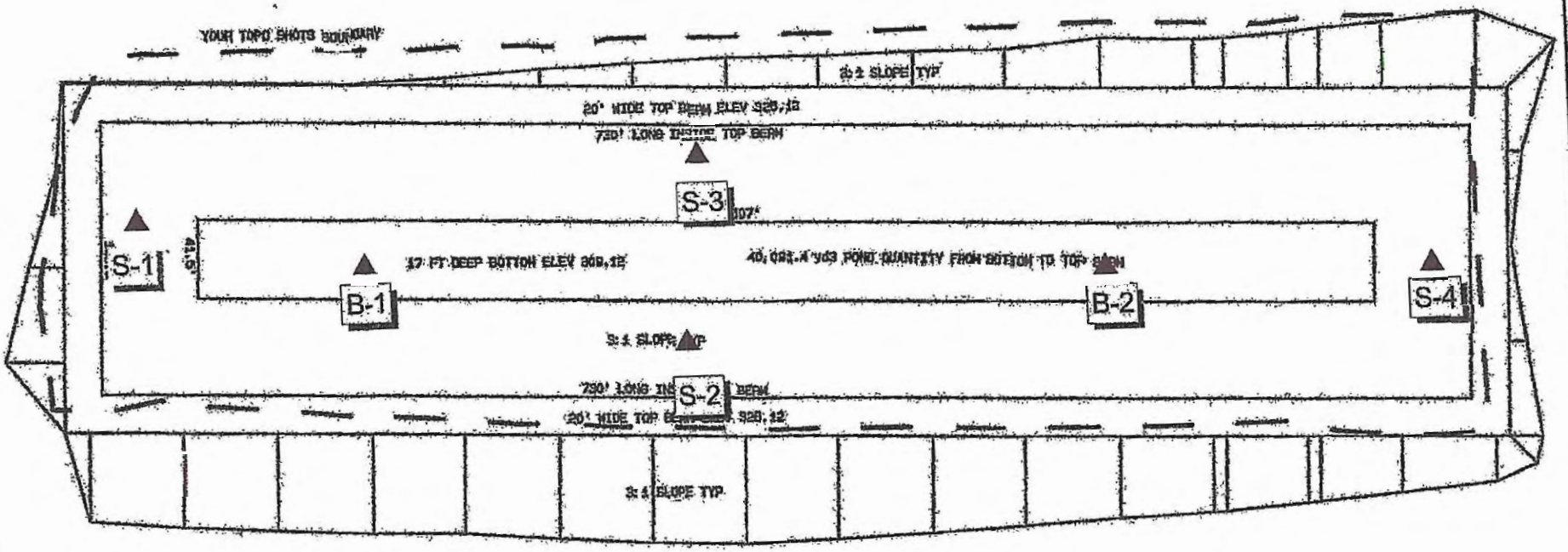
T&S Dairy
Hydrogic Connection
Sampling Sites



Waste Utilization and Nutrient Management Plan

T&S Dairy
7880 E State Highway 154
Winnsboro, TX 75494
903-316-8063

TCEQ Permit Number:

Owner
Nico deBoer
19008 FM 3079
Chandler, TX 75758
903-849-6097

Type of Waste Plan:
Other AFO-CAFO Waste Plan
located in Wood County

Prepared By:

(Signature)
Jim C. Wyrick
Consultant
Certificate Number = TX20049
Expiration Date = December 31, 2024
East Texas Environmental Services
317 Highland Dr.
Sulphur Springs, TX 75482
903-243-0400

This plan is based on:
590 -633 Plan V 4.0_5

12/3/24 10:25 AM

Waste Utilization and Nutrient Management Plan

RECORD KEEPING: Permit #:

Detailed records should be maintained by the producer for all application of animal waste to land owned and operated by the producer. Records should include date, time, location, amount of application, weather conditions, estimated wind speed and direction, etc. A rain gauge should be in place at the application site and accurate records of rainfall should be maintained at the site. All records must be kept for at least 5 years. **TCEQ requirements will be followed on permitted sites.**

Records should also be kept showing amounts of litter given or sold to others. **A copy of the effluent analysis and/or solids analysis and a Waste Utilization Guidelines Sheet should be given to anyone who will use either the effluent or solids off-site. If they routinely use animal wastes for fertilizer, they should be directed to the local Soil and Water Conservation District or NRCS office to develop a Waste Utilization and Nutrient Management Plan for their land.**

This portion may be completed by producer, if desired or recorded elsewhere.

Record of waste leaving the farm or used as feed. **Estimated Annual Excess**

Date	Amount	Hauler or Recipient

Excess Remaining | May be continued on additional sheets

EFFLUENT AND SOLIDS STORAGE & TESTING: Permit #:

Effluent and solids will be stored in facilities designed, constructed, and maintained according to USDA NRCS Standards and specifications.

Effluent and solids sampling is needed to get a better idea of the nutrients actually being applied. Effluent and/or solids samples will be collected at least annually, or in the year of its use if waste is typically stored for more than 1 year. The samples will be submitted immediately to a lab for testing. If sent to Texas A&M soil lab or SFASU Soil Testing Lab for analysis, use the "plant and forage analysis" form and note the type of operation. Request that the manure be analyzed for percent dry matter, solids, total nitrogen, total phosphorus, and total potassium. Further information on collecting effluent and manure samples for analysis can be found in the TCE publication No. L-5175, *"Managing Crop Nutrients Through Soil, Manure and Effluent Testing"*. **TCEQ sampling rules and testing requirements will be followed on permitted sites.**

COLLECTING SOIL SAMPLES FOR ANALYSIS:

Collect a composite sample for each field (or area of similar soils and management not more than 40 acres in size) comprised of 10 - 15 randomly selected cores. Each core should represent 0 - 6 inches below the surface except for when injection has been done over 6" in depth, then the core should represent the 3-9" layer. Thoroughly mix each set of core samples, and select about a pint of the mixture as the sample for analysis. Label each sample for the field that it represents. Request that the samples be analyzed for nitrate nitrogen, plant-available phosphorus, potassium, sodium, magnesium, calcium, sulfur, boron, conductivity; and pH. Also note on the samples that they are from an effluent or solids application area. **TCEQ sampling rules and testing requirements will be followed on permitted sites.** A weighted average of 0-2 and 2-6 inch layers will be used for calculations on permitted sites.

Further information on collecting soil samples can be found on the TCE Form D-494, p 2, TCE Publication No. L-1793, and TCEQ RG-408. Additional NRCS guidance and requirements can be found in the Nutrient Management (590) standard located in the Texas electronic Field Office Technical Guide (eFOTG) at:

http://efotg.nrcs.usda.gov/efotg_locator.aspx?map=TX

Click the county desired.
Click Section IV in the left column under eFOTG
Type: 590 in the Search Menu above eFOTG and click: **GO**
Click on the desired item under Nutrient Management in the left column

SOIL ANALYSIS:

A soil analysis will be completed for all areas to be used for all effluent or solids application areas. The soil test analysis method will be **Mehlich III with inductively coupled plasma (ICP)**. The area will be tested and analyzed at least annually to monitor P build up.

MORTALITY MANAGEMENT: (cont) Permit #:

Disposal in a landfill may be an option in some locations. Before planning this option, the closest commercial, regional, county, or municipal landfill should be contacted to determine if the landfill has a permit which would allow acceptance of dead animals (swine, sheep, cattle, etc.). Also ask if there are any restrictions on type and volume of animal mortality that will be accepted at the facility. Landfill fees and transport, offloading, and handling procedures should be discussed with landfill managers and documented for reference when needed. The landfill is not a viable option if the producer does not own or have access to a vehicle capable of transporting mortality quickly in an emergency situation. After a catastrophic die-off is not a good time to find out that a driver and truck to transport mortality will not be available for several weeks **(MAKE ARRANGEMENTS NOW, NOT AFTER THE ANIMALS ARE DEAD).**

On-farm disposal of catastrophic mortality may be considered if site conditions permit. On-farm methods include burial, composting, and incineration. Incinerators and composters are excellent options for routine mortality but usually do not have the capacity to handle mortality volumes associated with catastrophic events. Composting and incineration should not be relied on for catastrophic mortality handling without a documented evaluation of worst anticipated mortality condition (number, type, and weight of animals), and the anticipated capacity of the system (i.e., lb./hr. incineration rate, hrs/day of operation). NRCS Mortality Facility Standard 316 will be used for all mortality management.

See the attached soil interpretation, ENG - Animal Mortality Disposal (Catastrophic) Trench, to make a preliminary assessment of the limitations of the soils on this farm for burial of catastrophic mortality. The attached TX NRCS Technical Guidance, Catastrophic Animal Mortality Management (Burial Method) should be used as a guide to overcome minor limitations and as design criteria for the construction of burial pits for catastrophic mortality. Mortality burial sites shall be located outside the 100 -year floodplain. Mortality burial will not be less than 200 feet from a well, spring, or water course. A FIELD INVESTIGATION BY A QUALIFIED PROFESSIONAL SHOULD BE MADE BEFORE AN AREA IS USED FOR A BURIAL SITE FOR CATASTROPHIC MORTALITY EVENTS. **The TCEQ Industrial and Hazardous Waste Permits Section, MC-130, must be contacted before burial of catastrophic mortality.**

TCEQ
Industrial and Hazardous Waste Permits Section, MC-130
PO Box 13087
Austin, TX 78711-3087
Phone: 512-239-2334 Fax: 512-239-6383

Air Quality:

The following steps should be taken when spreading effluent or solids to reduce problems associated with odor.
1. Avoid spreading effluent or solids when wind will blow odors toward populated areas.
2. Avoid spreading effluent or solids immediately before weekends or holidays, if people are likely to be engaged in nearby outdoor activities.
3. Avoid spreading effluent or solids near heavily traveled highways.
4. Make applications in the morning when the air is warming, rather than in the late afternoon.
5. All materials will be handled in a manner to minimize the generation of particulate matter, odors, and greenhouse gas emissions.

EFFLUENT APPLICATION: (cont) Permit #:

To determine any one-time application amount, the current percent of field capacity (FC) of the upper 24 inches of the predominant soil in the field should be estimated using the guidance in Table 3 of the attached Job Sheet, *"Waste Utilization, Determining Effluent Application Rates, rev 4/06"*. Additional information on estimating soil moisture can be found in the NRCS Program Aid 1619, *"Estimating Soil Moisture by Feel and Appearance"*, or from the University of Nebraska Extension publication No. G84-690-A by the same name. Both of these publications have pictures of various soils at different percentages of field capacity to be used as a guide to estimating soil moisture. Once the current percent of FC is estimated, it is subtracted from the AWC amount in Table 12 for the given field and the difference is the maximum application for those soil conditions on that day. Remember, the maximum hourly application and the maximum one time application rates are only estimates to be used as a guide.

Solids/Effluent Land Application: - Land application of solids and/or effluent should be made at appropriate times to meet crop needs, but can be made at any time as long as the total annual (or biennial) rate, maximum hourly rate, and the maximum one time application rates are not exceeded. Effluent should be surface applied uniformly. No runoff or ponding should occur during application thus frequent observations should be made. Neither effluent or solids will be applied to slopes >8% with a runoff curve >80, or steeper than 16% slope with a runoff curve of 70 or greater, unless the application is part of an erosion control plan. Waste will not be spread at night, during rainfall events, or on frozen or saturated soils if a potential risk for runoff exists. Waste will not be applied to frequently flooded soils during months when the soils typically flood. If frequently flooded soil occur on any potential application field see attached, "Water Features Table", for months when flooding is expected. Solids should be applied with a manure spreader as uniformly as feasible. Surface applications with trucks should only be made when soil conditions are favorable in order to minimize soil compaction.

Managing Runoff -
A minimum 100 ft. setback or vegetated buffer (Filter Strip, Field Border, Riparian Forested Buffer, etc.) will be established and maintained between the application area and all surface water bodies, sink holes, and watercourses as designated on Soil Survey sheets or USGS topographic maps. A minimum application distance from private and public will be 150 ft. and 500 ft. respectively. A minimum application distance from water wells used exclusively for agricultural irrigation will be 100 ft. Table 9 provides a summary of the setbacks and out areas of each field.

Managing Leaching -
When soils with sandy, loamy sand, or gravelly surface textures have a Nitrogen Leaching Index score of >2 appropriate measures will be used to minimize the potential of leaching. These measures will include, split applications of waste, and may include double cropping, or cover crops, and irrigation water management (on fields that receive supplemental or full irrigation).

MORTALITY MANAGEMENT:
All mortality will be disposed of properly within 3 days according to the Texas Commission on Environmental Quality (TCEQ) rules. The preferred method for disposal of routine mortality is by a rendering plant. Before planning this method, contact the facility or its representative to be informed of special handling procedures, equipment needs, scheduling requirements, etc. Maintain a list of contact phone numbers so information will be readily available following a catastrophic die-off. Verify that local companies which have previously picked up and/or rendered dead animals are still doing so. A number of rendering companies across the state have stopped dead animal pick up service, and others have raised their fees significantly. Periodically review the availability and cost of rendering so that the plan can be modified if necessary. This can be an excellent option if mortality can be loaded and transported while still fresh or the mortality can be refrigerated until loaded and transported.

EFFLUENT APPLICATION: (cont) Permit #:

In situations where more land is available than is needed to utilize the maximum application rate on each field, the application rates in Table 10 have been reduced to the level that does not exceed the amount of effluent produced. Table 11 indicates the amount of nutrients provided and, if needed, the supplemental nutrients which **must** be applied when application is made based on the rates in Table 10. These amounts of supplemental nutrients in Table 11 are based on the planned amount of effluent available rather than the **maximum** rate that **"could"** be applied.

The bottom line on the right of Table 10 has a box that will be **"YES"** or **"NO"**. When the reduced rates uses all effluent to be produced in a year, this box will be **"Yes"**. If the percentages are too low, it will be **"No"**. If **"No"** is indicated, either more acreage is needed on which to apply the effluent or the effluent will need to be transported off-site.

Actual application will be based on the quantities produced, as well as, current manure analyses. **Application at the MAXIMUM rates shown in Table 8 will result in a more rapid build-up of phosphorus than if applied at lower rates. A different percentage may be used as long as the rate does not exceed the maximum shown in Table 8 for the field and the proper amount of supplemental nutrients are applied. Applying a lower rate to fields with higher soil test P levels will slow down the P buildup and extend their land application life. Phosphorus will also build up more rapidly on pastureland than on hayland or cropland, since very few nutrients are actually removed by grazing animals.**

The effluent may be applied to the same acreage every year according to Table 2 or 2a. The annual rates in both Table 8 and 10 may be doubled not to exceed the 2X the annual nitrogen requirement or nitrogen removal rate, as applicable, when the full biennial rate has been used, no additional phosphorus fertilizer or animal wastes may be applied in the alternate year. A column in both tables indicates whether the rates given are Annual Rates (A) or Biennial Rates (B). Rates given are based on Table 2 or 2a as applicable. Annual application rate for fields in a TMDL area with a Soil Test P level equal to or greater than 500 ppm or any field in a TMDL area with P Index Rating of Very High is 0.5 annual crop removal rate.

Maximum Hourly Application Rate - The maximum hourly application rate is determined by the texture of the soil layer with the lowest permeability within the upper 24 inches of the of the predominant soil in each field. The hourly application rate must be low enough to avoid runoff and/or ponding. For effluent with 0.5% solids or less, **DO NOT** exceed the rates shown in Table 1 of the attached Job Sheet titled, *"Waste Utilization, Determining Effluent Application Rates"*. If the effluent contains more than 0.5% solids, those values must be reduced by the appropriate amount shown in Table 2 of the attached *"Waste Utilization, Determining Effluent Application Rates"* Job Sheet.

Maximum One-Time Application Rate - The maximum amount of effluent that can be applied to a given field at any one-time is the amount that will bring the top 24 inches of the soil to 100% field capacity. This amount is determined by subtracting the amount of water stored in the soil (estimated by feel and appearance method) from the available water holding capacity (AWC) of the soil. The available water holding capacity of the top 24 inches of the predominant soil of each field receiving effluent and the texture of the most restrictive layer in the upper 24 inches are given in Table 12.

SOLIDS APPLICATION: (cont) Permit #:

In situations where more land is available than is needed to utilize the maximum application rate on each field, the application rates in Table 6 have been reduced to the level that does not exceed the amount of solids produced. Table 7 indicates the amount of nutrients provided and, if needed, the supplemental nutrients which **must** be applied when the application is based on these rates. The amounts of supplemental nutrients in Table 7 are based on the actual amount of waste available rather than the **maximum** rate that **"could"** be applied.

The second line from the bottom of Table 6 on the right has a box that will be **"YES"** or **"NO"**. When the reduced rates use all solids to be produced in a year, this box will be **"Yes"**. If the percentages are too low, it will be **"No"**. If **"No"**, either more acreage is needed on which to apply the solids or the solids will need to be transported off-site. The amount is located on the bottom line on the extreme right of the page.

Actual application will be based on the quantities produced, as well as, current manure analyses. **Application at the MAXIMUM rates shown in Table 4 will result in a more rapid build-up of phosphorus than if applied at lower rates. A different percentage may be used as long as the rate does not exceed the maximum shown in Table 4 for the field and the proper amount of supplemental nutrients are applied. Applying a lower rate to the fields with higher soil test P levels will slow down the P buildup and extend their land application life. Phosphorus will also build up more rapidly on pastureland than on hayland or cropland, since very few nutrients are actually removed by grazing animals.**

The solids may be applied to the same acreage every year according to Table 2 or 2a. The annual rates in both Table 4 and 6 may be doubled not to exceed the 2X the annual nitrogen requirement or nitrogen removal rate, as applicable. When the full biennial rate has been used, no additional phosphorus fertilizer or animal wastes may be applied in the alternate year. A column in both tables indicates whether the rates given are Annual Rates (A) or Biennial Rates (B). Rates given are based on Table 2 or 2a as applicable. Annual application rate for fields in a TMDL area with a Soil Test P level equal to or greater than 500 ppm or any field in a TMDL area with P Index Rating of Very High is 0.5 annual crop removal rate.

EFFLUENT APPLICATION:

The maximum effluent application rates are given in Table 8 for each field. This table provides the current soil test P level, maximum P_2O_5 application rate, effluent either in gallons per acre or acre inches per acre and the amount of effluent that can be applied per field. The maximum amount of effluent that can be utilized on the fields planned is indicated in a box near the lower left corner of Table 8. When the total application acres are adequate to allow all of the effluent to be applied, "Adequate" will be indicated below this box. If "Not Adequate" is indicated, then the lower box will indicate the amount of effluent that must be utilized off-site unless more field acres are added.

The estimated amounts of N, P, and K contained in the effluent are provided in Table 9 for the maximum application rate indicated in Table 8. Supplemental N and K_2O will be applied to achieve the yield goals when recommended by the soil test and the maximum rates of the effluent do not meet the crop requirements. **NOTE:** If additional nitrogen is recommended, the producer should consider collecting soil samples from the 6 - 36 inch layer to see if there is any additional deep nitrogen available. Additional deep nitrogen within the root zone of the crop can be substituted for supplemental commercial nitrogen.

TABLES 1, 2 and 2a Permit #:

Values in Table 1 may be based on actual analysis or "book" values during the initial planning to determine land application rates for the initial plan. When "book" values are used, they will be from NRCS, Texas Cooperative Extension or averages from other TX testing lab sources. Site specific data will be used as soon as feasible after production begins. Manure and/or effluent will be tested at least annually or in the year of application if it is stored for more than one year. If the actual values are more than 10% higher or lower than the estimated values, this plan will need to be revised accordingly.

Application of waste products may be made up to the Maximum Rate given in Table 2 or 2a as applicable. Table 2 applies to those that are subject to Nutrient Management Plan (NMP) requirements while Table 2a applies when subject to Nutrient Utilization Plan (NUP) requirements. Current requirements for both the NMP and NUP are given in the headers of the tables. Table 2a has a criteria involving the distance to a named stream when the Soil Test P Level is above 200 ppm in arid areas as well as special requirements when the site is in a TMDL watershed designated by TCEQ. For various P Index Ratings, the maximum rates in Table 2 are based on crop requirements, whereas the maximum rates in Table 2a are based on crop removal rates. County avg. rainfall information can be found in the TX Agronomy Technical Note 15, Phosphorus Assessment Tool for Texas, located in the eFOTG at the address given in the section entitled **"Collecting Soil Samples for Analyses"**.

CROP REMOVAL RATES:

Crop Removal Rates of nitrogen (N), phosphorus (P), and potassium (K) in pounds per acre are given in Table 3 for the crop and yield planned for each field. This Table is included for information only, and should be used during the planning process to compare planned or maximum application rates to crop removal. Crop removal rates may be based on actual analysis of harvested material or default values in the database. P build-up will occur at higher rates when crop removal rates are exceeded..

SOLIDS APPLICATION:

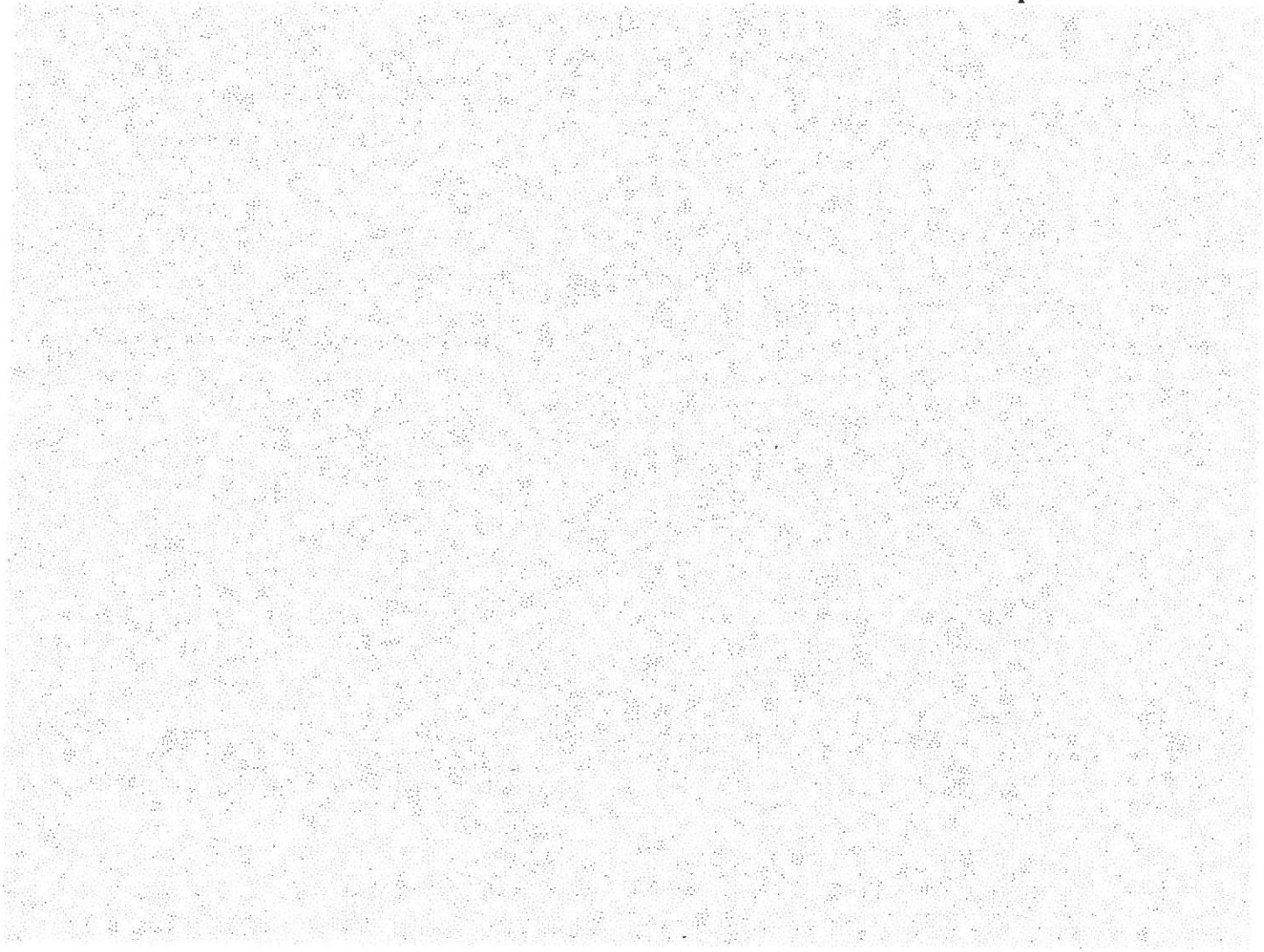
The maximum solids application rates are given in Table 4 along with the current soil test P level, maximum P_2O_5 application rate, maximum tons per acre of solids and the total tons of solids per field that can be applied to each field. The maximum tons of solids that can be utilized on the fields planned is indicated in the box near the lower left corner of Table 4. When the total application acres of the fields are adequate to allow all of the solids to be applied, "Adequate" will be indicated below the tonnage in this box. If "Not Adequate" is indicated, then the lower box will indicate the tons of solids that must be utilized off-site unless more fields/acres are added. This plan is valid only if the application of waste to the crops listed does not exceed the per acre rates by more than 10%. If the yield of a crop does not meet the expected goal, the application rate should be adjusted the following year.

The estimated amounts of N, P_2O_5, and K_2O contained in the solids are provided in Table 5 for the maximum application rate. Supplemental N and K_2O will be applied to achieve the yield goals in Table 4 when recommended by the soil test and the maximum rate of the solids does not meet the crop needs. When the maximum application rate is applied and Table 5 indicates additional commercial nutrients, they **must** be applied to fields as indicated. **NOTE:** If additional nitrogen is recommended, the producer should consider collecting soil samples from the 6 - 36 inch layer to see if there is any additional deep nitrogen available. Additional deep nitrogen within the root zone of the crop can be substituted for supplemental commercial nitrogen, and should be included in the soil test N ppm entry.

Waste Utilization and Nutrient Management Plan

EXECUTIVE SUMMARY: Permit #:

This Nutrient Management Plan has fields that meet NMP and/or NUP requirements.



LOCATION AND PURPOSE OF THE PLAN

This animal operation is located in **Wood** County (see attached topo map and plan map for location.) The purpose of this plan is to outline the details of the land application of the effluent and solids produced by this operation. When the plan is fully implemented, it should minimize the effects of the land application of animal wastes on the soil, water, air, plant, and animal resources in and around the application area. This plan, when applied, will meet the requirements of the Natural Resources Conservation Service Waste Utilization Standard and Nutrient Management Standard.

The plan is for the year of **2024** and will remain in effect until revision based on new soil or manure analysis or crop change (yield or crop) result in a new P-Index rating or plan classification (NMP-NUP). The waste has been stored in a **Dairy Storage Pond (Agitated)** . Approximately **2621** head will be confined with the average weight of **975** pounds. The animals will be confined **24** hours per day for **365** days per year.

Waste Utilization and Nutrient Management Plan

OPERATION AND MAINTENANCE: Permit #:

Application equipment should be maintained in good working order and it should be calibrated annually so that the desired rate and amount of effluent and solids will be applied.

Information on calibrating manure spreaders can be found in the TCE publication No. L-5175, *"Managing Crop Nutrients Through Soil, Manure and Effluent Testing"*. Information on calibrating big gun sprinklers can be found in the Arkansas Extension publication, *"Calibrating Stationary Big Gun Sprinklers for Manure Application"*. For information on calibrating tank spreaders, traveling guns, and additional information on other manure spreading equipment, see Nebraska Extension publication No. G95-1267-A, *"Manure Applicator Calibration"*. Observe and follow manufacturer's recommended maintenance schedules for all equipment and facilities involved in the waste management system. For information on lagoon functions, refer to TCE publication E9, *"Proper Lagoon Management"*.

Any changes in this system should be discussed with the local Soil and Water Conservation District, USDA Natural Resources Conservation Service, or other qualified professional prior to their implementation.

Plan Prepared by:	**Jim C. Wyrick**	Date:	**12/3/2024**
Plan Approved by:	J. C. Wyrick	Date:	12/3/24
Producer Signature:	*	Date:	

The producer's signature indicates that this plan has been discussed with him/her.
If this plan is not signed by the producer, indicate how the plan was provided to the producer.

* NMP will be reviewed with producer after approval by TCEQ

Waste Utilization and Nutrient Management Plan

Table 1 - Estimated Effluent and Solids Quantities Produced Permit #:

Avg. Number of Animals	Type of Waste
2,621	Dairy Storage Pond (Agitated)
	Beef Feedlot Solids

Contact the local Soil and Water Conservation District or USDA Natural Resources Conservation Service office if the total number of animals change by more than 10% so your plan can be revised.

Estimated Acre Inches of Effluent to be Available Annually* 2,493

Estimated Tons Solids to be Land Applied Annually (on or off site)* 3,138.1

*From engineering design.

Estimated Nutrient Availabilty Effluent

	pounds/yr	Pounds / 1000 gal	Pounds / Acre Inch	
N	14,012	0.21	5.6	**
P2O5	55,635	0.82	22.3	
K2O	176,280	2.60	70.7	

** Effluent Values Based on Analysis dated: December 18, 2023

Estimated Nutrient Availabilty Solids

	pounds / yr	pounds / ton	
N	13,200	4.2	**
P2O5	4,809	1.5	
K2O	216,720	69.1	

** Solids Values Based on Analysis dated: December 18, 2023

Default values were used on all fields for plant removal of nutrients and yield levels.

TABLE 2. A Nutrient Management Plan (NMP) is required where Soil Test P Level [1/] is:

- **less than 200 ppm statewide or**
- **or < 350 ppm in arid areas 2/ with a named stream > one mile.**

P – Index Rating	Maximum TMDL Annual P Application Rate [5/]	Maximum Annual P Application	Maximum Biennial Application Rate
Very Low, Low	Annual Nitrogen (N) Requirement	Annual Nitrogen (N) Requirement	2.0 Times Annual N Requirement
Medium	2.0 Times Annual Crop P Requirement [3/]	2.0 Times Annual Crop P Requirement [3/]	2.0 Times Annual N Requirement
High	1.5 Times Annual Crop P Requirement [3/]	1.5 Times Annual Crop P Requirement [3/]	Double the Maximum Annual P Application Not to Exceed 2 times the Annual N Requirement
Very High	1.0 Times Annual Crop P Requirement [3/]	1.0 Times Annual Crop P Requirement [3/]	Double the Maximum Annual P Application Not to Exceed 2 times the Annual N Requirement

TABLE 2a. A Nutrient Utilization Plan (NUP) is required by TCEQ where Soil Test P Level [1/] is:

- **equal to or greater than 200 ppm in non-arid areas [2/] or**
- **equal to or greater than 350 ppm in arid areas [2/] with a named stream greater than one mile or**
- **equal to or greater than 200 ppm in arid areas [2/] with a named stream less than one mile.**

P – Index Rating	Maximum TMDL Annual P Application Rate [5/]	Maximum Annual P Application	Maximum Biennial Application Rate
Very Low, Low	1.0 Times Annual Crop P Removal [4/]	Annual N Crop Removal	2.0 Times Annual N Removal
Medium	1.0 Times Annual Crop P Removal [4/]	1.5 Times Annual Crop P Removal [4/]	Double the Maximum Annual P Application Not to Exceed 2 times the Annual N Crop Removal
High	1.0 Times Annual Crop P Removal [4/]	1.0 Times Annual Crop P Removal [4/]	Double the Maximum Annual P Application Not to Exceed 2 times the Annual N Crop Removal
Very High or soil test P [1/] => 500 ppm in nutrient impaired TMDL areas.[5/]	0.5 Times Annual Crop P Removal [4/]	0.5 Times Annual Crop P Removal [4/]	Double the Maximum Annual P Application Not to Exceed 2 times the Annual N Crop Removal

Footnotes Applicable to both Tables

1/ Soil test P will be Mehlich III by inductively coupled plasma (ICP).

2/ Non-arid areas, counties receiving => 25 inches annual rainfall, will use the 200 ppm P level while arid areas, counties receiving < 25 inches of annual rainfall, will use the 350 ppm P level. See map in TX Agronomy Technical Note 15, Phosphorus Assessment Tool for Texas, for county designations.

3/ Not to exceed the annual nitrogen requirement rate.

4/ Not to exceed the annual nitrogen removal rate.

5/ TMDL watersheds are designated by Texas Commission on Environmental Quality (TCEQ).

Waste Utilization and Nutrient Management Plan

Table 3 - Crop Removal Rates (For Information Only) Permit #:

LMU or Field No.	Acres	Crop and P Index Level	TCEQ Plan Type	Actual Crop Analysis or Default	Total Est. N Removal lbs/Ac/Yr	Total Est. P_2O_5 Removal lbs/Ac/Yr	Total Est. K_2O Removal lbs/Ac/Yr
1	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
2	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
3	31.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
4	60.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
5	78.0	Silage - Sorg21-25T;SG Silage-12-14T M	NUP	Default	426	156	334
6	47.0	Silage - Sorg21-25T;SG Silage-12-14T M	NMP	Default	426	156	334
7	110.0	Coastal 4 Cut Hay H	NMP	Default	257	80	218

NOTE: When crops are used for grazing, only a portion of the nutrients used by the crop are removed from the field in the live weight gain of the livestock, the remainder is returned to the land in manure and urine. The book "Southern Forages" estimates the N, P, & K removed in 100 pounds live weight gain as follows: **2.5 lbs N, 0.68 lbs P, 0.15 lbs K**

Waste Utilization and Nutrient Management Plan

Table 4 - Maximum Solids Application per Field

Permit #:

Est. Solids Produced Annually (wet tons)	LMU or Field No.	Acres	Crop Management and PI runoff potential	Current Soil Test P Level (ppm)	Max Annual P2O5 lbs/acre	Annual/Biennial	Maximum Solids Allowable Tons/Acre	Maximum Allowable Application Per field (Tons)
3,138	1							
	2							
	3							
	4							
	5							
	6							
	7	110.0	Coastal 4 Cut Hay H	122	146	A	95.1	10460
Total Solids Application Acres								
110								
Application Allowable on-site (tons)								
10460.3								
Adequate								
Solids to be used off-site (tons)								
0.0								

End of Table 4

Waste Utilization and Nutrient Management Plan

Table 5 - Nutrients Applied/Needs at Maximum Solids Rates Permit #:

	Nutrients Applied When Application is at Maximum Rates			Supplemental Nutrients Needed When Application is at Maximum Rates			
LMU / Field #	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	Lime T/Ac
1							
2							
3							
4							
5							
6							
7	400	146	6567	0	0	0	0

Waste Utilization and Nutrient Management Plan

Table 6 - Planned Solids Application Rates Permit #:

LMU or Field No.	Double crop	Acres	Crop Management and PI runoff potential	Current Soil Test P ppm	Annual / Biennial	Max Rate tons/ac	% of Maximum to apply	Planned Solids tons/ac	Planned Solids per field (tons)
1									
2									
3									
4									
5									
6									
7		110.0	Coastal 4 Cut Hay H	122	A	95.1	30	28.5	3138.1

Acres	110.0	Will the planned per acre application rates use all of the Solids?	3138.1
3138	Tons of wet solids produced Annually		YES
0	Tons to be used off-site at Max. rates	Tons to be used off-site at planned rates	0

Waste Utilization and Nutrient Management Plan

Table 7 - Nutrients Applied/Needed at Planned Solids Rates

Permit #:

Red cells? Proceed to adjustment page and fix.

	Nutrients Applied at Planned Rates			Supplemental Nutrients Needed at Planned Rates			
LMU / Field #	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	Lime T/Ac
1							
2							
3							
4							
5							
6							
7	120	44	1970	110	0	0	0

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Plan is based on: 590 -633 Plan V 4.0_5

Waste Utilization and Nutrient Management Plan

Table 8 - Maximum Effluent Application Per Field Permit #:

Est. Available Effluent (ac inches)	LMU or Field No.	Acres	Double crop	Crop Management and PI runoff potential	Current Soil Test P Level (ppm)	Max Annual P_2O_5 (lbs/acre)	Annual/Biennial	Maximum Effluent Allowable (ac in/ac)	Maximum Effluent Allowable / Field (ac in)
2493	1	77.0		Silage - Sorg21-25T;SG Silage-12-14T M	237	234	A	10.5	809
Source:	2	77.0		Silage - Sorg21-25T;SG Silage-12-14T M	206	234	A	10.5	809
	3	31.0		Silage - Sorg21-25T;SG Silage-12-14T M	223	234	A	10.5	326
	4	60.0		Silage - Sorg21-25T;SG Silage-12-14T M	331	234	A	10.5	630
Dairy Storage Pond (Agitated)	5	78.0		Silage - Sorg21-25T;SG Silage-12-14T M	298	234	A	10.5	819
	6	47.0		Silage - Sorg21-25T;SG Silage-12-14T M	59	410	A	18.4	865
	7								
Total Effluent Application Acres									
370									
Maximum Effluent Application Allowable On-Site (ac in)									
4256									
Adequate									
Effluent to be used Off-Site (ac in)									
0									

End of Table 8

Waste Utilization and Nutrient Management Plan

Table 9 - Nutrients Applied/Needed at Maximum Effluent Rates Permit #:

	Nutrients Applied When Application is at Maximum Rates			Supplemental Nutrients Needed When Application is at Maximum Rates			
LMU / Field #	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	Lime T/Ac
1	59	234	742	435	0	0	0
2	59	234	742	430	0	0	0
3	59	234	742	415	0	0	0
4	59	234	742	385	0	0	0
5	59	234	742	405	0	0	0
6	103	411	1301	280	0	0	0
7							

Waste Utilization and Nutrient Management Plan

Table 10 - Planned Effluent Application Rates Permit #:

LMU or Field No.	Acres	Double crop	Crop Management and PI runoff potential	Current Soil Test P ppm	Annual / Biennial	Maximum Effluent (ac in/ac)	% of Maximum to apply	Planned Effluent (ac in/ac)	Planned Effluent / field (Ac. In)
1	77.0		Silage - Sorg21-25T;SG Silage-12-14T M	237	A	10.5	60.0	6.3	485
2	77.0		Silage - Sorg21-25T;SG Silage-12-14T M	206	A	10.5	60.0	6.3	485
3	31.0		Silage - Sorg21-25T;SG Silage-12-14T M	223	A	10.5	60.0	6.3	195
4	60.0		Silage - Sorg21-25T;SG Silage-12-14T M	331	A	10.5	60.0	6.3	378
5	78.0		Silage - Sorg21-25T;SG Silage-12-14T M	298	A	10.5	60.0	6.3	491
6	47.0		Silage - Sorg21-25T;SG Silage-12-14T M	59	A	18.4	60.0	11	517
7									
Acres	370.0								2552
								Will the planned application rates use all of the Effluent?	YES

Plan is based on: 590 -633 Plan V 4.0_5

Waste Utilization and Nutrient Management Plan

Table 11 - Nutrients Applied/Needed at the Planned Effluent Rates Permit #:

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	Nutrients Applied at Planned Rates			Supplemental Nutrients Needed at Planned Rates			
LMU / Field #	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	Lime T/Ac
1	35	141	446	460	0	0	0
2	35	141	446	455	0	0	0
3	35	141	446	435	0	0	0
4	35	141	446	410	0	0	0
5	35	141	446	425	0	0	0
6	62	246	779	320	0	0	0
7							

Table 12 - Available Water Capacity to 24 inches(or less) of predominant soil in fields receiving effluent and Texture of the most restrictive soil layer in the upper 24 inches Permit #:

LMU / Field #	AWC (inches)	Restrictive Texture
1	1.23	sandy laom
2	1.23	sandy laom
3	1.77	loamy fine sand
4	1.77	loamy fine sand
5	1.77	loamy fine sand
6	3.31	loamy fine sand
7		sandy laom

LMU / Field #	AWC (inches)	Restrictive Texture

Waste Utilization and Nutrient Management Plan

Table 13 - Non Application Areas by Field

Permit #:

FS = 393-Filter Strip; **FB** = 386-Field Border, **RFB** = 391-Riparian Forest Buffer; **OLEA** = Other Land Excluded Ar

LMU / Field #	FS Acres	FB Acres	RFB Acres	OLEA Acres	Total Excluded
1	0.0	0.0	0.0	1.0	1.0
2	3.0	0.0	0.0	1.0	4.0
3	0.0	0.0	0.0	0.0	
4	1.0	0.0	0.0	2.0	3.0
5	0.0	0.0	0.0	3.0	3.0
6	0.0	0.0	0.0	0.0	
7	0.0	0.0	0.0	0.0	
Totals	4.0	0.0	0.0	7.0	11.0

See Application Map for location of buffers

Total 590-633 application acres: **480.0**

Total 590-633 Field Acres: **491.0**

Waste Utilization and Nutrient Management Data Entries

General Data

Date :	12/3/2024
Farmer Name :	T&S Dairy
County in which the Land is located :	Wood
Type of Waste Plan :	Other AFO-CAFO Waste Plan
Is this plan in a TMDL watershed for nutrients? Yes or No :	No
Is any field PERMITTED by TCEQ? Yes or No :	Yes
Permit # :	

All other entries on General Page appear on the Cover Page

Animal Information

Plan Year :	2024
Are you receiving waste from another producer?	No
Number of animals :	2621
Approximate Weight :	975
Days per year in confinement :	365
Hours per day confined :	24
ACRE FEET of effluent to be irrigated* :	207.75
Estimated annual gallons of effluent to be irrigated/applied annually :	67694922
For effluent, do you want application rates shown in gallons or acre inches? :	acre inches
Estimated Tons Solids to be Land Applied Annually (on or off site)* :	1500
Is this the first Year of the AFO-CAFO Operation? :	No

Analysis Information

Effluent Information

Date of Analysis:	12/18/2023
Manure Source:	Dairy Storage Pond (Agitated)
Nitrogen % From Analysis:	0.0031
Phosphorus % From Analysis:	0.0043
Potassium % From Analysis:	0.026
Moisture % From Analysis:	97

Manure / Solids Information

Date of Analysis:	12/18/2023
Manure Source:	Beef Feedlot Solids
Nitrogen % From Analysis:	0.55
Phosphorus % From Analysis:	0.07
Potassium % From Analysis:	6.02
Moisture % From Analysis:	52.2
What will be Applied to Fields on this Farm?	Both Effluent and Solids
Is this Farm part of an AFO-CAFO?	No

This plan is based on: 590 -633 Plan V 4.0

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Field and Buffer Entries

Permit #:

Printed on: 12/3/24 10:26 AM

Plan is based on: 590 -633 Plan V 4.0_5

FS = 393-Filter Strip, FB = 386-Field Border, RFB = 391-Riparian Forest Buffer, OLEA = Other Land Exclusion Areas or non-application areas (i.e. headquarters, freq. flooded areas, wooded areas, water bodies, etc)

NOTE: Field Border (FB) is expressed in ACRES on this spreadsheet, but as LINEAR FEET on the CPO.

Field No.	Total LMU or Field Acres	FS	FB	RFB	OLEA	Total Buffer Acres	Actual Application Acres	
1	78	0	0	0	1	1.0	77.0	
2	81	3	0	0	1	4.0	77.0	
3	31	0	0	0	0	0.0	31.0	
4	63	1	0	0	2	3.0	60.0	
5	81	0	0	0	3	3.0	78.0	
6	47	0	0	0	0	0.0	47.0	
7	110	0	0	0	0	0.0	110.0	
					.			

Soil Test, Crop Information and Plant Analysis Data Entries

Printed on: 12/3/24 10:26 AM Plan is based on: 590 -633 Plan V 4.0_5 Permit #:

Soil Test Analysis				This column only for Dry Poultry	LMU or Field #	Appl. Area Acres	Crop/Land Use and P Index Runoff Potential VL - L; M; H; or VH	E = Effluent S = Solids	Plant Analysis (Y / N)	Plant Analysis & Yield (optional) Use Only When Crop Removal is Required			
N (ppm)	P (ppm)	K (ppm)	Lime (enter amt or leave blank)							% N	% P	% K	Yield Air Dry Production (lbs/ac/yr)
13	237	83			1	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
15	206	99			2	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
24	223	93			3	31.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
37	331	225			4	60.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
29	298	137			5	78.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
68	59	53			6	47.0	Silage - Sorg21-25T;SG Silage-12-14T M	E	N				
85	122	78			7	110.0	Coastal 4 Cut Hay H	S	N				

Solids Application Rate Entries

Solids - Set the Planned Application Rates

Permit #:

3138	"Wet tons" of solids produced Annually				Will the planned rates use all of the Tons to be used off-site at plann		
LMU or Field No.	Acres	Crop Management and PI runoff potential	Current Soil Test P ppm	Crop P_2O_5 Req.	Annual or Biennial Application Cycle	Maximum Solids Allowable Tons/Ac	Enter % of Maximum Planned to Apply
1							
2							
3							
4							
5							
6							
7	110.0	Coastal 4 Cut Hay H	122	170	Annual	95.1	30.0

Printed on: 12/3/24 10:26 AM

Plan is based on: 590 -633 Pl

Effluent Application Rate Entries

Effluent - Set the Planned Application Rates

Permit #:

67694922	Gallons of Effluent to be used annually			Will the planned rates use all of the effluent?	Yes
2493	Acre inches of Effluent to be used annually				

LMU or Field No.	Acres	Crop Management and PI runoff potential	Current Soil Test P (ppm)	Crop P2O5 Req.	Annual or Biennial Application Cycle	Max Effluent Allowable (ac in/ac)	Enter % of Maximum Planned to Apply	Planned Effluent (ac in/ac)	Planned Effluent per field (acre inches)
1	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	237	205	Annual	10.5	60.0	6.3	485
2	77.0	Silage - Sorg21-25T;SG Silage-12-14T M	206	205	Annual	10.5	60.0	6.3	485
3	31.0	Silage - Sorg21-25T;SG Silage-12-14T M	223	205	Annual	10.5	60.0	6.3	195
4	60.0	Silage - Sorg21-25T;SG Silage-12-14T M	331	205	Annual	10.5	60.0	6.3	378
5	78.0	Silage - Sorg21-25T;SG Silage-12-14T M	298	205	Annual	10.5	60.0	6.3	491
6	47.0	Silage - Sorg21-25T;SG Silage-12-14T M	59	205	Annual	18.4	60.0	11	517
7									

Total Effluent This Page: 2552

Printed on: 12/3/24 10:26 AM

Plan is based on: 590 -633 Plan V 4.0_5

Available Water Capacity Entries

Printed on: 12/3/24 10:26 AM Plan is based on: 590 -633 Plan V 4.0_5 Permit #:

LMU or Fields receiving Effluent	Texture of the soil layer within the upper 24 inches of the soil profile that has the lowest permeability (Don't Abbreviate)	Depth of First Layer (inches)		AWC of First Layer (in/in)		Depth of Second Layer (inches)		AWC of Second Layer (in/in)		Depth of Third Layer (inches)		AWC of Third Layer (in/in)		Depth of Fourth Layer (inches)		AWC of Fourth Layer (in/in)		Available Water Holding Capacity (AWC) of the upper 24 inches of the soil profile (Inches)
EXAMPLE ENTRIES		0	3	0.12	0.2	3	14	0.16	0.21	14	18	0.08	0.12	18	24	0	0	
Enter Data for the top 24" only																		
1	sandy laom	0	9	0.02	0.07	9	24	0.02	0.09	24				0				1.23
2	sandy laom	0	9	0.02	0.07	9	24	0.02	0.09	24				0				1.23
3	loamy fine sand	0	3	0.05	0.08	3	24	0.05	0.1	24				0				1.77
4	loamy fine sand	0	3	0.05	0.08	3	24	0.05	0.1	24				0				1.77
5	loamy fine sand	0	3	0.05	0.08	3	24	0.05	0.1	24				0				1.77
6	loamy fine sand	0	10	0.12	0.15	10	24	0.1	0.18	24				0				3.31
	sandy laom	0	9	0.02	0.07	9	24	0.02	0.09	24				0				

PI Index by Field

Printed on: 12/3/24 10:29 AM

This plan is based on: 590 -633 Plan V 4.0_2

Permit #:

Client Name: T&S Dairy

Planner: Jim C. Wyrick

Date: 12/3/2024

Location: Wood

Rainfall: >25.0 inches

LMU or Fields	Crop	Slope	Runoff Curve	Soil Test P Level	Inorganic P_2O_5 Appl Rate	Organic P_2O_5 Appl Rate	Inorganic Method & Timing	Organic Method & Timing	Proximity of Appl to Named Stream	Runoff Class	Soil Erosion	Total Index Points	P Runoff Potential	Soil Test Date:
1	Silage - Sorg21-25T;SG Silage-12-14T	3.1%	71	8	0	6	0	0.5	1.25	1	1.5	18.25	Medium	11/14/23
2	Silage - Sorg21-25T;SG Silage-12-14T	3.2%	58	8	0	6	0	0.5	0	1	1.5	17	Medium	11/14/23
3	Silage - Sorg21-25T;SG Silage-12-14T	3.4%	78	8	0	6	0	0.5	1.25	1	1.5	18.25	Medium	11/14/23
4	Silage - Sorg21-25T;SG Silage-12-14T	2.5%	58	8	0	6	0	0.5	0	1	1.5	17	Medium	11/14/23
5	Silage - Sorg21-25T;SG Silage-12-14T	3.1%	58	8	0	6	0	0.5	0	1	1.5	17	Medium	11/14/23
6	Silage - Sorg21-25T;SG Silage-12-14T	3.6%	71	6	0	6	0	0.5	2.5	2	1.5	18.5	Medium	11/14/23
7	Coastal 4 Cut Hay	3.3%	39	8	0	6	0	4	5	0	0	23	High	11/14/23

TEXAS A&M AGRILIFE EXTENSION

T+S
LMU 1

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/14/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643781
Customer Sample ID: 180
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	Fertilizer Recommended
pH	5.6	(5.8)		Mod. Acid							
Conductivity	39	(-)	umho/cm	None							
Nitrate-N	13	(-)	ppm**					CL*			70 lbs N/acre
Phosphorus	237	(50)	ppm								0 lbs P2O5/acre
Potassium	83	(150)	ppm								110 lbs K2O/acre
Calcium	644	(180)	ppm								0 lbs Ca/acre
Magnesium	67	(50)	ppm								0 lbs Mg/acre
Sulfur	14	(13)	ppm								0 lbs S/acre
Sodium	48	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.25 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Phosphorus: Phosphorus is highly elevated, avoid phosphorus containing fertilizers and organics for the next 5 years, retest annually.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

T+5

LMU 2

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
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College Station, TX 77843-2478
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979-845-5958 (FAX)
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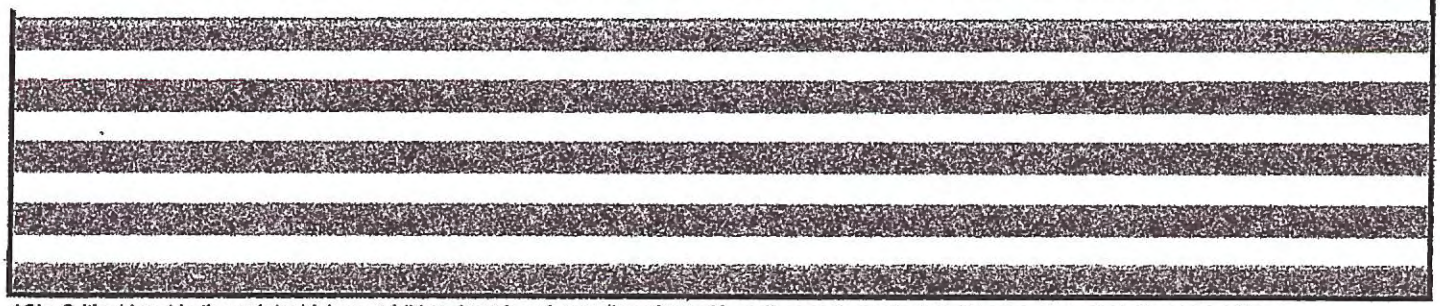
Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/14/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643782
Customer Sample ID: 181
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	4.6	(5.8)		Strongly Acid	
Conductivity	47	(-)	umho/cm	None	
Nitrate-N	15	(-)	ppm**	CL*	65 lbs N/acre
Phosphorus	206	(50)	ppm		0 lbs P2O5/acre
Potassium	99	(150)	ppm		85 lbs K2O/acre
Calcium	414	(180)	ppm		0 lbs Ca/acre
Magnesium	42	(50)	ppm		5 lbs Mg/acre
Sulfur	13	(13)	ppm		5 lbs S/acre
Sodium	53	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.50 tons 100ECCE/acre



*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Phosphorus: Phosphorus is highly elevated, avoid phosphorus containing fertilizers and organics for the next 5 years, retest annually.
Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.
Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

T+S

LMU 3

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
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College Station, TX 77843-2478
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979-845-5958 (FAX)
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Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/14/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643783
Customer Sample ID: 182
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	5.5	(5.8)		Mod. Acid	
Conductivity	51	(-)	umho/cm	None	
Nitrate-N	24	(-)	ppm**	CL*	50 lbs N/acre
Phosphorus	223	(50)	ppm		0 lbs P2O5/acre
Potassium	93	(150)	ppm		95 lbs K2O/acre
Calcium	1,054	(180)	ppm		0 lbs Ca/acre
Magnesium	118	(50)	ppm		0 lbs Mg/acre
Sulfur	16	(13)	ppm		0 lbs S/acre
Sodium	33	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.25 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Phosphorus: Phosphorus is highly elevated, avoid phosphorus containing fertilizers and organics for the next 5 years, retest annually.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

T+S
LMU 4

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
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979-845-5958 (FAX)
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Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/14/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643784
Customer Sample ID: 183
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	6.0	(5.8)		Mod. Acid	
Conductivity	92	(-)	umho/cm	None	
Nitrate-N	37	(-)	ppm**		25 lbs N/acre
Phosphorus	331	(50)	ppm		0 lbs P2O5/acre
Potassium	225	(150)	ppm		0 lbs K2O/acre
Calcium	882	(180)	ppm		0 lbs Ca/acre
Magnesium	131	(50)	ppm		0 lbs Mg/acre
Sulfur	16	(13)	ppm		0 lbs S/acre
Sodium	46	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.00 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Phosphorus: Phosphorus is highly elevated, avoid phosphorus containing fertilizers and organics for the next 5 years, retest annually.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

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LMU 5

Soil Analysis Report

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College Station, TX 77843-2478
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Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/14/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643785
Customer Sample ID: 184
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess	Fertilizer Recommended
pH	5.6	(5.8)		Mod. Acid	
Conductivity	78	(-)	umho/cm	None	
Nitrate-N	29	(-)	ppm**	CL*	40 lbs N/acre
Phosphorus	298	(50)	ppm		0 lbs P2O5/acre
Potassium	137	(150)	ppm		20 lbs K2O/acre
Calcium	843	(180)	ppm		0 lbs Ca/acre
Magnesium	116	(50)	ppm		0 lbs Mg/acre
Sulfur	15	(13)	ppm		0 lbs S/acre
Sodium	36	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.25 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Phosphorus: Phosphorus is highly elevated, avoid phosphorus containing fertilizers and organics for the next 5 years, retest annually.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
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LMU 6

Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/15/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643892
Customer Sample ID: 185
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow VLow Low Med High VHigh Excess.	Fertilizer Recommended
pH	4.8	(5.8)		Strongly Acid	
Conductivity	130	(-)	umho/cm	None	
Nitrate-N	68	(-)	ppm**		0 lbs N/acre
Phosphorus	59	(50)	ppm		0 lbs P2O5/acre
Potassium	53	(150)	ppm		160 lbs K2O/acre
Calcium	678	(180)	ppm		0 lbs Ca/acre
Magnesium	91	(50)	ppm		0 lbs Mg/acre
Sulfur	21	(13)	ppm		0 lbs S/acre
Sodium	27	(-)	ppm		
Iron					
Zinc					
Manganese					
Copper					
Boron					
Limestone Requirement					0.50 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

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LMU 7

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
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College Station, TX 77843-2478
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979-845-5958 (FAX)
Visit our website: http://soiltesting.tamu.edu

Report generated for:
East Texas Environmental Services
Jim Wyrick
317 Highland Dr.
SULPHUR SPRINGS, TX 75482

Sample received on: 11/15/2023
Printed on: 11/20/2023
Area Represented: 40 acres

Hopkins County
Laboratory Number: 643891
Customer Sample ID: ~~185~~ 186
Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess	Fertilizer Recommended
pH	4.2	(5.8)		Strongly Acid							
Conductivity	136	(-)	umho/cm	None			CL*				
Nitrate-N	85	(-)	ppm**								0 lbs N/acre
Phosphorus	122	(50)	ppm								0 lbs P2O5/acre
Potassium	78	(150)	ppm								120 lbs K2O/acre
Calcium	388	(180)	ppm								0 lbs Ca/acre
Magnesium	72	(50)	ppm								0 lbs Mg/acre
Sulfur	17	(13)	ppm								0 lbs S/acre
Sodium	22	(-)	ppm								
Iron											
Zinc											
Manganese											
Copper											
Boron											
Limestone Requirement											0.85 tons 100ECCE/acre

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
http://soiltesting.tamu.edu/webpages/calculator.html

TEXAS A&M AGRILIFE EXTENSION

T+S

118

Bio-Solid Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
(979)321-5960

Visit our website:
http://soiltesting.tamu.edu

Re[illegible] generated for:
East Texas Environmental Services

117 Highland Dr.
SULPHUR SPRINGS, TX 75482

Date Processed: 12/18/2023
Sample(s) from Hopkins County

Section 1: Based on analysis of oven dried sample(s)

Laboratory #	Customer Sample Identification	Total Nitrogen %	Total Phosphorus %	Total Potassium %	Total Calcium %	Total Magnesium %	Total Sodium %	Total Zinc ppm	Total Iron ppm
45021471	117	3.96	0.42	4.81	1.74	0.51	0.88	138.54	700.11
45021472	118	0.55	0.07	6.02	0.53	0.04	0.04	37.02	2244.64
45021473	119	2.16	0.34	5.50	1.54	0.28	0.14	340.31	3746.41

Laboratory #	Total Copper ppm	Total Manganese ppm	Total Sulfur ppm	Total Boron ppm	% Dry Matter
45021471	27.11	62.74	3701.48	19.17	32.9
4[illegible]472	7.68	37.78	926.62	2.26	47.8
45021473	29.70	166.51	6929.31	7.84	20.7

Section 2: Pounds of nutrient per ton on an as received basis

Laboratory #	Customer Sample Identification	Nitrogen lbs/wet ton	P_2O_5 lbs/wet ton	K_2O lbs/wet ton	Calcium lbs/wet ton	Magnesium lbs/wet ton	Sodium lbs/wet ton	Zinc lbs/wet ton	Iron lbs/wet ton
45021471	117	26.04	6.39	37.95	11.46	3.36	5.81	0.091	0.461
45021472	118	5.29	1.52	69.18	5.08	0.43	0.42	0.035	2.148
45021473	119	8.95	3.22	27.35	6.39	1.15	0.59	0.141	1.554

Laboratory #	Copper lbs/wet ton	Manganese lbs/wet ton	Sulfur lbs/wet ton	Boron lbs/wet ton
45021471	0.018	0.041	2.436	0.013
45021472	0.007	0.036	0.887	0.002
45021473	0.012	0.069	2.874	0.003

TEXAS A&M AGRILIFE EXTENSION

T+S
102

Bio-Liquid Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
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http://soiltesting.tamu.edu

enerated for:
Texas Environmental Services

Highland Dr.
PHUR SPRINGS, TX 75482

e Printed: 12/18/2023
mple(s) from Hopkins County

tion 1: Bio-liquids are analyzed on an as received basis

boratory #	Customer Sample Identification	Total Nitrogen %	Total Phosphorus %	Total Potassium %	Total Calcium %	Total Magnesium %	Total Sodium %	Total Zinc ppm	Total Iron ppm
021454	100	0.0003	0.0039	0.0367	0.0055	0.0032	0.0350	2.22	1.56
021455	101	0.0010	0.0039	0.0749	0.0063	0.0040	0.0221	2.32	1.33
021456	102	0.0031	0.0043	0.0260	0.0258	0.0029	0.0255	3.00	1.21
5021457	103	0.0094	0.0104	0.1243	0.0280	0.0182	0.0874	5.01	1.87
021458	104	0.0060	0.0100	0.0734	0.0245	0.0077	0.0408	3.94	3.56

aboratory #	Total Copper ppm	Total Manganese ppm
5[redacted]54	0.06	0.00
5021455	0.06	0.10
5021456	0.24	1.11
5021457	0.75	2.40
5021458	4.16	2.33

ection 2: Interpretation of Bio-Liquid Analysis—pounds of nutrients per acre inch of effluent.

Laboratory #	Customer Sample Identification	Nitrogen lbs/acre inch	P_2O_5 lbs/acre inch	K_2O lbs/acre inch	Calcium lbs/acre inch	Magnesium lbs/acre inch	Sodium lbs/acre inch	Zinc lbs/acre inch	Iron lbs/acre inch
45021454	100	1	20	100	13	7	79	0.50	0.35
45021455	101	2	20	203	14	9	50	0.53	0.30
45021456	102	7	22	71	58	6	58	0.68	0.27
45021457	103	21	54	338	63	41	198	1.13	0.42
45021458	104	14	52	199	56	18	92	0.89	0.81

Laboratory #	Copper lbs/acre inch	Manganese lbs/acre inch
45021454	0.01	0.00
45021455	0.01	0.02
45021456	0.06	0.25
450[redacted]57	0.17	0.54
45021458	0.94	0.53

' one acre inch equals 27150 gallons

Odor Control Plan
for
T&S Dairy

Odors from the facility are mainly associated with agricultural operations, including other CAFOs. Odors from CAFO's are not consistently predictable, and may have a periodic impact on nearby residents depending on sources and weather conditions. Odors may be less noticeable during calm days and tend to be strongest during the cleaning of animal buildings and during withdrawal of water from the lagoons and land application. It is the intention of the faculty to limit odors to an absolute minimum.

The following are practices to be used for an Odor Control Plan:

- Pens will be scraped off on as needed basis. Solid waste will be removed as needed to best reduce nuisance odors.

- All dead animals should be removed within 24 hours or will be buried at a minimum depth of three feet in designated area.

- Cleaning of the barns will be done at times consistent with the least nuisance problems.

- Irrigation will be done during daylight hours when wind velocity and humidity are lower. Irrigation will be monitored by an employee or management trained in waste disposal. This training will be accomplished by attending waste management training provided by the Agriculture Extension Service and TCEQ

- All lounging areas around the barn will be maintained so that there is no ponding of liquids.

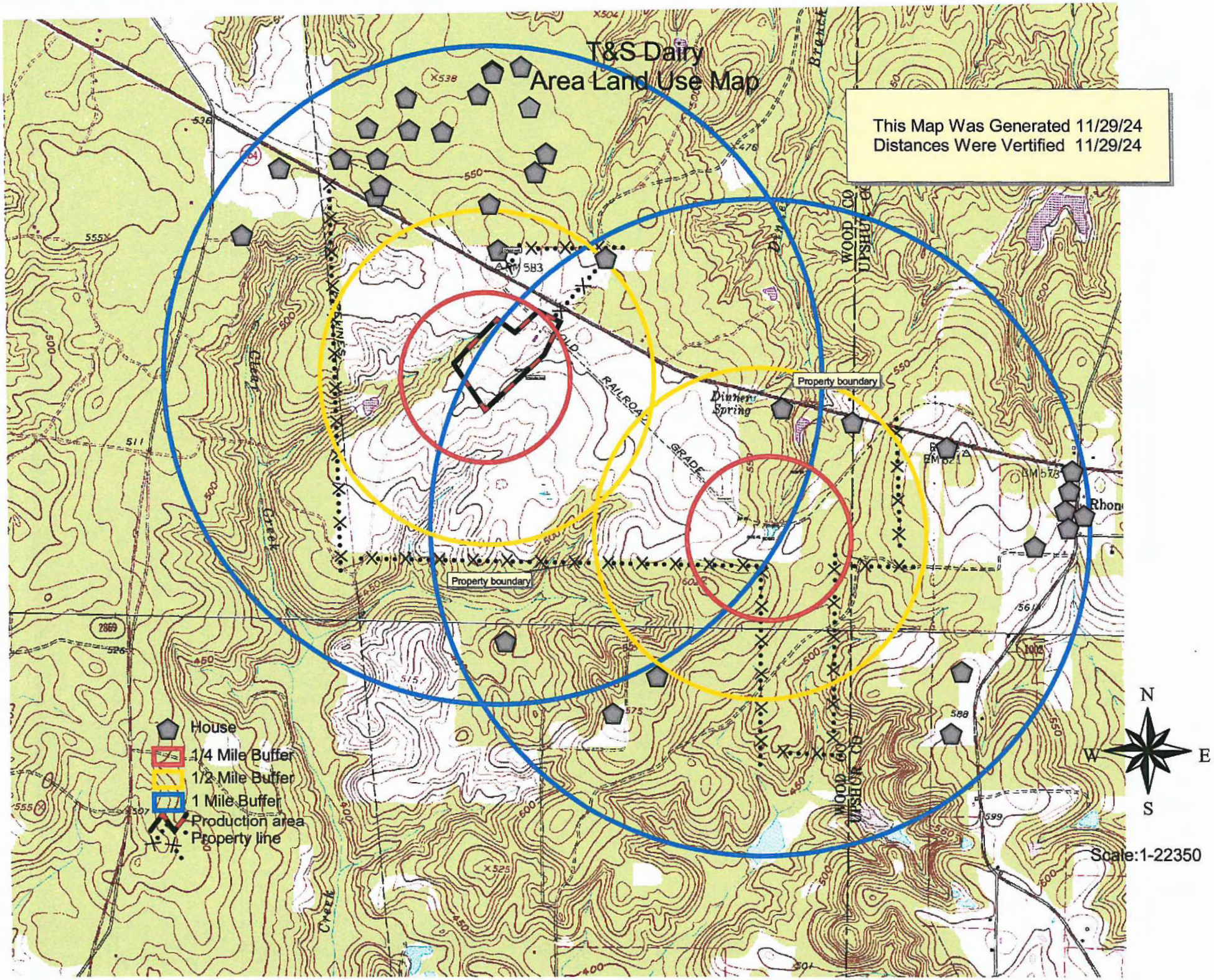
- Pump retention ponds before the liquid level reaches the 24 hr-25 yr marker.

- The RCS is properly sized using USDA-Natural Resource Conservation Service Waternuter spreadsheet.

- In an effort to reduce air-bound particulate the dairy will add moisture to feed when mixing under windy conditions. Controlling the speed of farm vehicles will reduce dust generated at the facility

- The dairy would urge anyone who lives in the vicinity of the dairy, to notify the management when a perceived problem develops so that the source can be identified immediately.

- Dust when necessary will be controlled by water the area until the dust is controlled.


T&S Dairy
Area Land Use Map
This Map Was Generated 11/29/24
Distances Were Vertified 11/29/24
Property boundary
Property boundary
House
1/4 Mile Buffer
1/2 Mile Buffer
1 Mile Buffer
Production area
Property line
N
W
E
S
Scale:1-22350