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: Hillside Dairy, LLC
2) Enter Customer Number: CN604075390
3) Name of facility: Hillside Dairy
4) Enter Regulated Entity Number: RN102065166
5) Provide your permit Number: WQ0003160000
6) Facility Business: The facility confines 3,000 head of cattle of which all are milking. The facility has fifteen (15) land management units (LMUs) with the following acreages: LMU #1 – 50, LMU #2 – 34, LMU #3 – 16, LMU #3A – 61, LMU #4 – 43, LMU #4A – 56, LMU #5 – 26, LMU #5A – 42, LMU #6 – 27, LMU #8 – 34, LMU #8A – 7, LMU #E1 – 60, LMU #MR1 – 162, LMU #MR2 - 90 and LMU #220 – 64 acres. Two (2) retention control structures (RCSs) and one slurry pit. The required capacities are: RCS #1 – 25.26 ac-ft and RCS #2 – 34.05 ac-ft. There are twenty-seven (27) onsite wells of which three (3) are plugged. The facility is located in the North Bosque River in Segment No. 1226 of the Brazos River Basin.
7) Facility Location: The facility is located on the West side of County Road 209, approximately 1.5 miles South of the intersection of County Road 209 and US Highway 67, and approximately 7 miles Southeast of Stephenville in Erath County, Texas.
8) Application Type: Individual Permit Major Amendment
9) Description of your request: Hillside Dairy, LLC is submitting a major amendment application to increase the Headcount from 3,000 all of which are milking to 4,500 and 4,000 milking, reconfigure the drainage area, add Parlor #1, add Freestall Barns #3 & #5, expand RCS #2 (for additional storage), add a sand lane, add Concrete Basin #1, remove Concrete Basin #2 & #3, remove the Commodity Area, remove the proposed Cross-Vent Barn, remove pen South of Freestall Barn #3, reconfigure pen South of Freestall Barn #1, remove Wells #11-#27 and Well #3 is to be plugged. Current LMUs #1, #2, #3, #3A and #4 are reconfigured to proposed LMUs #1, #2, #3, #3A, #4, #4A and #5. Remove current LMUs #5, #5A, #6, #8, #8A, #MR1, #MR2 and #220 from the property boundary.
10) Potential pollutant sources at the facility include (list the pollutant sources): Manure, manure stockpiles, wastewater, sludge, slurry, compost, feed & bedding, silage stockpiles, dead animals, dust, lubricants, parlor chemicals, pesticides and fuel storage tanks.
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): stormwater is stored in the 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 and sludge 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. Wastewater will be contained in the RCS properly designed ((25-year frequency 10-day duration (25 year/10 day), constructed, operated and maintained according to the provision of the permit. Maintain 100-foot buffer for all irrigation wells or 150-foot for all supply wells. Dust - control speed and regular pen maintenance. Fertilizers - store under roof and handle according to specified label directions. Fuel Tanks - provide secondary containment and prevent overfills/spills. Dead animals - dispose by a third-party rendering service or compost on-site. Collected within 24 hours of death and disposed within three days.

12) 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.

SPANISH

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

1) Nombre del solicitante: Hillside Dairy, LLC

2) Ingrese el número de cliente: CN604075390

3) Nombre de la instalación: Hillside Dairy

4) Ingresar Número de Entidad Regulada: RN102065166

5) Proporcione su número de permiso: WQ0003160000

6) Instalación Comercial: La instalación alberga 3,000 cabezas de ganado, todas ellas en ordeño. La instalación tiene quince (15) unidades de administración de tierras (LMU) con las siguientes superficies: LMU #1 – 50, LMU #2 – 34, LMU #3 – 16, LMU #3A – 61, LMU #4 – 43, LMU #4A – 56, LMU #5 – 26, LMU #5A – 42, LMU #6 – 27, LMU #8 – 34, LMU #8A – 7, LMU #E1 – 60, LMU #MR1 – 162, LMU #MR2 - 90 y LMU #220 – 64 acres. Dos (2) estructuras de control de retención (RCS) y un pozo de lodos. Las capacidades requeridas son: RCS #1 – 25.26 ac-ft y RCS #2 – 34.05 ac-ft. Hay veintisiete (27) pozos en el sitio, de los cuales tres (3) están taponados. La instalación está ubicada en el Río Bosque Norte en el Segmento No. 1226 de la Cuenca del Río Brazos.

7) Ubicación de la instalación: La instalación está ubicada en el lado oeste de County Road 209, aproximadamente a 1.5 millas al sur de la intersección de County Road 209 y US Highway 67, y aproximadamente a 7 millas al sureste de Stephenville en el condado de Erath, Texas.

8) Tipo de Solicitud: Enmienda Importante al Permiso Individual

9) Descripción de su solicitud: Hillside Dairy, LLC está presentando una solicitud de enmienda importante para aumentar la plantilla de 3,000 de las cuales todas están ordeñando a 4,500 y 4,000 ordeñando, reconfigurar el área de drenaje, agregar la Sala #1, agregar los Establos de Libre Acceso #3 y #5, expandir el RCS #2 (para almacenamiento adicional), agregar un carril de arena, agregar la Cuenca de Concreto #1, eliminar las Cuencas de Concreto #2 y #3, eliminar el Área de Productos Básicos, eliminar el Establo de Respiradero Cruzado propuesto, eliminar el corral al sur del Establo de Libre Acceso #3, reconfigurar el corral al sur del Establo de Libre Acceso #1, eliminar los Pozos #11-#27 y el Pozo #3 debe taparse. Las LMU #1, #2, #3, #3A y #4 actuales se reconfiguran a las propuestas LMU #1, #2, #3, #3A, #4, #4A y #5. Eliminar las LMU actuales #5, #5A, #6, #8, #8A, #MR1, #MR2 y #220 del límite de la propiedad.

10) Las posibles fuentes de contaminantes en la instalación incluyen (enumere las fuentes de contaminantes): Estiércol, reservas de estiércol, aguas residuales, lodos, purines, compost, piensos y camas, reservas de ensilaje, animales muertos, polvo, lubricantes, productos químicos de salón, pesticidas y tanques de almacenamiento de combustible.

11) Las siguientes mejores prácticas de manejo se implementarán en el sitio para manejar los contaminantes de las fuentes de contaminantes enumeradas (describa las mejores prácticas de manejo que se utilizan): las aguas pluviales se almacenan en la laguna (RCS) hasta que se aplican a la tierra mediante riego y estiércol y lodo se almacenan en el área de drenaje del RCS hasta que se aplican a la tierra o se transportan fuera del sitio para un uso beneficioso. El estiércol y los lodos generados por CAFO se conservarán y utilizarán de manera apropiada y beneficiosa de acuerdo con un plan certificado de manejo de nutrientes específico del sitio. Las aguas residuales estarán contenidas en el RCS adecuadamente diseñado ((frecuencia de 25 años y duración de 10 días (25 años/10 días), construido, operado y mantenido de acuerdo con lo dispuesto en el permiso. Mantener una zona de amortiguamiento de 100 pies para todos los pozos de riego o 150 pies para todos los pozos de suministro. Polvo - velocidad de control y mantenimiento regular del corral. Fertilizantes - almacénelos bajo techo y manipúlelos de acuerdo con las instrucciones especificadas en la etiqueta. Tanques de combustible - proporcionan contención secundaria y evitan sobrellenados/derrames. Animales muertos - elimínelos a través de un servicio de procesamiento de terceros o entierre en el sitio. Recolectado dentro de las 24 horas posteriores a la muerte y eliminado dentro de los tres días.

12) A menos que se limite de otro modo, el estiércol, los lodos o las aguas residuales no se descargarán desde una unidad de administración de tierra (LMU) o una estructura de control de retención (RCS) hacia el agua en el estado o junto a ella desde una CAFO, excepto que resulte de cualquiera de las siguientes condiciones:

1) una descarga de estiércol, lodo o aguas residuales que el tenedor del permiso no puede 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 crónica/catastrófica; o

3) una descarga de lluvia crónica/catastrófica de una LMU que ocurre porque el tenedor del permiso toma medidas para vaciar 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 AMENDMENT

PERMIT NO. WQ0003160000

APPLICATION. Hillside Dairy, LLC, 1865 Private Road 1233, Hico, Texas 76457, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Wastewater Permit No. WQ0003160000 (EPA I.D. No. TX0130893) for a Concentrated Animal Feeding Operation (CAFO) to authorize an increase in the Headcount from 3,000 all of which are milking to 4,500 and 4,000 are milking, reconfigure the drainage area, add Parlor #1, add Freestall Barns #3 & #5, expand RCS #2(for additional storage), add a sand lane, add Concrete Basin #1, remove Concrete Basins #2 & #3, remove the Commodity Area, remove the proposed Cross-Vent Barn, remove pen South of Freestall Barn #3, reconfigure pen South of Freestall Barn #1, remove Wells #11-#27 and Well #3 is to be plugged, current LMUs #1, #2, #3, #3A and #4 are reconfigured to proposed LMUs #1, #2, #3, #3A, #4, #4A and #5, Remove current LMUs #5, #5A, #6, #8, #8A, #MRl, #MR2 and #220 from the property boundary. The facility is located at 3502 County Road 209, near the city of Hico, in Erath County, Texas 76457. TCEQ received this application on April 24, 2025. The permit application will be available for viewing and copying at Erath County Extension Office - Erath County Courthouse, 100 Washington Street, Room 206, Stephenville, 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=-98.072222,32.150555&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 Hillside Dairy, LLC at the address stated above or by calling Mr. Clemens Kuiper, Member, at 254-968-4018.

Issuance Date: May 22, 2025

Comisión de Calidad Ambiental del Estado de Texas

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

PERMISO NO. WQ0003160000

SOLICITUD. Hillside Dairy, LLC, 1865 Private Road 1233, Hico, Texas 76457 ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para la modificación de Permiso No. WQ0003160000 (EPA I.D. No. TX0130893) para una Operación Concentrada de Alimentación Animal (CAFO, por sus siglas en inglés) para autorizar un aumento en el conteo de cabezas de 3,000 de las cuales todas los cuales están ordeñando a 4,500 y 4,000 están ordeñando, reconfigurar el área de drenaje, agregar la Sala #1, agregar los Establos de Estabulación Libre #3 y #5, expandir el RCS #2 (para almacenamiento adicional), agregar un carril de arena, agregar un Depósito de Concreto #1. remover los Depósitos de Concreto #2 y #3, eliminar el área de comodidad, eliminar el establo propuesto con ventilación cruzada, eliminar el corral al sur de la estabulación libre #3, reconfigurar el corral al sur de la estabulación libre #1. Remover los pozos #11-#27 y el Pozo #3 debe ser tapado. Las LMU actuales #1, #2, #3, #3A y #4 se reconfiguran a las LMU propuestas #1, #2, #3, #3A, #4, #4A y #5. Remover las LMU actuales #5, #5A, #6, #8, #8A, #MRl, #MR2 y #220 del límite de la propiedad. La instalación está ubicada en 3502 County Road 209, en la ciudad de Hico, en el condado de Erath, Texas 76457. La TCEQ recibió esta solicitud el 24 de abril de 2025. La solicitud de permiso estará disponible para ver y copiar en la Oficina de Extensión del Condado de Erath - Tribunal del Condado de Erath, 100 Washington Street, Sala 206, Stephenville, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud, incluidas las actualizaciones y los avisos asociados, están disponibles 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=-98.072222,32.150555&level=18

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 A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía http://www14.tceq.texas.gov/epic/eComment/ o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. 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. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Hillside Dairy, LLC a la dirección indicada arriba o llamando al Sr. Clemens Kuiper, Socio, al 254-968-4018.

Fecha de emisión 22 de mayo de 2025

Abesha Michael

From: Jourdan Mullin <jmullin@enviroag.com>
Sent: Wednesday, April 30, 2025 11:31 AM
To: Abesha Michael
Cc: Corey Mullin; Joy Alabi; Robert Chavez
Subject: RE: Application to Amend Permit No. WQ0003160000 - Notice of Deficiency Letter
Attachments: Hillside Dairy CAFO amend Spanish translation.docx; English NORI.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Good Wednesday Morning Abesha,

I wanted to follow up and see if you received my response showing the mistake in the NORI? Attached is the English and Spanish NORI with the correct address. Please respond and let me know you received this and that the mistake has been corrected.

Respectfully,
Jourdan Mullin

Enviro-Ag Engineering, Inc.
9855 FM 847
Dublin, TX 76446

254/965-3500 – Work
806/679-5570 - Mobile

From: Jourdan Mullin
Sent: Tuesday, April 29, 2025 10:26 AM
To: 'abesha.michael@tceq.texas.gov' <Abesha.Michael@tceq.texas.gov>
Cc: Corey Mullin <cmullin@enviroag.com>
Subject: RE: Application to Amend Permit No. WQ0003160000 - Notice of Deficiency Letter

Good afternoon Abesha,

I wanted to check and see if you have the revised NORI?

Thank you,
Jourdan

From: Jourdan Mullin
Sent: Monday, April 28, 2025 10:02 AM
To: 'abesha.michael@tceq.texas.gov' <Abesha.Michael@tceq.texas.gov>

Cc: Corey Mullin <cmullin@enviroag.com>
Subject: RE: Application to Amend Permit No. WQ0003160000 - Notice of Deficiency Letter

Good Morning Abesha,

I found one mistake that need to be corrected in the NORI. I have highlighted the mistake and note of the correct address.

Thank you,
Jourdan

From: Corey Mullin <cmullin@enviroag.com>
Sent: Friday, April 25, 2025 6:06 PM
To: Jourdan Mullin <jmullin@enviroag.com>
Subject: Fw: Application to Amend Permit No. WQ0003160000 - Notice of Deficiency Letter

Sent via the Samsung Galaxy S25+, an AT&T 5G smartphone
Get Outlook for Android

From: Abesha Michael <Abesha.Michael@tceq.texas.gov>
Sent: Friday, April 25, 2025 6:04:07 PM
To: Corey Mullin <cmullin@enviroag.com>
Subject: Application to Amend Permit No. WQ0003160000 - Notice of Deficiency Letter

Dear Mr. Mullin:

The attached Notice of Deficiency letter sent on April 25, 2025, requests additional information needed to declare the application administratively complete. Please send the complete response to my attention by May 9, 2025.

Thank you,

Abesha H. Michael
Applications Review & Processing Team
Water Quality Division Support Section
Water Quality Division, MC 148
PO Box 13087
Austin, Texas 78711
Phone: o: 512-239-4912
Email: abesha.michael@tceq.texas.gov

Disclaimer

APPLICATION. Hillside Dairy, LLC, 1865 Private Road 1233, Hico, Texas 76457, has applied to the Texas Commission on Environmental Quality (TCEQ) to amend Wastewater Permit No. WQ0003160000 (EPA I.D. No. TX0130893) for a Concentrated Animal Feeding Operation (CAFO) to authorize an increase in the Headcount from 3,000 all of which are milking to 4,500 and 4,000 are milking, reconfigure the drainage area, add Parlor #1, add Freestall Barns #3 & #5, expand RCS #2(for additional storage), add a sand lane, add Concrete Basin #1. remove Concrete Basins #2 & #3, remove the Commodity Area, remove the proposed Cross-Vent Barn, remove pen South of Freestall Barn #3, reconfigure pen South of Freestall Barn #1. remove Wells #11-#27 and Well #3 is to be plugged. Current LMUs #1, #2, #3, #3A and #4 are reconfigured to proposed LMUs #1, #2, #3, #3A, #4, #4A and #5. Remove current LMUs #5, #5A, #6, #8, #8A, #MRl, #MR2 and #220 from the property boundary. The facility is located at 3502 County Road 209, in the city of Hico, in Erath County, Texas 76457. TCEQ received this application on April 24, 2025. The permit application will be available for viewing and copying at Erath County Extension Office – Erath County Courthouse, 100 Washington Street, Room 206, Stephenville, in Erath 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=-98.072222,32.150555&level=18
Further information may also be obtained from Hillside Dairy, LLC at the address stated above or by calling Mr. Clemens Kuiper, Member, at 254-968-4018.

Comisión de Calidad Ambiental del Estado de Texas

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

PERMISO NO. WQ0003160000

SOLICITUD. Hillside Dairy, LLC, 1865 Private Road 1233, Hico, Texas 76457 ha solicitado a la Comisión de Calidad Ambiental del Estado de Texas (TCEQ) para la modificación de Permiso No. WQ0003160000 (EPA I.D. No. TX0130893) para una Operación Concentrada de Alimentación Animal (CAFO, por sus siglas en inglés) para autorizar un aumento en el conteo de cabezas de 3,000 de las cuales todas los cuales están ordeñando a 4,500 y 4,000 están ordeñando, reconfigurar el área de drenaje, agregar la Sala #1, agregar los Establos de Estabulación Libre #3 y #5, expandir el RCS #2 (para almacenamiento adicional), agregar un carril de arena, agregar un Depósito de Concreto #1. remover los Depósitos de Concreto #2 y #3, eliminar el área de comodidad, eliminar el establo propuesto con ventilación cruzada, eliminar el corral al sur de la estabulación libre #3, reconfigurar el corral al sur de la estabulación libre #1. Remover los pozos #11-#27 y el Pozo #3 debe ser tapado. Las LMU actuales #1, #2, #3, #3A y #4 se reconfiguran a las LMU propuestas #1, #2, #3, #3A, #4, #4A y #5. Remover las LMU actuales #5, #5A, #6, #8, #8A, #MRl, #MR2 y #220 del límite de la propiedad. La instalación está ubicada en 3502 County Road 209, en la ciudad de Hico, en el condado de Erath, Texas 76457. La TCEQ recibió esta solicitud el 24 de abril de 2025. La solicitud de permiso estará disponible para ver y copiar en la Oficina de Extensión del Condado de Erath - Tribunal del Condado de Erath, 100 Washington Street, Sala 206, Stephenville, en el Condado de Erath, Texas antes de la fecha de publicación de este aviso en el periódico. La solicitud, incluidas las actualizaciones y los avisos asociados, están disponibles 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=-98.072222,32.150555&level=18

Include the following non-italicized sentence if the facility is located in the Coastal Management Program boundary and is an application for a major amendment which will increase the pollutant loads to coastal waters or would result in relocation of an outfall to a critical areas, or a renewal with such a major amendment. The Coastal Management Program boundary is the area along the Texas Coast of the Gulf of México as depicted on the map in 31 TAC §503.1 and includes part or all of the following counties: Cameron, Willacy, Kenedy, Kleberg, Nueces, San Patricio, Aransas, Refugio, Calhoun, Victoria, Jackson, Matagorda, Brazoria, Galveston, Harris, Chambers, Jefferson y Orange. If the application is for amendment that does not meet the above description, do not include the sentence: El Director Ejecutivo de la TCEQ ha revisado esta medida para ver si está de acuerdo con los objetivos y las regulaciones del Programa de

Administración Costero de Texas (CMP) de acuerdo con las regulaciones del Consejo Coordinador de la Costa (CCC) y ha determinado que la acción es conforme con las metas y regulaciones pertinentes del CMP.

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 A LA AGENCIA. Todos los comentarios públicos y solicitudes deben ser presentadas electrónicamente vía http://www14.tceq.texas.gov/epic/eComment/ o por escrito dirigidos a la Comisión de Texas de Calidad Ambiental, Oficial de la Secretaría (Office of Chief Clerk), MC-105, P.O. Box 13087, Austin, Texas 78711-3087. 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. Para obtener más información acerca de esta solicitud de permiso o el proceso de permisos, llame al programa de educación pública de la TCEQ, gratis, al 1-800-687-4040. Si desea información en Español, puede llamar al 1-800-687-4040.

También se puede obtener información adicional del Hillside Dairy, LLC a la dirección indicada arriba o llamando al Sr. Clemens Kuiper, Socio, al 254-968-4018.

Fecha de emisión _____ *[Date notice issued]*

SPANISH

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

1) Nombre del solicitante: Hillside Dairy, LLC

2) Ingrese el número de cliente: CN604075390

3) Nombre de la instalación: Hillside Dairy

4) Ingresar Número de Entidad Regulada: RN102065166

5) Proporcione su número de permiso: WQ0003160000

6) Instalación Comercial: La instalación alberga 3,000 cabezas de ganado, todas ellas en ordeño. La instalación tiene quince (15) unidades de administración de tierras (LMU) con las siguientes superficies: LMU #1 – 50, LMU #2 – 34, LMU #3 – 16, LMU #3A – 61, LMU #4 – 43, LMU #4A – 56, LMU #5 – 26, LMU #5A – 42, LMU #6 – 27, LMU #8 – 34, LMU #8A – 7, LMU #E1 – 60, LMU #MR1 – 162, LMU #MR2 - 90 y LMU #220 – 64 acres. Dos (2) estructuras de control de retención (RCS) y un pozo de lodos. Las capacidades requeridas son: RCS #1 – 25.26 ac-ft y RCS #2 – 34.05 ac-ft. Hay veintisiete (27) pozos en el sitio, de los cuales tres (3) están taponados. La instalación está ubicada en el Río Bosque Norte en el Segmento No. 1226 de la Cuenca del Río Brazos.

7) Ubicación de la instalación: La instalación está ubicada en el lado oeste de County Road 209, aproximadamente a 1.5 millas al sur de la intersección de County Road 209 y US Highway 67, y aproximadamente a 7 millas al sureste de Stephenville en el condado de Erath, Texas.

8) Tipo de Solicitud: Enmienda Importante al Permiso Individual

9) Descripción de su solicitud: Hillside Dairy, LLC está presentando una solicitud de enmienda importante para aumentar la plantilla de 3,000 de las cuales todas están ordeñando a 4,500 y 4,000 ordeñando, reconfigurar el área de drenaje, agregar la Sala #1, agregar los Establos de Libre Acceso #3 y #5, expandir el RCS #2 (para almacenamiento adicional), agregar un carril de arena, agregar la Cuenca de Concreto #1, eliminar las Cuencas de Concreto #2 y #3, eliminar el Área de Productos Básicos, eliminar el Establo de Respiradero Cruzado propuesto, eliminar el corral al sur del Establo de Libre Acceso #3, reconfigurar el corral al sur del Establo de Libre Acceso #1, eliminar los Pozos #11-#27 y el Pozo #3 debe taparse. Las LMU #1, #2, #3, #3A y #4 actuales se reconfiguran a las propuestas LMU #1, #2, #3, #3A, #4, #4A y #5. Eliminar las LMU actuales #5, #5A, #6, #8, #8A, #MR1, #MR2 y #220 del límite de la propiedad.

10) Las posibles fuentes de contaminantes en la instalación incluyen (enumere las fuentes de contaminantes): Estiércol, reservas de estiércol, aguas residuales, lodos, purines, compost, piensos y camas, reservas de ensilaje, animales muertos, polvo, lubricantes, productos químicos de salón, pesticidas y tanques de almacenamiento de combustible.

11) Las siguientes mejores prácticas de manejo se implementarán en el sitio para manejar los contaminantes de las fuentes de contaminantes enumeradas (describa las mejores prácticas de manejo que se utilizan): las aguas pluviales se almacenan en la laguna (RCS) hasta que se aplican a la tierra mediante riego y estiércol y lodo se almacenan en el área de drenaje del RCS hasta que se aplican a la tierra o se transportan fuera del sitio para un uso beneficioso. El estiércol y los lodos generados por CAFO se conservarán y utilizarán de manera apropiada y beneficiosa de acuerdo con un plan certificado de manejo de nutrientes específico del sitio. Las aguas residuales estarán contenidas en el RCS adecuadamente diseñado ((frecuencia de 25 años y duración de 10 días (25 años/10 días), construido, operado y mantenido de acuerdo con lo dispuesto en el permiso. Mantener una zona de amortiguamiento de 100 pies para todos los pozos de riego o 150 pies para todos los pozos de suministro. Polvo - velocidad de control y mantenimiento regular del corral. Fertilizantes - almacénelos bajo techo y manipúlelos de acuerdo con las instrucciones especificadas en la etiqueta. Tanques de combustible - proporcionan contención secundaria y evitan sobrellenados/derrames. Animales muertos - elimínelos a través de un servicio de procesamiento de terceros o entierre en el sitio. Recolectado dentro de las 24 horas posteriores a la muerte y eliminado dentro de los tres días.

12) A menos que se limite de otro modo, el estiércol, los lodos o las aguas residuales no se descargarán desde una unidad de administración de tierra (LMU) o una estructura de control de retención (RCS) hacia el agua en el estado o junto a ella desde una CAFO, excepto que resulte de cualquiera de las siguientes condiciones:

1) una descarga de estiércol, lodo o aguas residuales que el tenedor del permiso no puede 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 crónica/catastrófica; o

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

ENVIRO-AG ENGINEERING, INC.
EAE
AMARILLO · STEPHENVILLE · ARTESIA

Corporate Office:
3404 Airway Blvd.
Amarillo TX 79118

Central Texas:
9855 FM 847
Dublin TX 76446

New Mexico:
203 East Main Street
Artesia NM 88210

April 23, 2025

TCEQ
Registration, Review and Reporting Division
Permits Administration Review Section
Water Quality Applications Team, MC-148
12100 Park 35 Circle
Austin, TX 78753

Re: Hillside Dairy – Permit No. WQ0003160000
Erath County, Texas.

Dear Administrative Review Section,

Enclosed please find the Major Amendment application for the above referenced facility. The $350 application fee was paid electronically, and the voucher is attached. Should you have any questions please do not hesitate to contact me.

Respectfully Submitted,

Jourdan Mullin
Enviro-Ag Engineering, Inc.

Cc: TCEQ Region 4, Stephenville
Hillside Dairy
EAE file

30 TAC 321, SUBCHAPTER B APPLICATION, POLLUTION PREVENTION PLAN & CNMP

Hillside Dairy

Major Amendment Application

Prepared For:

Hillside Dairy, LLC

1865 Private Road 1233

Hico, TX 76457

April 2, 2025

Prepared By:

ENVIRO-AG ENGINEERING, INC.

AMARILLO · STE PHENVILLE · ARTESIA

9855 FM 847 ♦ Dublin, TX 76446 ♦ Tel 254/965-3500 ♦ Fax 254/965-8000

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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:
	Check/Money Order Amount:
	Name Printed on Check:
EPAY	Voucher Number: 763588 & 763589
	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: Increase the Headcount from 3,000 all of which are milking to 4,500 and 4,000 are milking, reconfigure the drainage area, add Parlor #1, add Freestall Barns #3 & #5, expand RCS #2(for additional storage), add a sand lane, add Concrete Basin #1, remove Concrete Basins #2 & #3, remove the Commodity Area, remove the proposed Cross-Vent Barn, remove pen South of Freestall Barn #3, reconfigure pen South of Freestall Barn #1, remove Wells #11-#27 and Well #3 is to be plugged. Current LMUs #1, #2, #3, #3A and #4 are reconfigured to proposed LMUs #1, #2, #3, #3A, #4, #4A and #5. Remove current LMUs #5, #5A, #6, #8, #8A, #MR1, #MR2 and #220 from the property boundary.

E. For existing permits:
What is the permit number? WQ0003160000

Print this voucher for your records. If you are sending the TCEQ hardcopy documents related to this payment, include a copy of this voucher.

Transaction Information

Voucher Number:	763588
Trace Number:	582EA000665016
Date:	04/23/2025 09:42 AM
Payment Method:	CC - Authorization 000007247G
Voucher Amount:	$300.00
Fee Type:	CAFO PERMIT - NEW OR MAJOR AMENDMENT
ePay Actor:	JOURDAN MULLIN
Actor Email:	jmullin@enviroag.com
IP:	156.146.244.233

Payment Contact Information

Name:	JOURDAN MULLIN
Company:	ENVIRO-AG ENGINEERING INC
Address:	3404 AIRWAY BLVD, AMARILLO, TX 79118
Phone:	806-679-5570

Site Information

Site Name:	HILLSIDE DAIRY
Site Location:	3502 CR 209 HICO TX 76457

Customer Information

Customer Name:	HILLSIDE DAIRY LLC
Customer Address:	1865 PR 1233, HICO, TX 76457

Close

Print this voucher for your records. If you are sending the TCEQ hardcopy documents related to this payment, include a copy of this voucher.

Transaction Information

Voucher Number:	763589
Trace Number:	582EA000665016
Date:	04/23/2025 09:42 AM
Payment Method:	CC - Authorization 000007247G
Voucher Amount:	$50.00
Fee Type:	30 TAC 305.53B WQ NOTIFICATION FEE
ePay Actor:	JOURDAN MULLIN
Actor Email:	jmullin@enviroag.com
IP:	156.146.244.233

Payment Contact Information

Name:	JOURDAN MULLIN
Company:	ENVIRO-AG ENGINEERING INC
Address:	3404 AIRWAY BLVD, AMARILLO, TX 79118
Phone:	806-679-5570

Close

What is the EPA I.D. Number? TX 0130893

SECTION 3. FACILITY OWNER (APPLICANT) INFORMATION

A. What is the legal name of the facility owner?

Hillside Dairy, LLC

B. If the applicant is an existing TCEQ customer, provide the Customer Number (CN) issued to this entity? CN 604075390

C. What is the contact information for the owner?

Mailing Address: 1865 PR 1233

City, State and Zip Code: Hico, TX 76457

Phone Number: 254/968-4018 Fax Number: n/a

E-mail Address: Clemens.karin@hotmail.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: Click here to enter text.

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: 32047193472

What is the Charter Filing Number issued by the Texas Secretary of State: 0801559806

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?

Click here to enter text.

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

this entity? CN Click here to enter text.

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

Mailing Address: Click here to enter text.

City, State and Zip Code: Click here to enter text.

Phone Number: Fax Number: Click here to enter text.

E-mail Address: Click here to enter text.

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: Click here to enter text.

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: Click here to enter text.

What is the Charter Filing Number issued by the Texas Secretary of State: Click here to enter text.

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: Corey Mullin

Title: Consultant Credentials: Click here to enter text.

Company Name: Enviro-Ag Engineering, Inc.

Mailing Address: 9855 FM 847

City, State and Zip Code: Dublin, TX 76446

Phone Number: 254/965-3500 Fax Number: 254/965-8000

E-mail Address: cmullin@enviroag.com

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: Corey Mullin

Title: Consultant Credentials: Click here to enter text.

Company Name: Enviro-Ag Engineering, Inc.

Mailing Address: 9855 FM 847

City, State and Zip Code: Dublin, TX 76446

Phone Number: 254/965-3500 Fax Number: 254/965-8000 E-mail Address: cmullin@enviroag.com

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

Permit Contact First and Last Name: Clemens Kuiper

Title: Member Credentials: Click here to enter text.

Company Name: Hillside Dairy, LLC

Mailing Address: 1865 PR 1233

City, State and Zip Code: Hico, TX 76457

Phone Number: 254/968-4018 Fax Number: n/a E-mail Address: Clemens.karin@hotmail.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)

Owner, Hillside Dairy, LLC

☐ No, complete this section

Prefix (Mr., Ms., Miss): Click here to enter text.

First and Last Name: Click here to enter text.

Title: Click here to enter text. Credentials: Click here to enter text.

Company Name: Click here to enter text.

Mailing Address: Click here to enter text.

City, State and Zip Code: Click here to enter text.

Phone Number: Click here to enter text. Fax Number: Click here to enter text. E-mail Address: Click here to enter text.

SECTION 8. LANDOWNER INFORMATION

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

Landowner Name: Hillside Dairy, LLC

B. Landowner of the land management units (LMUs)

Landowner Name: Hillside Dairy, LLC

SECTION 9. PUBLIC NOTICE INFORMATION

A. Individual responsible for publishing the notices in the newspaper

Prefix (Mr., Ms., Miss): Mrs. First and Last Name: Jourdan Mullin

Title: Consultant Credentials: Click here to enter text.

Company Name: Enviro-Ag Engineering, Inc.

Mailing Address: 9855 FM 847

City, State and Zip Code: Dublin, TX 76446

Phone Number: 254/965-3500 Fax Number: 254/965-8000 E-mail Address: jmullin@enviroag.com

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

☒ E-mail: jmullin@enviroag.com

☐ Fax Number: Click here to enter text.

☒ Regular Mail:

Mailing Address: 9855 FM 847

City, State and Zip Code: Dublin, TX 76446

C. Contact person to be listed in the notice

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

First and Last Name: Clemens Kuiper

Title: Member Credentials: Click here to enter text.

Company Name: Hillside Dairy, LLC

Phone Number: 254/968-4018

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: Erath County Extension Office - Erath County Courthouse

Physical Address of Building: 100 Washington St. Room 206

City: Stephenville County: Erath

Phone Number: 254/965-1460

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: Hillside Dairy

B. If this is an existing permitted site, provide the Regulated Entity Number (RN) issued to this site? RN 102065166

C. Site Address/Location:

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: Hillside Dairy, LLC
2) Enter Customer Number: CN604075390
3) Name of facility: Hillside Dairy
4) Enter Regulated Entity Number: RN102065166
5) Provide your permit Number: WQ0003160000
6) Facility Business: The facility confines 3,000 head of cattle of which all are milking. The facility has fifteen (15) land management units (LMUs) with the following acreages: LMU #1 – 50, LMU #2 – 34, LMU #3 – 16, LMU #3A – 61, LMU #4 – 43, LMU #4A – 56, LMU #5 – 26, LMU #5A – 42, LMU #6 – 27, LMU #8 – 34, LMU #8A – 7, LMU #E1 – 60, LMU #MR1 – 162, LMU #MR2 - 90 and LMU #220 – 64 acres. Two (2) retention control structures (RCSs) and one slurry pit. The required capacities are: RCS #1 – 25.26 ac-ft and RCS #2 – 34.05 ac-ft. There are twenty-seven (27) onsite wells of which three (3) are plugged. The facility is located in the North Bosque River in Segment No. 1226 of the Brazos River Basin.
7) Facility Location: The facility is located on the West side of County Road 209, approximately 1.5 miles South of the intersection of County Road 209 and US Highway 67, and approximately 7 miles Southeast of Stephenville in Erath County, Texas.
8) Application Type: Individual Permit Major Amendment
9) Description of your request: Hillside Dairy, LLC is submitting a major amendment application to increase the Headcount from 3,000 all of which are milking to 4,500 and 4,000 milking, reconfigure the drainage area, add Parlor #1, add Freestall Barns #3 & #5, expand RCS #2 (for additional storage), add a sand lane, add Concrete Basin #1, remove Concrete Basin #2 & #3, remove the Commodity Area, remove the proposed Cross-Vent Barn, remove pen South of Freestall Barn #3, reconfigure pen South of Freestall Barn #1, remove Wells #11-#27 and Well #3 is to be plugged. Current LMUs #1, #2, #3, #3A and #4 are reconfigured to proposed LMUs #1, #2, #3, #3A, #4, #4A and #5. Remove current LMUs #5, #5A, #6, #8, #8A, #MR1, #MR2 and #220 from the property boundary.
10) Potential pollutant sources at the facility include (list the pollutant sources): Manure, manure stockpiles, wastewater, sludge, slurry, compost, feed & bedding, silage stockpiles, dead animals, dust, lubricants, parlor chemicals, pesticides and fuel storage tanks.
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): stormwater is stored in the 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 and sludge 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. Wastewater will be contained in the RCS properly designed ((25-year frequency 10-day duration (25 year/10 day), constructed, operated and maintained according to the provision of the permit. Maintain 100-foot buffer for all irrigation wells or 150-foot for all supply wells. Dust - control speed and regular pen maintenance. Fertilizers - store under roof and handle according to specified label directions. Fuel Tanks - provide secondary containment and prevent overfills/spills. Dead animals - dispose by a third-party rendering service or compost on-site. Collected within 24 hours of death and disposed within three days.

12) 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.

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

[X] Texas Pollutant Discharge Elimination System (TPDES)

- [ ] Texas Land Application Permit (TLAP)
- [X] 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

Hillside Dairy is a dairy milking facility.

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.

Stephenville
(City)

Erath
(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

88.9%

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

$24,810

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

White - 75.6%. Black or African American - 3.29%. Hispanic - 12.7%. Two or More Races - 2.11%. Other - 2.68%. Asian - 1.3%. Indian - 1.6%. Multiracial - 0.72%

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

0%

(e) Languages commonly spoken in area by percentage

English - 89.4%
Spanish - 10.6%

(f) Community and/or Stakeholder Groups

N/A

(g) Historic public interest or involvement

N/A

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?

[X] 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)

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?

[X] Publish in alternative language newspaper
[ ] Posted on Commissioner's Integrated Database Website
[ ] Mailed by TCEQ's Office of the Chief Clerk
[ ] Other (specify)

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: 3502 CR 209

City, State and Zip Code: Hico, TX 76457

Item 2: Site Location Description:

Location description: Click here to enter text.

City where the site is located or, if not in a city, what is the nearest city: Click here to enter text.

Zip Code where the site is located: Click here to enter text.

D. County or counties if more than 1: Erath

E. Latitude: 32.150555 Longitude: 98.072222

F. Animal Type:

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

G. Existing Maximum Number of Animals: 3,000 (Total) 3,000 (Milking)

Proposed Maximum Number of Animals: 4,500 (Total) 4,000 (Milking)

H. What is the total LMU acreage? 372

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): Click here to enter text.

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). Click here to enter text.

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.

Click here to enter text.

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.

Erath County Appraisal District, March 2025

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: WQ0003160000

Applicant: Hillside Dairy, LLC

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: Clemens Kuiper, for Hillside Dairy, LLC

Title: Member

Signature: _____ Date: 4-23-25

SUBSCRIBED AND SWORN to before me by the said Clemens Kuiper on

this 23rd day of April, 2025

My commission expires on the 21st day of October, 2028

COREY MULLIN
ID #126609838
My Commission Expires
October 21, 2028

(Seal)

_____
Notary Public

Erath
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: Hillside Dairy, LLC
2. Permit Number: WQ0003160000 EPA ID Number: TX0130893
3. Address of the project (location description that includes street/highway, city/vicinity, and county). The facility is located on the West side of County Road 209, approximately 1.5 miles South of the intersection of County Road 209 and US Highway 67, approximately 7 miles Southeast of Stephenville, Erath County, Texas.
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: Corey Mullin

   Company Name: Enviro-Ag Engineering, Inc.

   Mailing Address: 9855 FM 847

   City, State, and Zip Code: Dublin, TX 76446

   Phone Number: 254/965-3500 Fax Number: 254/965-8000
5. County where the facility is located: Erath
6. If the property is publicly owned and the owner is different than the permittee/applicant, please identify the owner. n/a
7. Identify the name of the water body (receiving waters) and TCEQ segment number that will receive the discharge. North Bosque River in Segment No. 1226 of the Brazos River Basin
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): Construction of a new parlor, freestall barns and

expansion of RCS #2.

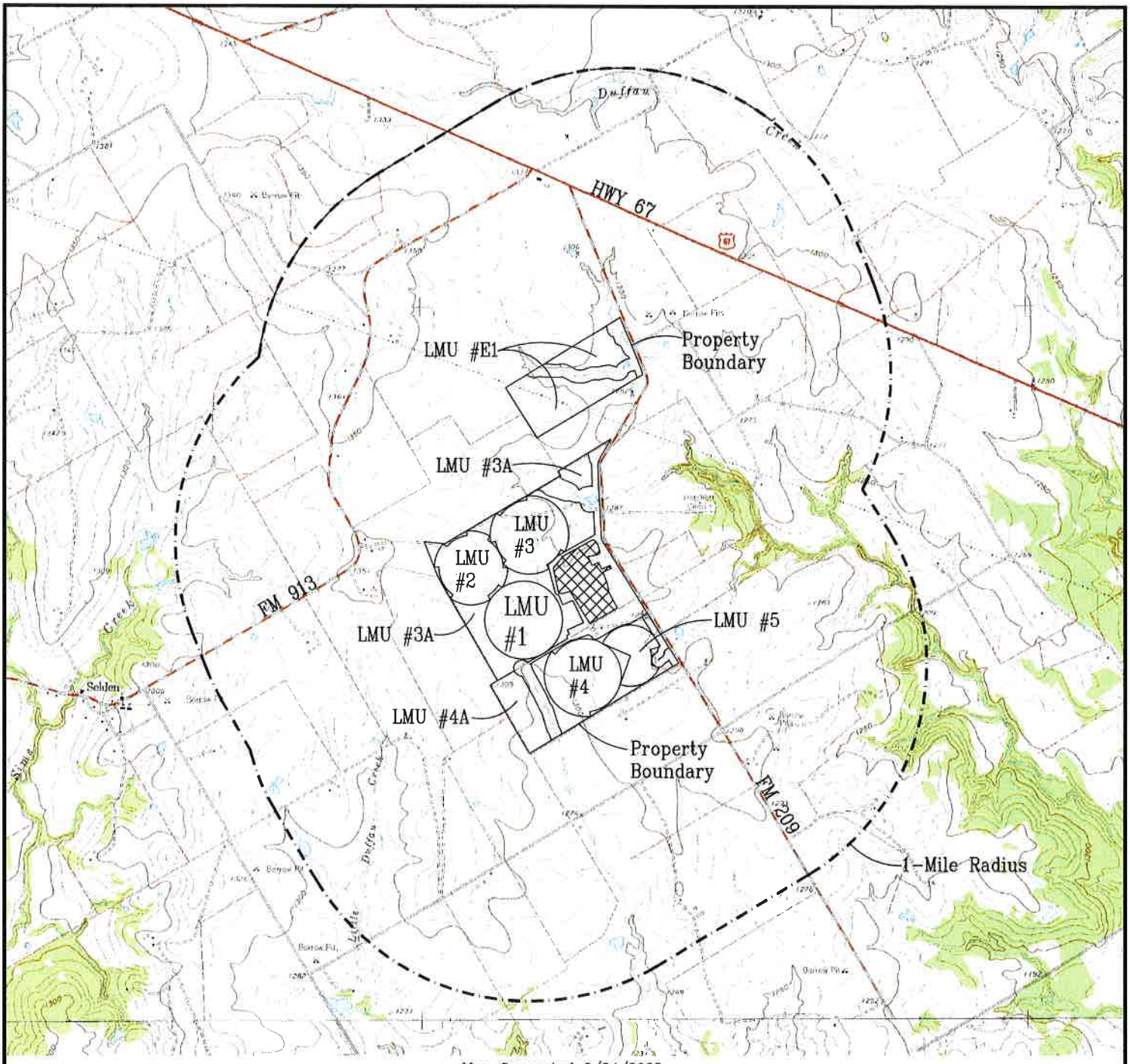
12. Describe existing disturbances, vegetation & land use (plowing, other ground disturbances): The LMUs at the facility are planted in Coastal Bermuda grass and corn and normal expected farming practices to maintain this crop will be utilized.

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). RCS #1 - 21.46 and RCS #2 - 30.28
16. Provide the location and number of acres where wastewater and manure are land applied: The applicant has 372 acres for waste and wastewater application. See Attached Figure 1.3 for exact LMU location.
17. List the maximum number of head to be permitted. 4,500



Map Generated 3/24/2025

LEGEND:

Denotes Production Area

N
W E
S

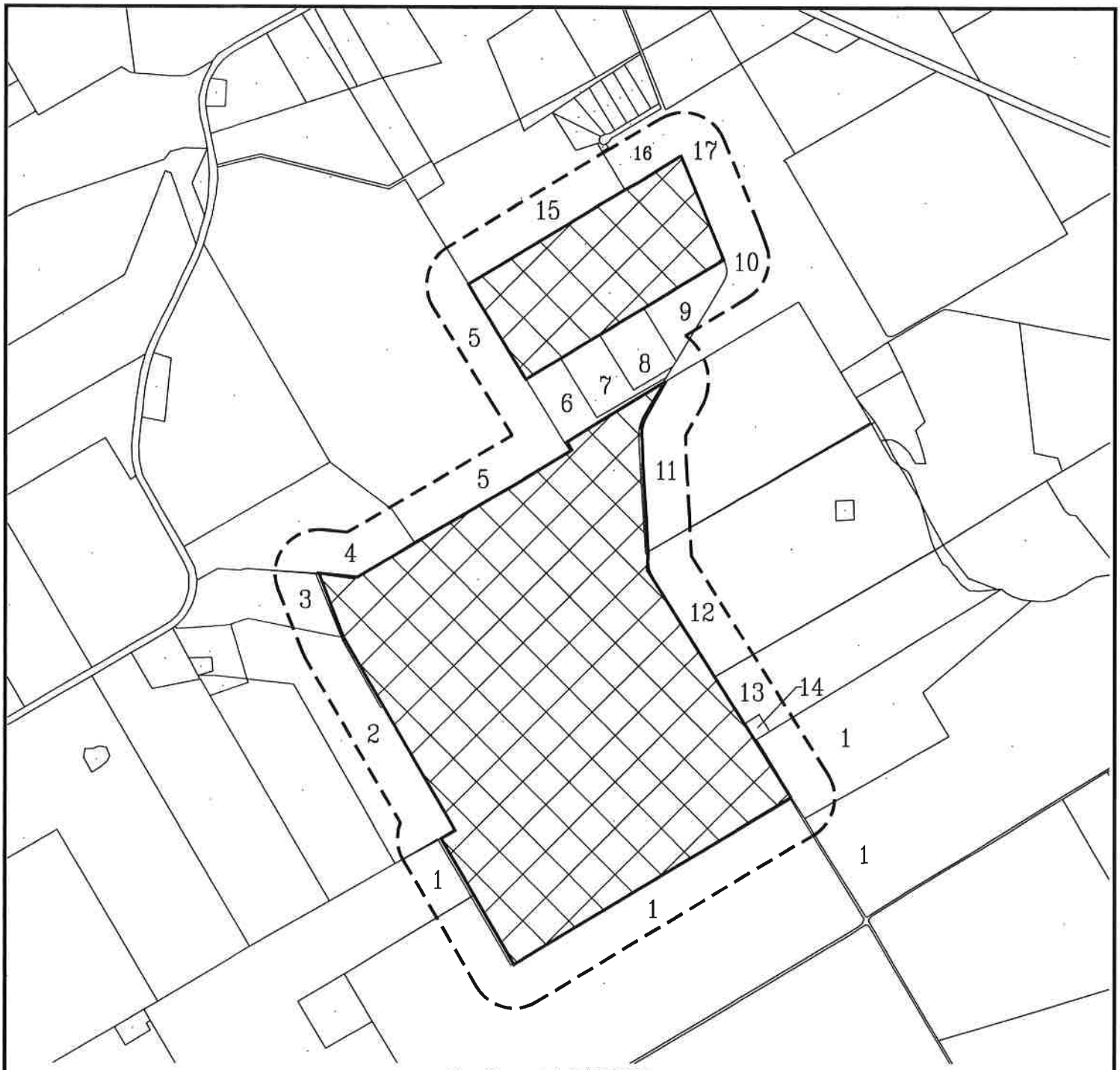
1500' 0 1500' 3000'

SCALE AS SHOWN

Source: USDA-NRCS. Geospatial Data Gateway. Available at: http://datagateway.nrcs.usda.gov/. Digital Raster Graphic County Mosaic by NRCS – December 2017.

- Refer to Figures 1.3 & 1.4 for an overall facility map.

Hillside Dairy Stephenville, Texas Erath County	SPIF Map	ENVIRO-AG ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132



Map Generated 3/26/2025

LEGEND:

- Denotes Hillside Dairy Property
- Denotes Adjacent Landowner Boundary
- Denotes 500 Ft. Radius From Property Boundary

N

W E

S

800' 0 800' 1600'

SCALED AS SHOWN

Source: Erath County Appraisal District

Hillside Dairy Stephenville, Texas Erath County	Adjacent Landowner Map	ENVIRO-AG ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132

ADJACENT LANDOWNERS LIST

Name David R. Carey Number on Map 1 Address 1343 CR 230 Address Hico, TX 76457	Name Inocencio & Hilda E Lorta Number on Map 9 Address 1950 CR 209 Address Hico, TX 76457
Name Sherwyn D & Angela Wood Number on Map 2 Address 757 CR 229 Address Stephenville, TX 76401	Name Mollie Shaw Number on Map 10 Address 1516 Valley View Drive Address Joshua, TX 76058
Name Wesley Wood Cattle Company. Number on Map 3 Address 13305 S US Hwy 281 Address Stephenville, TX 76401	Name Sallie Laura Burleson Number on Map 11 Address 2333 CR 209 Address Hico, TX 76457
Name Green Cow Compost Frank Kalsbeek Number on Map 4 Address P.O. Box 449 Address Dublin, TX 76446	Name Randy Wyly Number on Map 12 Address 295 Lindsey Lane Address Stephenville, TX 76401
Name Kalsbeek Family Trust Number on Map 5 Address 8304 FM 913 Address Stephenville, TX 76401	Name Jewell Littlefield Number on Map 13 Address 3717 CR 209 Address Hico, TX 76457
Name Gerardo O Gonzales Number on Map 6 Address 52916 Kayak Ave Address Kenai, AK 99611	Name Betty Lollar Number on Map 14 Address 3781 CR 209 Address Hico, TX 76457
Name Jose Ortiz Number on Map 7 Address 13881 CR 209 Address Hico, TX 76457	Name BVSS Holdings, LLC Number on Map 15 Address 21351 N US 377 Address Stephenville, TX 76401
Name Cody Dale Atherton Number on Map 8 Address P.O. Box 1734 Address Stephenville, TX 76401	Name Gerardo Vazquez Number on Map 16 Address 1959 CR 208 Address Hico, TX 76457

Please identify where you obtained the landowner information.

Erath County Appraisal District; March, 2025

Facility Name Hillside Dairy

ADJACENT LANDOWNERS LIST

Name Candelario & Josefina Guiterrez Number on Map 17 Address 360 PR 1652 Address Hico, TX 76457	Name Number on Map Address Address
Name Number on Map Address Address	Name Number on Map Address Address
Name Number on Map Address Address	Name Number on Map Address Address
Name Number on Map Address Address	Name Number on Map Address Address
Name Number on Map Address Address	Name Number on Map Address Address
Name Number on Map Address Address	Name Number on Map Address Address
Name Number on Map Address Address	Name Number on Map Address Address
Name Number on Map Address Address	Name Number on Map Address Address

Please identify where you obtained the landowner information.

Erath County Appraisal District; March, 2025

Facility Name Hillside Dairy

Franchise Tax Account Status

As of : 03/28/2025 11:20:29

This summary page is designed to satisfy standard business needs. If you need to reinstate or terminate a business with the Texas Secretary of State, you must obtain a certificate **specific to that purpose.**

HILLSIDE DAIRY, LLC	
Texas Taxpayer Number	32047193472
Mailing Address	1865 PR 1233 HICO, TX 76457
Right to Transact Business in Texas	ACTIVE
State of Formation	TX
SOS Registration Status (SOS status updated each business day)	ACTIVE
Effective SOS Registration Date	03/02/2012
Texas SOS File Number	0801559806
Registered Agent Name	CLEMENS KUIPER
Registered Office Street Address	1865 PR 1233 HICO, TX 76457

Public Information Report

Public Information Report
HILLSIDE DAIRY, LLC
Report Year :2024

Information on this site is obtained from the most recent Public Information Report (PIR) processed by the Secretary of State (SOS). PIRs filed with annual franchise tax reports are forwarded to the SOS. After processing, the SOS sends the Comptroller an electronic copy of the information, which is displayed on this web site. The information will be updated as changes are received from the SOS.

You may order a copy of a Public Information Report from open.records@cpa.texas.gov or Comptroller of Public Accounts, Open Records Section, PO Box 13528, Austin, Texas 78711.

Title	Name and Address
MEMBER	**CLEMENS KUIPER** 1865 PR 1233 HICO, TX 76457

Property Details

Account

Property ID:	R000024503	**Geographic ID:**	R.0644.00110.00.0
Type:	Real	**Zoning:**	
Property Use:		**Condo:**	
Location			
Situs Address:	3844 CR209		
Map ID:	18-16-3	**Mapsco:**	
Legal Description:	Acres 137.960, A0644 REED JOHN N; HOUSE & SHOP		
Abstract/Subdivision:			

Owner

Name:	HILLSIDE DAIRY LLC
Agent:	
Mailing Address:	1865 PR1233 HICO, TX 76457
% Ownership:	100.00%
Exemptions:	For privacy reasons not all exemptions are shown online.

Property Values

Improvement Homesite Value:	N/A (+)
Improvement Non-Homesite Value:	N/A (+)
Land Homesite Value:	N/A (+)
Land Non-Homesite Value:	N/A (+)
Agricultural Market Valuation:	N/A (+)
Market Value:	N/A (=)
Agricultural Value Loss:	N/A (-)

Appraised Value:	N/A (=)
HS Cap Loss:	N/A (-)
CB Cap Loss:	N/A (-)
Assessed Value:	N/A
Ag Use Value:	N/A

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Property Taxing Jurisdiction

Owner: HILLSIDE DAIRY LLC **%Ownership:** 100.00%

Entity	Description	Market Value	Taxable Value
072	ERATH COUNTY	N/A	N/A
903	STEPHENVILLE ISD	N/A	N/A
MTD	MIDDLE TRINITY WATER	N/A	N/A
RER	ERATH ROAD & BRIDGE	N/A	N/A

Property Improvement - Building

Type: MA **State Code:** E **Value:** N/A

Type	Description	Year Built	SQFT
MA	MAIN AREA	1991	2,584.00
P	COVERPORCH	1991	120.00
SWP	SWIM POOL	2008	1.00
WP	WHIRLPOOL	2008	1.00
STC40	STORAGE CONTAINER 40FT	2011	320.00
DCPP	DTCARPORT+	2018	1,020.00
STG	STRG BUILDING	2019	150.00
UTIL1	UTILITIES 1	1991	1.00

Type: SHED **State Code:** E **Value:** N/A

Type	Description	Year Built	SQFT
SHED	SHED	2016	1,200.00
SHOP	SHOP	2016	2,400.00

Property Land

Type	Description	Acreage	Sqft	Eff Front	Eff Depth	Market Value	Prod. Value
SAE		136.96	5,965,978.00	0.00	0.00	N/A	N/A
SAE		1.00	43,560.00	0.00	0.00	N/A	N/A

Property Roll Value History

Year	Improvements	Land Market	Ag Valuation	Appraised	HS Cap Loss	Assessed
2025	N/A	N/A	N/A	N/A	N/A	N/A
2024	$417,710	$689,800	$25,840	$1,107,510	$49,019	$393,291
2023	$341,090	$724,800	$22,930	$1,065,890	$53,480	$350,540
2022	$309,530	$709,800	$30,430	$1,019,330	$30,270	$334,690
2021	$246,640	$563,840	$32,520	$810,480	$0	$295,160
2020	$232,340	$550,140	$31,860	$782,480	$0	$280,200
2019	$198,820	$550,140	$32,140	$748,960	$0	$246,960
2018	$181,050	$501,360	$31,650	$682,410	$0	$228,700
2017	$173,430	$407,890	$32,790	$581,320	$0	$222,220
2016	$140,870	$354,500	$31,920	$495,370	$0	$187,790
2015	$135,470	$354,500	$22,840	$489,970	$0	$173,310
2014	$135,470	$329,510	$21,640	$464,980	$0	$172,110

Property Deed History

Deed Date	Type	Description	Grantor	Grantee	Volume	Page	Number
7/17/2024			WYLY RANDY EARL	HILLSIDE DAIRY LLC			2024-03979
1/1/1968	WD		WYLY GRADY	WYLY GRADY;JOYCE & RANDY EARL	686	215	
5/13/1998			WYLY GRADY;JOYCE & RANDY EARL	WYLY RANDY EARL	955	399	

Property Details

Account

Property ID:	R000015616	**Geographic ID:**	R.0057.00250.00.0
Type:	Real	**Zoning:**	
Property Use:		**Condo:**	

Location

Situs Address:	3440 CR209
Map ID:	18-16-3 **Mapsco:**
Legal Description:	Acres 244.710, A0057 BABCOCK D W & R A BAKER; & DAIRY BARN
Abstract/Subdivision:	

Owner

Name:	HILLSIDE DAIRY LLC
Agent:	
Mailing Address:	1865 PR1233 HICO, TX 76457
% Ownership:	100.00%
Exemptions:	For privacy reasons not all exemptions are shown online.

Property Values

Improvement Homesite Value:	N/A (+)
Improvement Non-Homesite Value:	N/A (+)
Land Homesite Value:	N/A (+)
Land Non-Homesite Value:	N/A (+)
Agricultural Market Valuation:	N/A (+)
Market Value:	N/A (=)
Agricultural Value Loss:	N/A (-)

Appraised Value:	N/A (=)
HS Cap Loss:	N/A (-)
CB Cap Loss:	N/A (-)
Assessed Value:	N/A
Ag Use Value:	N/A

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Property Taxing Jurisdiction

Owner: HILLSIDE DAIRY LLC **%Ownership:** 100.00%

Entity	Description	Market Value	Taxable Value
072	ERATH COUNTY	N/A	N/A
903	STEPHENVILLE ISD	N/A	N/A
MTD	MIDDLE TRINITY WATER	N/A	N/A
RER	ERATH ROAD & BRIDGE	N/A	N/A

Property Improvement - Building

Type: BARN **State Code:** D2 **Value:** N/A

Type	Description	Year Built	SQFT
BARN	BARN	1999	27,600.00
SHED	SHED	2023	1,440.00
BARN	BARN	2000	27,600.00
WTN	WATRTANKNO	1990	965.00
WTN	WATRTANKNO	1999	965.00
WTN	WATRTANKNO	1999	965.00
FSL	LOCKED FEED STANCHION	1999	300.00
MT	MILK TANK	1999	1.00
MT	MILK TANK	1999	1.00
SHED	SHED	2023	1,200.00

Type: BARN **State Code:** D2 **Value:** N/A

Type	Description	Year Built	SQFT
BARN	BARN	2001	62,000.00
AF	AUTO FEEDER	2001	0.00
FSL	LOCKED FEED STANCHION	2000	600.00
FSL	LOCKED FEED STANCHION	2001	600.00
BARN	BARN	2008	62,000.00
FSL	LOCKED FEED STANCHION	2008	600.00
FSL	LOCKED FEED STANCHION	2008	600.00
STC40	STORAGE CONTAINER 40FT	1988	320.00
SHED	SHED	1999	4,598.00

Type: DB **State Code:** D2 **Value:** N/A

Type	Description	Year Built	SQFT
DB	DAIRY BARN	1990	3,800.00
CHP	HOLD PEN COVERED	1990	3,800.00
CB	COMMODITY BARN	1990	4,800.00

SL	SLAB	1990	2,400.00
SHED	SHED	1990	414.00
HAY	HAYBARN	2012	2,301.00

Type: MA **State Code:** E **Value:** N/A

Type	Description	Year Built	SQFT
MA	MAIN AREA	1969	2,268.00
AG	GARAGE ATTACHED	1969	550.00
P	COVERPORCH	1969	125.00
ASTG	STORAGE ATTACHED	1969	132.00
OP	OPEN PATIO	1984	80.00
WH	WELLHOUSE	1969	45.00
UTIL1	UTILITIES 1	2023	1.00

Type: BARN **State Code:** D2 **Value:** N/A

Type	Description	Year Built	SQFT
BARN	BARN		320.00
SHED	SHED	1990	280.00
SHED	SHED	2024	400.00
SHED	SHED	2024	400.00

Type: OLD **State Code:** D2 **Value:** N/A

Type	Description	Year Built	SQFT
OLD	OLDHOUSE		1,460.00
P	COVERPORCH		104.00
BARN	BARN		960.00
SHED	SHED		112.00

Type: HAY **State Code:** D2 **Value:** N/A

Type	Description	Year Built	SQFT
HAY	HAYBARN		1,046.00

Property Land

Type	Description	Acreage	Sqft	Eff Front	Eff Depth	Market Value	Prod. Value
SAE		243.71	10,616,008.00	0.00	0.00	N/A	N/A
SAE		1.00	43,560.00	0.00	0.00	N/A	N/A

Property Roll Value History

Year	Improvements	Land Market	Ag Valuation	Appraised	HS Cap Loss	Assessed
2025	N/A	N/A	N/A	N/A	N/A	N/A
2024	$1,048,870	$196,900	$11,440	$1,245,770	$0	$892,468
2023	$713,190	$196,900	$11,200	$910,090	$0	$724,390
2022	$711,690	$196,900	$11,990	$908,590	$0	$723,680
2021	$480,440	$157,520	$12,500	$637,960	$0	$492,940
2020	$480,440	$153,580	$12,340	$634,020	$0	$492,780
2019	$385,330	$153,580	$12,280	$538,910	$0	$397,610
2018	$384,730	$143,830	$12,270	$528,560	$0	$397,000
2017	$337,860	$117,460	$12,390	$455,320	$0	$350,250
2016	$337,860	$3,500	$630	$341,360	$0	$338,490
2015	$337,860	$3,500	$630	$341,360	$0	$338,490
2014	$337,860	$3,500	$630	$341,360	$0	$338,490

Property Deed History

Deed Date	Type	Description	Grantor	Grantee	Volume	Page	Number
7/17/2024			WYLY RANDY EARL	HILLSIDE DAIRY LLC			2024-03979
3/13/1969			WYLY LEWIS J & VERNA LEE	WYLY GRADY E & JOYCE M	434	388	
1/1/1900			WYLY GRADY E	WYLY RANDY EARL	941	184	

Property Details

Account

Property ID:	R000016308	**Geographic ID:**	R.0100.00025.00.0
Type:	Real	**Zoning:**	
Property Use:		**Condo:**	
Location			
Situs Address:	2930 CR209		
Map ID:	18-16-3	**Mapsco:**	
Legal Description:	Acres 20.000, A0100 BAKER ROBERT A; WH & MH SITE (JESUS TOBIAS)		
Abstract/Subdivision:			
Owner			
Name:	HILLSIDE DAIRY LLC		
Agent:			
Mailing Address:	1865 PR1233 HICO, TX 76457		
% Ownership:	100.00%		
Exemptions:	For privacy reasons not all exemptions are shown online.		

Property Values

Improvement Homesite Value:	N/A (+)
Improvement Non-Homesite Value:	N/A (+)
Land Homesite Value:	N/A (+)
Land Non-Homesite Value:	N/A (+)
Agricultural Market Valuation:	N/A (+)
Market Value:	N/A (=)
Agricultural Value Loss:	N/A (-)

Appraised Value:	N/A (=)
HS Cap Loss:	N/A (-)
CB Cap Loss:	N/A (-)
Assessed Value:	N/A
Ag Use Value:	N/A

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Property Taxing Jurisdiction

Owner: HILLSIDE DAIRY LLC **%Ownership:** 100.00%

Entity	Description	Market Value	Taxable Value
072	ERATH COUNTY	N/A	N/A
903	STEPHENVILLE ISD	N/A	N/A
MTD	MIDDLE TRINITY WATER	N/A	N/A
RER	ERATH ROAD & BRIDGE	N/A	N/A

Property Improvement - Building

Type: WH **State Code:** D2 **Value:** N/A

Type	Description	Year Built	SQFT
WH	WELLHOUSE	2016	64.00
UTIL1	UTILITIES 1	2023	1.00

Property Land

Type	Description	Acreage	Sqft	Eff Front	Eff Depth	Market Value	Prod. Value
SAE		19.00	827,640.00	0.00	0.00	N/A	N/A
SAE		1.00	43,560.00	0.00	0.00	N/A	N/A

Property Roll Value History

Year	Improvements	Land Market	Ag Valuation	Appraised	HS Cap Loss	Assessed
2025	N/A	N/A	N/A	N/A	N/A	N/A
2024	$30,910	$105,650	$1,930	$136,560	$0	$37,840
2023	$910	$140,650	$1,730	$141,560	$0	$42,640
2022	$910	$125,650	$2,050	$126,560	$0	$27,960
2021	$730	$96,520	$2,380	$97,250	$0	$19,110
2020	$730	$94,510	$2,190	$95,240	$0	$18,920
2019	$610	$94,510	$2,360	$95,120	$0	$18,970
2018	$610	$95,460	$2,340	$96,070	$0	$18,950
2017	$17,770	$83,160	$2,170	$100,930	$0	$35,940
2016	$13,630	$73,210	$2,150	$86,840	$0	$30,780
2015	$6,590	$73,210	$2,150	$79,800	$0	$23,740
2014	$6,590	$70,990	$1,830	$77,580	$0	$23,420

Property Deed History

Deed Date	Type	Description	Grantor	Grantee	Volume	Page	Number
7/17/2024			WYLY RANDY	HILLSIDE DAIRY LLC			2024-03979
12/21/2016			WYLY JOYCE-IND EXE	WYLY RANDY			2016-07102
10/20/2006			MORRIS PEGGY LEE WYLE ET AL	WYLY JOYCE-IND EXE	1309	1028	
10/11/2006			WYLY BILLY L ESTATE	MORRIS PEGGY LEE WYLE ET AL	1308	656	
11/12/1981			WYLY LEWIS J & VERNA LEE	WYLY BILLY L	599	68	

Property Details

Account

Property ID:	R000016317	**Geographic ID:**	R.0100.00100.00.0
Type:	Real	**Zoning:**	
Property Use:		**Condo:**	
Location			
Situs Address:	CR209		
Map ID:	18-16-3	**Mapsco:**	
Legal Description:	Acres 80.000, A0100 BAKER ROBERT A;		
Abstract/Subdivision:	/		
Owner			
Name:	HILLSIDE DAIRY LLC		
Agent:			
Mailing Address:	1865 PR1233 HICO, TX 76457		
% Ownership:	100.00%		
Exemptions:	For privacy reasons not all exemptions are shown online.		

Property Values

Improvement Homesite Value:	N/A (+)
Improvement Non-Homesite Value:	N/A (+)
Land Homesite Value:	N/A (+)
Land Non-Homesite Value:	N/A (+)
Agricultural Market Valuation:	N/A (+)
Market Value:	N/A (=)
Agricultural Value Loss:	N/A (-)

Appraised Value:	N/A (=)
HS Cap Loss:	N/A (-)
CB Cap Loss:	N/A (-)
Assessed Value:	N/A
Ag Use Value:	N/A

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Property Taxing Jurisdiction

Owner: HILLSIDE DAIRY LLC **%Ownership:** 100.00%

Entity	Description	Market Value	Taxable Value
072	ERATH COUNTY	N/A	N/A
903	STEPHENVILLE ISD	N/A	N/A
MTD	MIDDLE TRINITY WATER	N/A	N/A
RER	ERATH ROAD & BRIDGE	N/A	N/A

Property Land

Type	Description	Acreage	Sqft	Eff Front	Eff Depth	Market Value	Prod. Value
SAE		80.00	3,484,800.00	0.00	0.00	N/A	N/A

Property Roll Value History

Year	Improvements	Land Market	Ag Valuation	Appraised	HS Cap Loss	Assessed
2025	N/A	N/A	N/A	N/A	N/A	N/A
2024	$0	$624,000	$9,760	$624,000	$0	$9,760
2023	$0	$800,000	$7,600	$800,000	$0	$7,600
2022	$0	$600,000	$8,800	$600,000	$0	$8,800
2021	$0	$400,000	$10,080	$400,000	$0	$10,080
2020	$0	$352,000	$10,720	$352,000	$0	$10,720
2019	$0	$320,000	$10,640	$320,000	$0	$10,640
2018	$580	$160,000	$4,640	$160,580	$0	$5,220
2017	$420	$160,000	$4,320	$160,420	$0	$4,740
2016	$420	$140,000	$4,280	$140,420	$0	$4,700
2015	$420	$140,000	$4,280	$140,420	$0	$4,700
2014	$420	$140,000	$3,640	$140,420	$0	$4,060

Property Deed History

Deed Date	Type	Description	Grantor	Grantee	Volume	Page	Number
1/1/2025			KUIPER CLEMENS & HEATH HAEDGE	HILLSIDE DAIRY LLC			2025-01169
7/5/2018			EDWARDS ADDIE ZELL	KUIPER CLEMENS & HEATH HAEDGE			2018-03785
3/9/2009			EDWARDS DEWEY E & ADDIE ZELL	EDWARDS ADDIE ZELL			
1/9/1978			VLB%EDWARDS DE & DONNIE A	VLB%KOCIAN JERRY J & CATHERINE	555	359	ASSIGNMENT
1/1/1968			KENNEDY ROBERT	EDWARDS DEWEY E & ADDIE ZELL	536	136	

1/1/1968	EDWARDS D E	KENNEDY ROBERT

STATE OF TEXAS PLUGGING REPORT for Tracking #62563

Owner:	**Wyly, Randy**	Owner Well #:	**No Data**
Address:	**3502 CR 209 Hico, TX 76457**	Grid #:	**31-56-8**
Well Location:	**3502 CR 209 Hico, TX 76457**	Latitude:	**32° 09' 16" N**
		Longitude:	**098° 04' 30" W**
Well County:	**Erath**	Elevation:	**No Data**

Well Type: **Withdrawal of Water**

Drilling Information

Company: **No Data** Date Drilled: **No Data**

Driller: **No Data** License Number: **No Data**

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	4		100

Plugging Information

Date Plugged: **2/13/2010** Plugger: **Randy Wyly/Land Owner**

Plug Method: **Tremmie pipe cement from bottom to top**

Casing Left In Well:

Dia (in.)	Top (ft.)	Bottom (ft.)
4	2	100

Plug(s) Placed In Well:

Top (ft.)	Bottom (ft.)	Description (number of sacks & material)
0	100	26

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **Landowner Plugged**
3502 CR 209
Hico, TX 76457

Driller Name: **Randy Wyly** License Number: **N/A**

Comments: **Added information for question #12 (Well Owner performaing the plugging) on hard copy of plugging report per instructions from David Gunn WWD/PI Program Manager.**
^EO

STATE OF TEXAS PLUGGING REPORT for Tracking #72165

Owner:	**Randy Wyly**	Owner Well #:	**No Data**
Address:	**3502 CR209 Hico, TX 76457**	Grid #:	**31-58-8**
		Latitude:	**32° 08' 52" N**
Well Location:	**3502 CR209 Hico, TX 76457**	Longitude:	**098° 04' 17" W**
Well County:	**Erath**	Elevation:	**No Data**

Well Type: **Withdrawal of Water**

Drilling Information

Company: **No Data** Date Drilled: **No Data**

Driller: **No Data** License Number: **No Data**

	Diameter (in)	Top Depth (ft.)	Bottom Depth (ft)
Borehole:	4		

Plugging Information

Date Plugged: **5/12/2011** Plugger: **Thomas Lange**

Plug Method: **Pour in 3/8 bentonite chips when standing water in well is less than 100 feet depth, cement top 2 feet**

Casing Left in Well:

Dia (in.)	Top (ft.)	Bottom (ft.)
4	2	70

Plug(s) Placed in Well:

Top (ft.)	Bottom (ft.)	Description (number of sacks & material)
0	2	1 Bag of Cement
2	70	9 Bags of Bentonite

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **Dowell Water Well Service, Inc**
1491 W South Loop
Stephenville, TX 76401

Driller Name: **Jarrell D Dowell Sr** License Number: **4167**

Apprentice Name: **Thomas Lange** Apprentice Number: **58524**

Comments: **No Data**

TECHNICAL INFORMATION PACKET FOR CONCENTRATED ANIMAL FEEDING OPERATIONS (CAFOS)

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

Name of Site: Hillside Dairy
TCEQ Permit Number, if assigned: WQ000 3160000
Date Prepared: March 2025

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	See Attached BMPs
Wastewater	See Attached BMPs
Sludge	See Attached BMPs
Compost	See Attached BMPs
Feed and Bedding	See Attached BMPs
Silage stockpiles	See Attached BMPs
Dead animals	See Attached BMPs
Dust	See Attached BMPs
Lubricants	See Attached BMPs
Pesticides	See Attached BMPs
Bulk cleaning chemicals	N/A
Inorganic fertilizers	N/A
Fuel storage tanks	See Attached BMPs
Other, specify: Parlor Chemicals	See Attached BMPs

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: Midwest Plan Service

I. POLLUTANT SOURCES AND MANAGEMENT

B. For each potential pollutant source, provide the management practices utilized.

Note: A Best Management Practice, as defined in 30 TAC §321.32(7), is the schedule of activities, prohibitions of practices, maintenance procedures, and other management and conservation practices to prevent or reduce the pollution of water in the state. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge, land application, or drainage from raw material storage. The following practices should be updated in the on-site PPP as changes to facility operating procedures occur. Employee training should be provided upon development & implementation of any BMP.

Potential Pollutant Sources:	Potential Best Management Practices (BMPs)
Manure, Sludge, Stockpiles, Slurry, Bedding, Feed Waste & Compost	Temporary (< 30 days) & Permanent Storage (>30 days) Store in drainage area of the RCS - OR - If not located within drainage area, berm area to contain runoff. Annually sample manure/manure stockpiles/compost/slurry for nutrient concentrations. Manure, Sludge, Slurry and/or Compost -Land application on-site or to third-party fields. Regular pen maintenance (scraping & drainage)
Dust - Vehicle Traffic	Control speeds around the facility. Reduce travel on unpaved facility roads, or manage dust by sprinkling road with water and/or a suppressant on an as needed basis. Utilize paving products and/or gravel to manage dust on facility roads.
Dust - Feed Handling/Processing	Utilize dust abatement measures for feed handling equipment, Utilize choke feeding when handling feed ingredients & Utilize feed ingredients, such as moisture or other additives, to manage dust.
Feedstuff/Silage Stockpiles	Contain leachate in an earthen berm or in the RCS Minimize feed spoilage & utilize plastic covers or roofed areas for storage when applicable.
Lubricants/Pesticides/Herbicides/Parlor Chemicals	Store under roof Handle and dispose according to label directions
Fuel Tanks	Provide secondary containment Prevent overfills/spills
Wastewater	Store in RCS Land application according to NUP/NMP Land application will not occur during periods of saturation or frozen conditions (except in the event of imminent overflow) Annually sample for nutrient concentrations Maintain liner and capacity certifications Maintain adequate capacity as determined by the pond marker schematic
Dead Animals	Disposed by a third-party rendering service or composted on-site Collected within 24 hours of death and disposed within three days of death

2) Total Number of Animals:
In Open Lots: 500 In Buildings: 4,000

3) Animal Housing Location, hours/day:
Open Lots: 21 Buildings: 3

4) Average Liveweight, pounds per head: 1,400

5) Volatile Solids Removed by Separator System: 50%

6) Volatile Solids Loading Rate, lbs/day/1000 ft^3: 5.30

7) Spilled Drinking Water, gallons/day: Included in Cleanup

8) Water for Cleanup, gallons/day: 60,000 gal/day

9) Water for Manure Removal, gallons/day: 0 (Freestall vacuumed)

10) Recycled Wastewater, gallons/day: 0

B. Wastewater Runoff

1) Design Rainfall Amount, inches: 12.1

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: Click here to enter text.

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
1	0.00	0.00	18.41	3.05	0.00	21.46	27.95
2	16.09	5.52	0.00	0.08	8.59	30.28	44.05

Indicate which RCSs are in-series: RCS #1 & RCS #2

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	2007	Liner, Cert., Norman Mullin, P.E. 2007
RCS #2	2010	Liner, Cert., Norman Mullin, P.E. 2010
Slurry Storage Pit	2018	Liner, Cert., Norman Mullin, P.E. 2018

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: Click here to enter text.
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: Click here to enter text.
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: Click here to enter text.

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)
1	50	Coastal Hay 4 Cut, SG Mod Graze M	0.283 ac-ft/ac/yr
2	39	Coastal Hay 4 Cut, SG Mod Graze M	0.283 ac-ft/ac/yr
3	47	Coastal Hay 4 Cut, SG Mod Graze M	0.617 ac-ft/ac/yr
3A	65	Coastal Hay 4 Cut, SG Mod Graze M	30.9 tons/ac/yr
4	48	Coastal Hay 4 Cut, SG Mod Graze M	0.275 ac-ft/ac/yr
4A	42	Coastal Hay 4 Cut, SG Mod Graze M	84.1 tons/ac/yr
5	21	Coastal Hay 4 Cut, SG Mod Graze M	0.492 ac-ft/ac/yr
E1	60	Coastal Hay 4 Cut, SG Mod Graze M	34.6 tons/ac/yr

1) Wastewater production, ac-in/year: 1,173.96 ac-in/yr (Table 2.3 Col. 4)
2) Estimated Wastewater application, ac-in/year: 934.20 ac-in/yr (Table 2.3 Col. 10)
3) Manure production, tons/year: 15,604 dry/tons/yr (Table 2.1)
4) Estimated manure application, tons/year: 951.45 tons/yr (NMP)
5) Estimated manure transferred to other persons, tons/year: 14,652.5 tons/yr (NMP)

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. Click here to enter text.

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. Vegetative buffers shall be maintained between all waters of the state and any waste/wastewater application.

F. Soil Limitations

Table 5: Soil Limiting Characteristics and Best Management Practices

Soil Types	Limiting Characteristics	Best Management Practices
PcC, PcB	Depth to Hard Bedrock Droughty Slow Water Movement	- Land Application not to exceed agronomic rates for nutrients and soil hydraulic rates (refer to NMP). - No land application to inundated soils. - Land Application will be based upon the AWC (refer to NMP) of the soil and will not exceed agronomic rates for nutrients. -Maintain cover crop in LMUs. -Maintain soil moisture to promote crop growth.
HoA, HoB	Slow Water Movement	- Land Application not to exceed agronomic rates for nutrients and soil hydraulic rates (refer to NMP). - No land application to inundated soils.
Ma	Droughty Depth to Hard Bedrock	- Land Application not to exceed agronomic rates for nutrients and soil hydraulic rates (refer to NMP). - No land application to inundated soils. -Maintain cover crop in LMUs. -Maintain soil moisture to promote crop growth.
Pd	Droughty Depth to Bedrock Slow Water Movement Large Stones	- Land Application not to exceed agronomic rates for nutrients and soil hydraulic rates (refer to NMP). - No land application to inundated soils. -Maintain cover crop in LMUs. -Maintain soil moisture to promote crop growth.

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-ft buffer
2	Domestic	Non-Producing	Cased	See Attached Plugging Report

Well ID Number	Well Type	Producing or Non-Producing	Open, Cased, or Capped	Protective Measures
3	Domestic	Producing	Cased	To Be Plugged
4	Domestic	Producing	Cased	See Attached Approved Well Buffer Exception
5	Domestic	Producing	Cased	See Attached Approved Well Buffer Exception
6	Domestic	Producing	Cased	Maintain 150-ft buffer
7	Domestic	Producing	Cased	Maintain 150-ft buffer
8	Domestic	Non-Producing	Cased	See Attached Plugging Report
9	Domestic	Producing	Cased	See Attached Approved Well Buffer Exception
10	Domestic	Producing	Cased	Maintain 150-ft 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: 2 (2 Applicant Owned)

¼ - ½ mile: 5

½ - 1 mile: 18

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

1.0 FACILITY MAPS

1.1 Vicinity Map

Figure 1.1, Vicinity Map, is a general highway map generated in AutoCAD using Tiger Primary and Secondary roads data from geospatial Data Gateway at http://datagateway.nrcs.usda.gov/ (retrieved 2019). The location of the facility is depicted on the map.

1.2 USGS Quadrangle Map

Figure 1.2, entitled 7.5-Minute USGS Map is a seamless, high-quality copy of the 7.5-minute USGS quadrangle map (Johnsville TX, quadrangle) that shows the boundaries of land owned, operated, or controlled by Hillside Dairy, LLC and used as part of the concentrated animal feeding operation; and all springs, lakes, or ponds located on-site and within 1 mile of the property boundary.

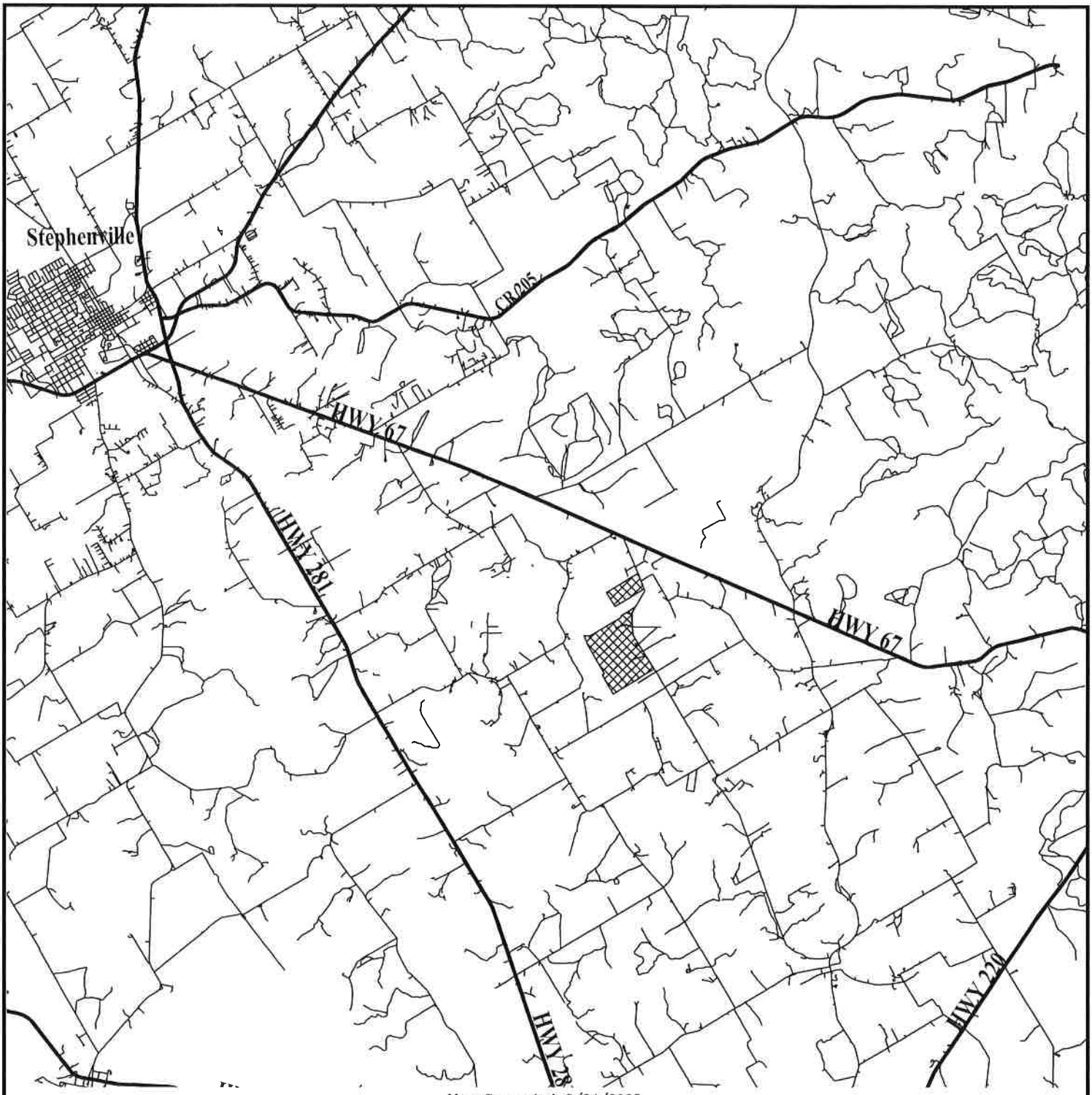
1.3 Site Map

Figure 1.3, Site Map, is a scaled drawing of the entire property to be permitted showing the locations of the following information:

- Pens
- Barns
- Retention Control Structures
- Land Management Units
- Buffer zones
- Wells
- Freshwater Ponds
- Berms/Diversions
- Milking Parlor
- Manure/Compost Storage Areas

1.4 Runoff Control Map

Figure 1.4 is a scaled drawing of the production area showing the pens, barns, wells, RCSs, permanent manure storage and compost areas, drainage area boundaries and flow directions.



Map Generated 3/24/2025

LEGEND:

Denotes Facility Location

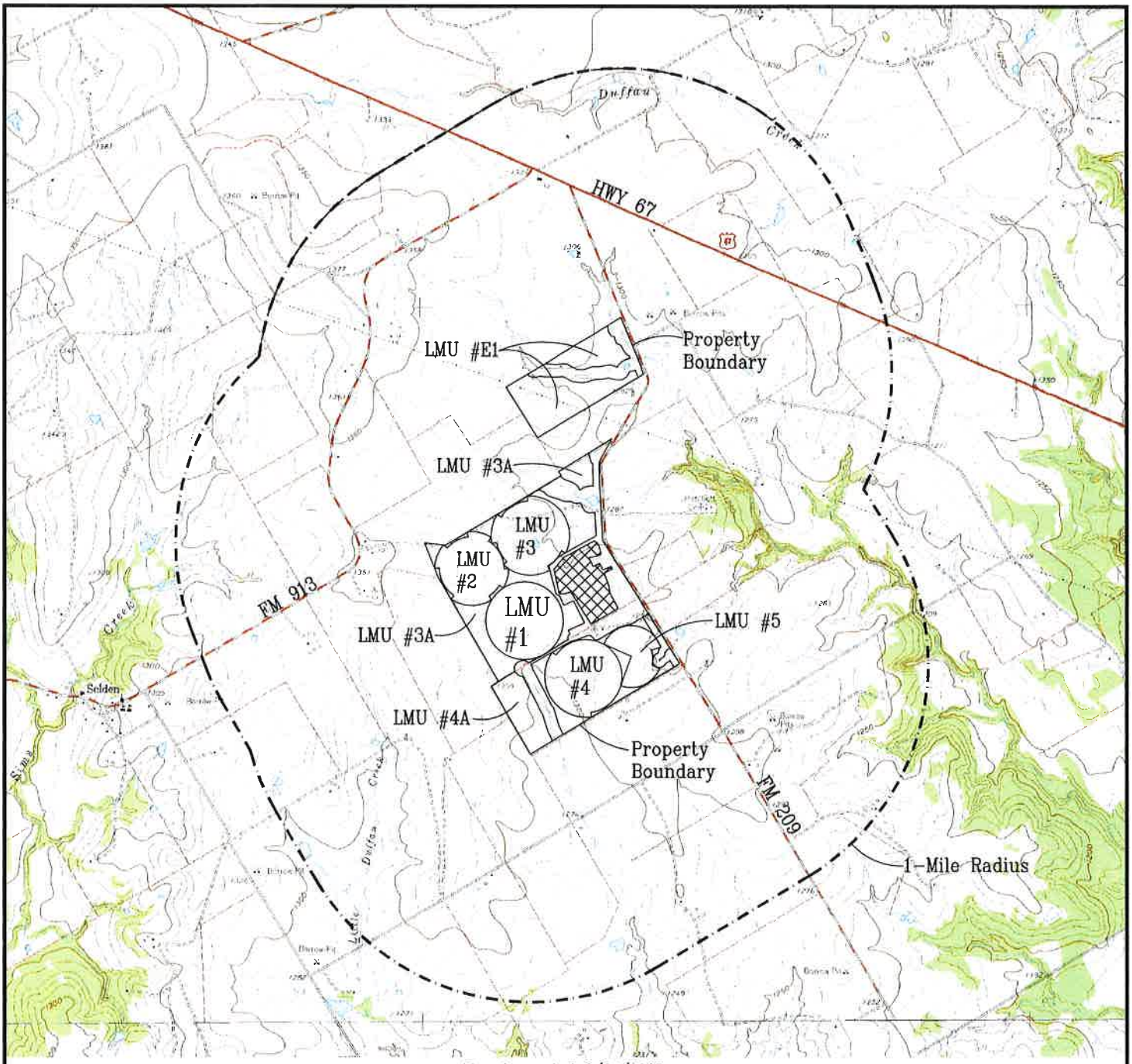
N
W E
S

1 Mile 0 1 Mile 2 Miles

SCALE: 1" = 2 Miles

Source: Tiger Primary & Secondary roads obtained from http/datagateway.nrcs.usda.gov/. (retrieved 2019)

Hillside Dairy Stephenville, Texas Erath County	Vicinity Map Figure 1.1 Page 2	ENVIRO-AG EAE ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132



Map Generated 3/24/2025

LEGEND:

Denotes Production Area

N
W E
S

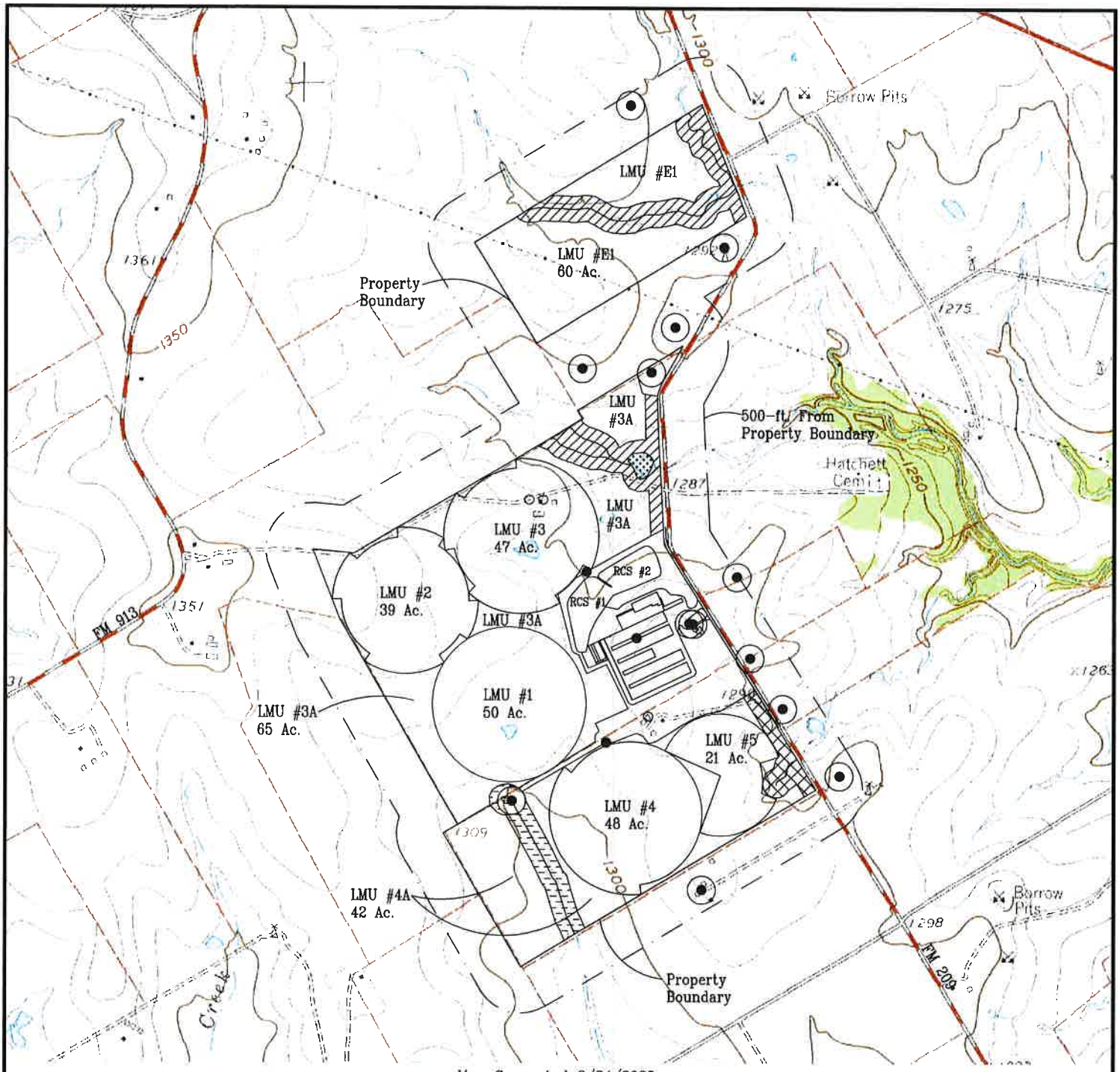
1500' 0 1500' 3000'

SCALE AS SHOWN

Source: USDA-NRCS. Geospatial Data Gateway. Available at: http://datagateway.nrcs.usda.gov/. Digital Raster Graphic County Mosaic by NRCS - December 2017.

- Refer to Figures 1.3 & 1.4 for an overall facility map.

Hillside Dairy Stephenville, Texas Erath County	USGS 7.5-Minute Quadrangle Map Figure 1.2 Page 3	ENVIRO-AG EAF ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132



Map Generated 3/24/2025

LEGEND:

- ○ Denotes Plugged Water Well
- ● Denotes Water Well
- ◉ Denotes Well w/Buffer
- Denotes 130-ft Buffer
- Denotes 136-ft Buffer
- Denotes 142-ft Buffer
- Denotes Fresh Water Pond

N
W E
S

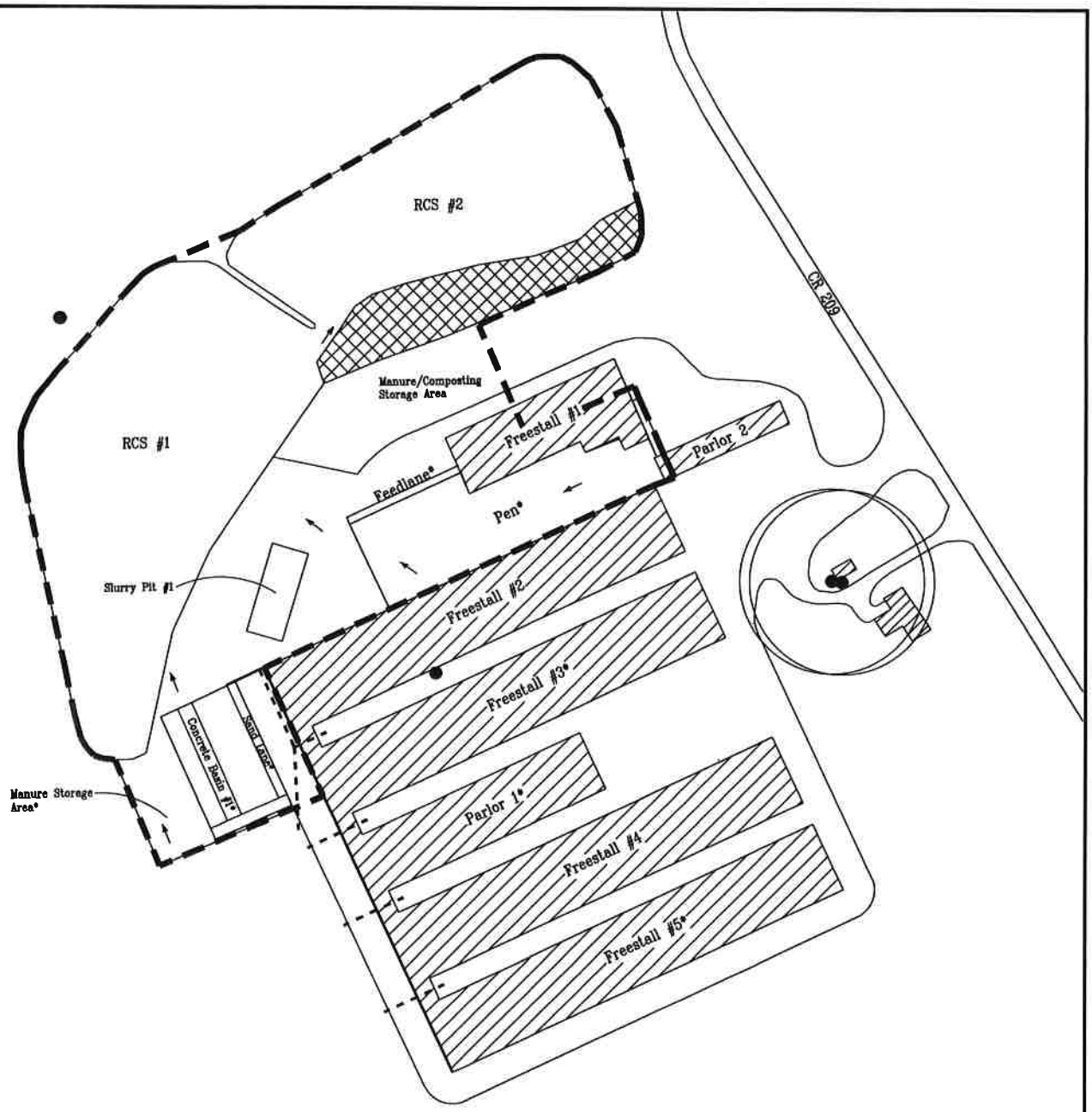
750' 0 750' 1500'

SCALE AS SHOWN

Source: USDA-NRCS. Geospatial Data Gateway. Available at: http://datagateway.nrcs.usda.gov/. Digital Raster Graphic County Mosaic by NRCS – Accessed December 2017.

- Refer to Figure 1.4 for an overall facility map.

Hillside Dairy Stephenville, Texas Erath County	Site Map Figure 1.3 Page 4	ENVIRO-AG EAE ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132



Map Generated 3/24/2025

LEGEND:

- Denotes Water Well
- Denotes Plugged Well
- Denotes Well w/150-ft Buffer
- Denotes Ditches and/or Berms
- Denotes Underground Pipe
- Denotes Roofed Areas
- Denotes Lagoon Expansion Area
- * Denotes Proposed Structures

N W E S

130' 0 130' 260'

SCALE AS SHOWN

Note: Drainage is depicted by arrows shown on map The drainage will be directed to the RCS via ditches, berms or underground pipe.

- Refer to Figures 1.3a-c for an overall facility map.

Hillside Dairy Stephenville, Texas Erath County	Runoff Control Map Figure 1.4 Page 5	ENVIRO-AG ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132

2.0 CALCULATIONS & SPECIFICATIONS

2.1 Facility Overview

The existing facility consists of pens, freestall barns, a milking parlor, three concrete settling basins, slurry storage pit and two retention control structures to confine 3,000 head, of which 3,000 head are milking.

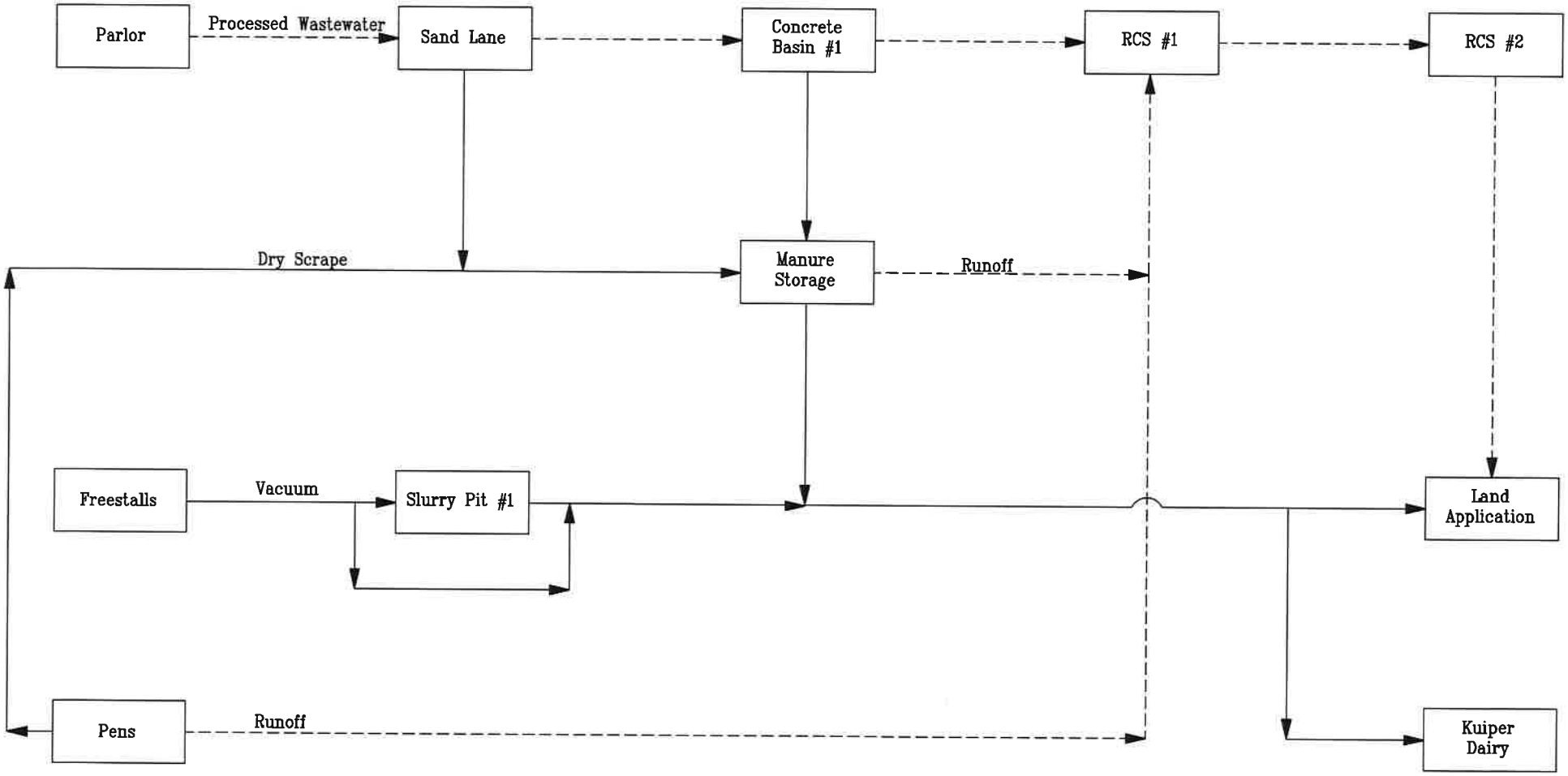
This major amendment application submitted by Hillside Dairy, LLC seek to increase the headcount from 3,000 all of which are milking to 4,500 and 4,000 milking, reconfigure the drainage area, add Parlor #1, add Freestall Barns #3 & #5, expand RCS #2 (for additional storage), add a sand lane, add Concrete Basin #1, remove Concrete Basin #2 & #3, remove the Commodity Area, remove the proposed Cross-Vent Barn, remove Wells #11-#27 and Well #3 is to be plugged. Current LMUs #1, #2, #3, #3A and #4 are reconfigured to proposed LMUs#1, #2, #3, #3A, #4, #4A and #5. Remove current LMUs #5, #5A, #6, #8, #8A, #MR1, #MR2 and #220 from the property boundary.

The existing manure and/or wastewater storage structures have been certified as meeting TCEQ requirements for soil liner. Figure 2.1, Manure & Wastewater Flow Chart, shows the waste handling procedures and storage practices at the facility.

2.2 Manure Production

Table 2.1, As-Excreted Manure Characteristics Existing Dairy Facility, is included as a summary of the annual manure and nutrient production for the facility. The totals in Table 2.1 represent as-excreted manure and nutrient values for the maximum head count shown in the application.

Note: This data is intended for planning and design purposes and is not to be used for whole-farm nutrient mass balance calculations.



Hillside Dairy Stephenville, Texas Erath County	Manure & Wastewater Flow Chart Figure 2.1 Page 7	ENVIRO-AG EAE ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132

ESTIMATED MANURE PRODUCTION
for a DAIRY FACILITY
Table 2.1
ENVIRO-AG ENGINEERING, INC.

NAME OF CAFO: Hillside Dairy
LOCATION: Erath County
DATE: March-25

FACILITY TOTAL	MANURE PRODUCTION CRITERIA (a) Milkers in Parlor	Milkers in Freestalls	Others in Freestalls*	Total
1. Maximum Number of Animals Confined (head):	**4,000**	**4,000**	**500**	**4,500**
2. Confinement period, hrs/hd/day	3	21	24	24
3. Percent of time in Confinement	13%	88%	100%	100%
4. Total Manure Production, lbs/day	75,000	525,000	41,500	641,500
5. Total Solids Production, lbs/day	10,000	70,000	5,500	85,500
6. Manure Production, tons/year	1,825	12,775	1,004	15,604
7. Volatile Solids Production, lbs/day	8,500	59,500	4,600	72,600
8. Total Nitrogen Production, lbs/day	495	3,465	250	4,210
9. Total Phosphorus, P2O5 lbs/day (b)	195	1,363	76	1,633
10. Total Potassium, K2O lbs/day (b)	138	966	198	1,302

NOTES:
* - Includes dry cows, growing heifers and young stock.
(a) - Manure and nutrient production values are taken from American Society of Agricultural and Biological Engineers Data: (ASABE D384.2 MAR05_R2010) Manure Production and Characteristics, Table 1.b - Section 3. Production values given in terms of lb/day-animal (wet-basis).
(b) - The ASAE Manure Production and Characteristics Tables give P and K in the elemental forms. Convert to P2O5 by multiplying by 2.29 and to K2O by multiplying by 1.2.

2.3 Process-Generated Wastewater Volume

The primary source of process-generated wastewater is wash water from the milking parlor operations, which is directed into the sand land, then the concrete settling basin #1 and then to RCS #1 and RCS #2. The freestall barns are vacuumed for manure removal. The pen is dry scraped for manure removal. The volume of process wastewater (including wet manure from the milking parlor) generated daily is estimated to be 15 gallons per head (based on data for Hillside Dairy). The design storage volume in RCS #2 for process-generated wastewater is 30 days and is calculated in Table 2.2.

2.4 25-Year, 10-Day Rainfall Storage Volume

In accordance with 30 TAC §321.42(c)(1), RCS #2 is designed to maintain a margin of safety to contain the runoff and direct precipitation from the 25-year, 10-day storm event for this location, which is 12.1 inches of rainfall. Drainage area runoff volumes are calculated using the SCS method with curve numbers (CN) selected based on soil type and land use. The pen area runoff and compost area were calculated using a CN of 90, the pond area was calculated using a CN of 100, and the adjacent areas were calculated a CN of 85. Roofed/concrete areas were calculated using a CN of 100. Run-on from areas outside the control facility is directed away from the RCSs. Table 2.2 shows the calculated storage volume required for the rainfall runoff from a 25-year, 10-day storm.

2.5 Sludge Accumulation Volume

Sludge accumulation from the milking parlor wash water was calculated using a rate of 0.0729 cubic feet of sludge per pound total solids (from USDA-NRCS Agricultural Waste Management Handbook) and a sludge storage period of 1 year. Parlor waste/wastewater is directed to a concrete settling basin, with an estimated collection/removal efficiency of 50% (Midwest Plan Services) to reduce the amount of solids entering the RCSs, thereby reducing the demand for sludge storage. The required sludge accumulation volume calculations are shown in Table 2.2.

2.6 Water Balance Model

Table 2.3, Water Balance Model, estimates the inflows and withdrawals from RCS #2 including runoff, direct rainfall, process-generated wastewater, evaporation, and irrigation withdrawal based on crop demand in accordance with 30 TAC §321.38(e)(7)(C). Actual pond withdrawal amounts will vary with changing weather conditions. An additional volume is included in the RCS to provide flexibility in managing RCS levels.

2.7 RCS Management Plan

A RCS Management Plan was developed by a licensed Texas professional engineer and has been implemented to incorporate the margin of safety, as specified in 30 TAC

§321.42(g). The plan includes the elements specified in §321.42(g)(1)-(6), and a copy is maintained in the onsite PPP.

2.8 Minimum Treatment Volume Requirement

A minimum treatment volume for odor control is required to obtain air standard authorization from the TCEQ. The minimum treatment volume is determined by estimating the volatile solids production rate less the removal efficiency of the settling basins and using a loading rate specified by ASABE Standards (ASAE EP 403.4 FEB2011) of 5.30 lbs of volatile solids per 1,000 cubic feet of storage. Table 2.2 shows the minimum treatment volume calculation.

REQUIRED STORAGE VOLUMES FOR TREATMENT/ RUNOFF RETENTION CONTROL STRUCTURES

Table 2.2

ENVIRO-AG ENGINEERING, INC.

NAME OF CAFO: Hillside Dairy
LOCATION: Erath County
DATE: March-25

RCS #1 - TREATMENT POND REQUIREMENT

TREATMENT VOLUME

Volatile Solids Produced:	(lb/day)	8,500
Settling Basin Efficiency (%) (a):		50%
Adjusted Volatile Solids Production:	(lb/day)	4,250
Design Loading Rate (lbVS/1000cuft-day) (b):		5.30
Treatment Volume:	(ac-ft)	18 41

SLUDGE VOLUME

Dry Manure Produced:	(lb/day)	10,000
Settling Basin Efficiency (%):		50%
Adjusted Dry Manure Production:	(lb/day)	5,000
Sludge Accumulation Rate (c):	(cuft/lb)	0.0729
Sludge Accumulation Period:	(years)	1
Sludge Volume:	(ac-ft)	3.05

TOTAL TREATMENT VOLUME

Treatment Volume:	(ac-ft)	18 41
1-Year Sludge Volume:	(ac-ft)	3 05
Total Required RCS #1 Volume:	**(ac-ft)**	**21.46**

NOTES:
(a) Midwest Plan Service, 1983, Revised 1987 (Waste Management, pg 702 11)
(b) Loading Rate taken from Figure 2, ASABE Standards (ASABE EP403 4 FEB2011)
(c) Sludge Accumulation Rate taken from Table 1, ASABE Standards (ASABE EP403 4 FEB 2011)
(d) Value includes wet manure production from the milking parlor
(e) Using SCS method:
Where:
S = (1000/CN) - 10
Q = ((I - 0.2S)^2)/(I – 0 8S)
S = Potential maximum retention after runoff begins in)
Q = Runoff (in)
I = 25-year, 10-day rainfall (in)
CN = Curve Number from SCS 210-VI-TR-55, 2nd Edition, June 1986
(f) USDA Agricultural Field Waste Handbook, Kansas, Part 651 1082, Suggested procedures for sediment volume estimation (1 year storage, pen/adjacent area and 1 5%)

NOTE: Calculations were performed in Microsoft Excel using floating point arithmetic in order to maintain the accuracy of the data. Any inconsistencies in rounding of the displayed values are not to be construed as errors in the calculation. For more information, please refer to http://support.microsoft.com/kb/42980

RCS #2 - RUNOFF POND REQUIREMENT

PROCESS GENERATED WASTE/WASTEWATER

Parlor Wash Water (d).	(gal/head/day)	15
No of Head in Parlor:		4,000
Volume of Process Water:	(gal/day)	60,000
Design Storage Period:	(days)	30
Process Water Volume:	(ac-ft)	5 52

RAINFALL VOLUME

Drainage Area Characteristics:	(acres)	CN
Pen Area:	1.42	90
Adjacent Areas	2 76	85
Paved/Roof Areas:	0 65	100
SB/SP Surface Areas:	1.10	100
RCS #1 Surface Area:	5 85	100
RCS #2 Surface Area:	4.75	100
Total Drainage Area:	16 53	

25-Year, 10-Day Rainfall:	(inches)	12 1
	(inches)	(ac-ft)
Runoff Volume Determination (e):		
Pen Area:	10 9	1 29
Adjacent Areas:	10.2	2 35
Paved/Roof Areas:	12 1	0 66
SB/SP Surface Areas:	12 1	1.11
RCS #1 Surface Area:	12 1	5 90
RCS #2 Surface Area:	12 1	4 79
Rainfall Volume:	(ac-ft)	16 09

TOTAL VOLUME REQUIRED

Runoff Sludge Volume (f):	(ac-ft)	0.08
Process Water Volume:	(ac-ft)	5 52
Rainfall Volume:	(ac-ft)	16 09
Additional from Water Balance:	(ac-ft)	8 59
Total Required RCS #2 Volume:	**(ac-ft)**	**30.28**

STATE OF TEXAS
NORMAN H. MULLIN
66107
LICENSED
PROFESSIONAL ENGINEER

4/21/25

Firm No F-2507

WATER BALANCE MODEL
IRRIGATION AND EVAPORATION for RCS #2

Table 2.3
ENVIRO-AG ENGINEERING, INC.

NAME:	Hillside Dairy	HYDROLOGIC CHARACTERISTICS			IRRIGATION CELL VOLUME SUMMARY DATA
LOCATION:	Erath County	Pen Area (acres):	1.42		25-Year, 10-Day Rainfall Volume (ac-ft): 16.09
DATE:	March-25	Adjacent Areas (acres):	2.76		Process Generated Wastewater Volume (ac-ft): 5.52
		Paved/Roof Area (acres):	0.65		Sludge Accumulation Volume (ac-ft): 0.08
		Total Trt/RCS Surface Area (acres):	10.60		Additional Volume (ac-ft): 8.59
		Total Irrigated Area (acres)(12):	205	205	Total Required Capacity (ac-ft): 30.28
		Cropping scheme:	Coastal	Winter Wheat	
		Effective Evaporation Surface Area (acres):	4.04		

	RCS INFLOW CALCULATIONS					HYDRAULIC CROP DEMAND CALCULATIONS					RCS STORAGE SUMMARY			
MONTH	(1) (inches)	(2) (inches)	(2) (inches)	(3) (ac-ft)	(4) (ac-ft)	(5) (inches)	(6) (inches)	(6) (inches)	(7) (ac-ft)	(7) (ac-ft)	(8) (inches)	(9) (ac-ft)	(10) (ac-ft)	(11) (ac-ft)
													start value ---->	0.08
JAN	1.55	0.23	0.06	5.71	7.20	1.26	2.10	2.74	14.31	25.24	2.37	0.80	6.41	0.08
FEB	1.89	0.39	0.14	5.16	7.01	1.42	2.46	3.11	17.71	28.81	2.70	0.91	6.10	0.08
MAR	2.16	0.54	0.23	5.71	7.85	1.53	4.06	4.97	43.17	58.71	4.27	1.44	6.41	0.08
APR	2.89	1.00	0.53	5.52	8.48	1.77	4.98	5.74	54.84	67.82	5.19	1.75	6.73	0.08
MAY	4.35	2.10	1.37	5.71	10.35	2.08	5.73	5.33	62.31	55.47	5.24	1.76	8.59	0.08
JUN	3.23	1.24	0.71	5.52	8.86	1.86	6.82	3.22	84.77	23.27	7.01	2.36	6.50	0.08
JUL	2.12	0.52	0.21	5.71	7.81	1.52	7.66	0.00	104.93	0.00	8.23	2.77	5.04	0.08
AUG	2.24	0.59	0.26	5.71	7.94	1.56	7.56	0.00	102.45	0.00	7.73	2.60	5.34	0.08
SEP	3.05	1.11	0.61	5.52	8.66	1.81	5.78	0.00	67.77	0.00	5.97	2.01	6.65	0.08
OCT	3.23	1.24	0.71	5.71	9.05	1.86	4.29	2.15	41.55	4.99	4.89	1.65	7.40	0.08
NOV	1.88	0.39	0.14	5.52	7.36	1.42	2.81	1.70	23.76	4.80	3.33	1.12	6.24	0.08
DEC	1.62	0.26	0.07	5.71	7.28	1.30	2.24	2.33	16.09	17.63	2.45	0.82	6.45	0.08
TOTALS	30.21	9.60	5.05	67.21	97.83	19.40	56.49	31.29	633.65	286.74	59.38	19.98	77.85	

NOTES:

(1) AVERAGE PRECIPITATION - Average precipitation taken from the Texas Water Development Board, Erath County, Quad #509, Retrieved March 24, 2025.

(2) RUNOFF PENS AND ADJACENT AREA - Runoff from pens, adjacent areas calculated using SCS Curve Number Method adjusted from 1 to 30-day Curve Number (Pen CN-77, Adj CN-67) (Ref. NRCS Animal Waste Management Software Help File-Program Documentation for Runoff)

(3) INFLOW - Inflow is calculated from process generated wastewater, Table 2.2

(4) TOTAL INFLOW - Total Inflow is calculated as that volume of rainfall that falls on the RCS and process water that enters the RCS.

(5) RAINFALL ON IRRIGATED AREA - Effective monthly rainfall on the irrigated area is calculated using SCS Curve Number Method adjusted from 1 to 30-day Curve Number (Irr CN-79) (Ref. NRCS Animal Waste Management Software Help File-Program Documentation for Runoff)

(6) CONSUMPTIVE USE values from Borrelli, et al., 1998 Mean Crop Consumptive Use and Free-Water Evaporation for Texas. Dept. of Civil Engineering, Texas Tech University, Lubbock, Texas (Tables 16 & 25)

(7) NET CROP DEMAND - Net Crop Demand = ((Consumptive Use(6) - Effective Rainfall(5))/12) x Irrigated Area

(8) MONTHLY LAKE SURFACE EVAPORATION - Average monthly lake surface evaporation taken from the Texas Water Development Board, Erath County, Quad #509, Retrieved March 24, 2025.

(9) NET POND EVAPORATION - Net Evaporation from the water surface is taken as (Monthly Lake Surface Evap/12) x (RCS Surface Area)

(10) ACTUAL WITHDRAWAL - Actual Withdrawal from the irrigation cell not to exceed Net Crop Demand (No consideration given for nutrient demand of crop)

(11) STORAGE AT END OF MONTH - Storage volume in the irrigation cell at the end of the month. The storage calculated in this column should not encroach in the volume reserved for the 25-year, 10-day rainfall event

(12) LMU's 1, 2, 3, 4 & 5

NOTE: Calculations were performed in Microsoft Excel using floating point arithmetic in order to maintain the accuracy of the data. Any inconsistencies in rounding of the displayed values are not to be construed as errors in the calculation. For more information, please refer to http://support.microsoft.com/kb/42980

Firm No. F-2507

3.0 FACILITY INFORMATION

3.1 Required Certifications

RCS #1, RCS #2 and the slurry storage pit have been certified by a licensed Texas professional engineer as meeting the liner requirements of the TCEQ. Existing liner and capacity certifications are attached.

3.2 100-Year Flood Plain Evaluation

The FEMA 100-year flood plain did not show a flood plain located on the facility (Figure 3.1). The production area and LMUs are not located within a 100-year flood plain.

Map Generated 3/24/2025

LEGEND:

Denotes Production Area

N
W E
S

No Scale

Source: FEMA, Flood Plain Maps

Hillside Dairy Stephenville, Texas Erath County	FEMA Flood Map Figure 3.1 Page 14	ENVIRO-AG ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132

ENVIRO-AG
EAE
ENGINEERING, INC.

Wyly #1 Dairy
Erath County, Texas
RCS #1 Capacity Certification

The survey capacity performed on September 16, 2010 by Enviro-Ag Engineering, Inc. for retention control structure (RCS) #1 (treatment lagoon) with two vertical feet of dry freeboard is calculated as:

RCS #1 Capacity:	27.95 ac-ft
RCS #1 Surface Area:	4.26 surface acres @ High Water Level

Prepared by:

12/21/2010

Norman Mullin, P.E. # 66107
Enviro-Ag Engineering, Inc.
TBPE Firm # 2507

(Supporting Documentation Attached)

3404 Airway Blvd. • AMARILLO, TEXAS 79118 • TEL (806) 353-6123 • FAX (806) 353-4132
www.enviroag.com

ENVIRO-AG
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ENGINEERING, INC.

Wyly #1 Dairy
Erath County, Texas
RCS #2 Capacity Certification

The survey capacity performed on September 16, 2010 by Enviro-Ag Engineering, Inc. for retention control structure (RCS) #2 at the spillway is calculated as:

RCS #2 Capacity:	44.05 ac-ft
RCS #2 Surface Area:	8.92 surface acres @ Spillway

Prepared by:

12/21/2010

Norman Mullin, P.E. # 66107
Enviro-Ag Engineering, Inc.
TBPE Firm # 2507

(Supporting Documentation Attached)

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ENVIRO-AG ENGINEERING

RCS #1 LINER CERTIFICATION
Wyly #1 Dairy
Erath County, Texas

In August 2007, two liner core samples were collected from runoff control structure (RCS) #1 at Wyly #1 Dairy by Enviro-Ag Engineering, Inc.. The samples were collected to verify a minimum liner thickness of 12 inches and then submitted for permeability determination (ASTM D5084). Results of the permeability tests are as follows:

- RCS #1-1 3.2 x 10E-08 cm/sec
- RCS #1-2 8.4 x 10E-09 cm/sec

Based on the above permeability test results, the liner in RCS #1 meets the requirements of the TCEQ allowable seepage rates for runoff control structures (18 inches of liner material having 1.0 x 10E-07 cm/sec hydraulic conductivity or its equivalent).

Respectfully submitted,

STATE OF TEXAS
NORMAN H. MULLIN
66107
REGISTERED PROFESSIONAL ENGINEER

10/29/07

Norman H. Mullin, P.E.
Registration #66107

(Supporting Documentation Attached)

3404 AIRWAY BLVD. • AMARILLO, TEXAS 79118 • TEL (806) 353-6123 • FAX (806) 353-4132
www.envirogg.com

CALCULATION OF SPECIFIC DISCHARGE
TCEQ REQUIREMENTS vs. INSTALLED SOIL LINER

SITE: **Wyly #1 Dairy**
LOCATION: **Erath County, TX**
STRUCTURE: **RCS #1**

ENGINEER: **NHM**
DATE: **Oct 2007**

This worksheet calculates the specific discharge through a soil liner based on the measured thickness of the installed clay liner and the results of permeability testing. The calculated specific discharge of the installed liner is then compared to a calculated specific discharge of a theoretical pond of comparable depth lined with 18 inches of 1 x 10-7 homogeneous clay material.

	Hydraulic Conductivity Results of Core Samples			TCEQ Benchmark
	RCS #1-1	RCS #1-2		
1. Water Depth, feet	13	13	0	13
2. Liner Thickness, inches	12.0	12.0	0.0	18.0
3. Hydraulic Conductivity, cm/sec	3.20E-08	8.40E-09	0.00E+00	1.00E-07
4. Calculated specific discharge, v'				
a.) feet per day	0.001270	0.000333	#DIV/0!	0.002740
b.) feet per year	0.464	0.122	#DIV/0!	1.000

NOTES:

(1) Water depth of the pond in feet.

(2) Soil liner thickness in inches.

(3) Hydaulic conductivity of the core sample(s) as determined by flexible wall permeameter in cm/sec (Ref: ASTM D 5084).

(4) The specific discharge is estimated for the collected samples and for the TCEQ benchmark.

The following equation is used:

$$v' = k (H + d) / d$$

where: v' = Specific Discharge of area representative of core sample, feet/day
d = Measure Liner Thickness at core sample location, feet
k = Hydaulic Conductivity of liner based on core sample testing, feet/day
H = Maximum Water Depth, feet

10/29/07

Enviro-Ag Engineering, Inc.

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LABORATORY SERVICES

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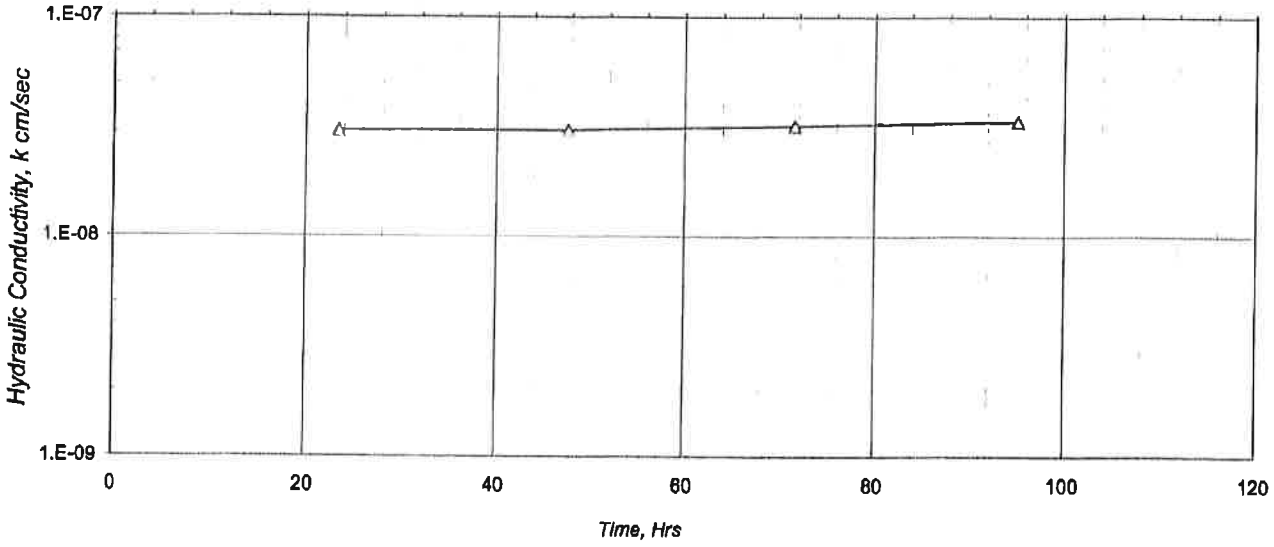
HYDRAULIC CONDUCTIVITY

REPORT

ASTM D-5084, Method C

Client / Project Name:	Project No:	Lab Sample Number:
Wyly # 1	07-07-17	10-009
Sample ID:	**Sample Location:**	**Report Date:**
1	RCS # 1 - 1	September 18, 2007

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	1	
DESCRIPTION:	RCS # 1 - 1	
	INITIAL	FINAL
HEIGHT, in.	2.7	2.7
DIAMETER, in.	2.8	2.8
WATER CONTENT, %	14.5	16.0
DRY DENSITY, pcf	119	118
SATURATION, %	93	100
(Specific Gravity assumed as 2.71)		
SAMPLE COLOR	Light Brown	
SAMPLE CONSISTENCY	Clay W/ Caliche Nodules	

TEST DATA

ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	3 - 3
IN / OUT RATIO:	1.00

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	23.5	3.1E-08
2	47.6	3.1E-08
3	71.5	3.2E-08
4	95.1	3.4E-08

AVERAGE LAST 4 : **3.2E-08**

COMMENTS:

Tap water used as permeant.

Enviro-Ag Engineering, Inc.

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LABORATORY SERVICES

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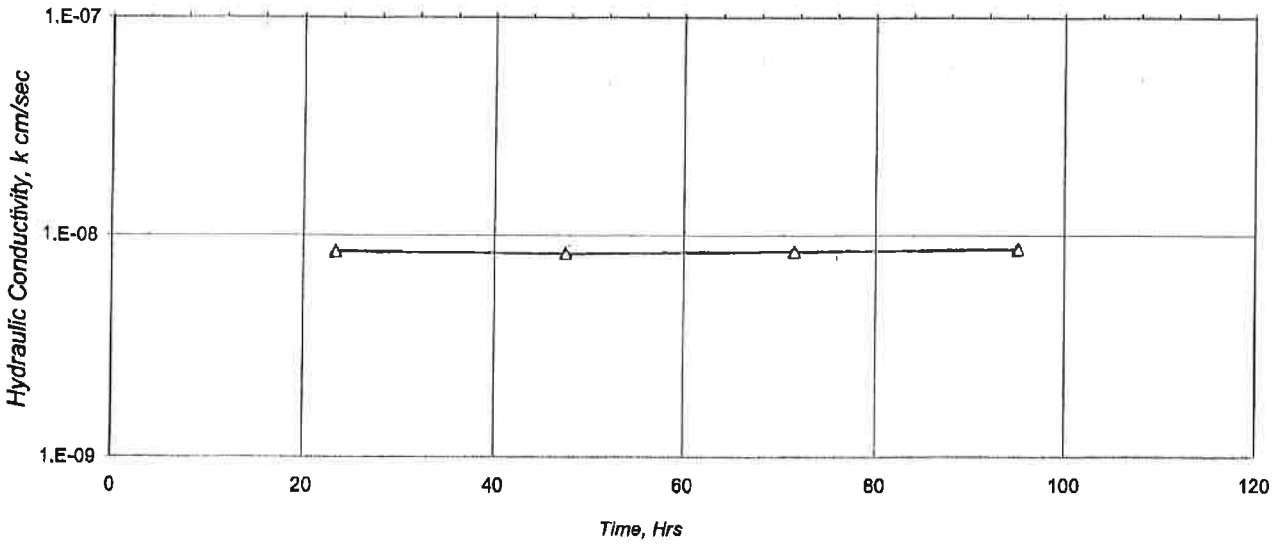
HYDRAULIC CONDUCTIVITY REPORT

ASTM D-5084, Method C

Client / Project Name:	Project No:	Lab Sample Number:
Wyly # 1	07-07-17	11-009
Sample ID:	**Sample Location:**	**Report Date:**
2	RCS # 1 - 2	September 18, 2007

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	2	
DESCRIPTION:	RCS # 1 - 2	
	INITIAL	FINAL
HEIGHT, In.	2.3	2.3
DIAMETER, In.	2.8	2.8
WATER CONTENT, %	12.9	19.0
DRY DENSITY, pcf	111	111
SATURATION, %	67	100
(Specific Gravity assumed as 2.68)		
SAMPLE COLOR	Dark Brown	
SAMPLE CONSISTENCY	Clay	

TEST DATA

ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	3 - 3
IN / OUT RATIO:	1.00

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	23.4	8.4E-09
2	47.6	8.2E-09
3	71.5	8.4E-09
4	95.1	8.6E-09

AVERAGE LAST 4 : **8.4E-09**

COMMENTS:
Tap water used as permeant.

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Hillside Dairy
Erath County, Texas
RCS #1 Liner Disturbance Certification

One 3-inch Shelby tube core sample was collected from RCS #1 to document that the liner meets the requirements of the TCEQ guidelines for soil liner, (CAFO General Permit No. TXG920000, Part III.A.9.F.) after a liner disturbance (cleanout). The liner thickness was documented to be at least 18 inches.

The hydraulic conductivity of the clay liner is documented as follows:

- #1 (Lab #3759) 6.1×10^{-8} cm/sec

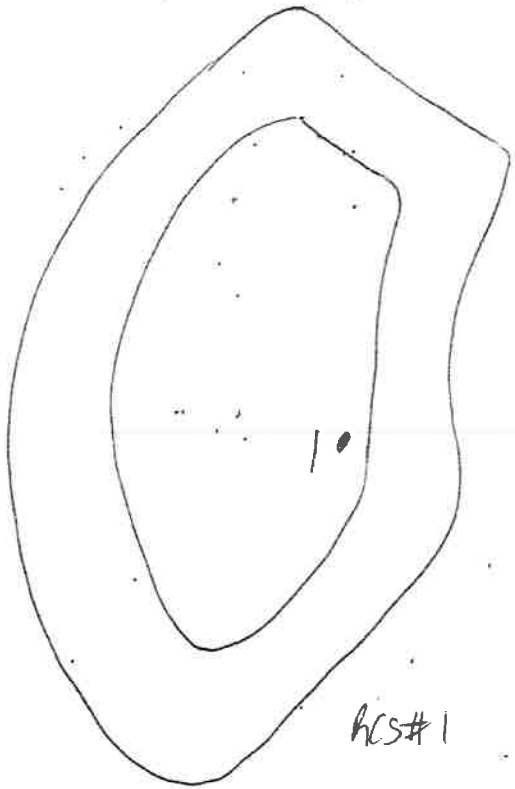
Based on the above documentation, the liner in RCS #1 is certified to be in accordance with TCEQ requirements for soil liners. The test locations were backfilled with bentonite chips. The test results meet the requirements of the TCEQ for hydraulic conductivity considered protective of ground and surface water sources. This certification is to be maintained in the PPP for documentation.

11/20/15

Norman Mullin, P.E. # 66107
Enviro-Ag Engineering, Inc.
TBPE Firm # 2507

(Supporting Documentation Attached)

TRIAXIAL PERMEABILITY CHAIN OF CUSTODY



STRUCTURE	PERM I.D.	LAB LOG
RCS#1 - 1		3759

Facility Name: HILLSIDE DAIRY

Project Engineer: NORMAN MULLIN

Sampled By: COREY MULLIN

Date Sampled: 10/22/15

Date to Lab: 10/25/15 Received: Kirk Baker

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LABORATORY SERVICES

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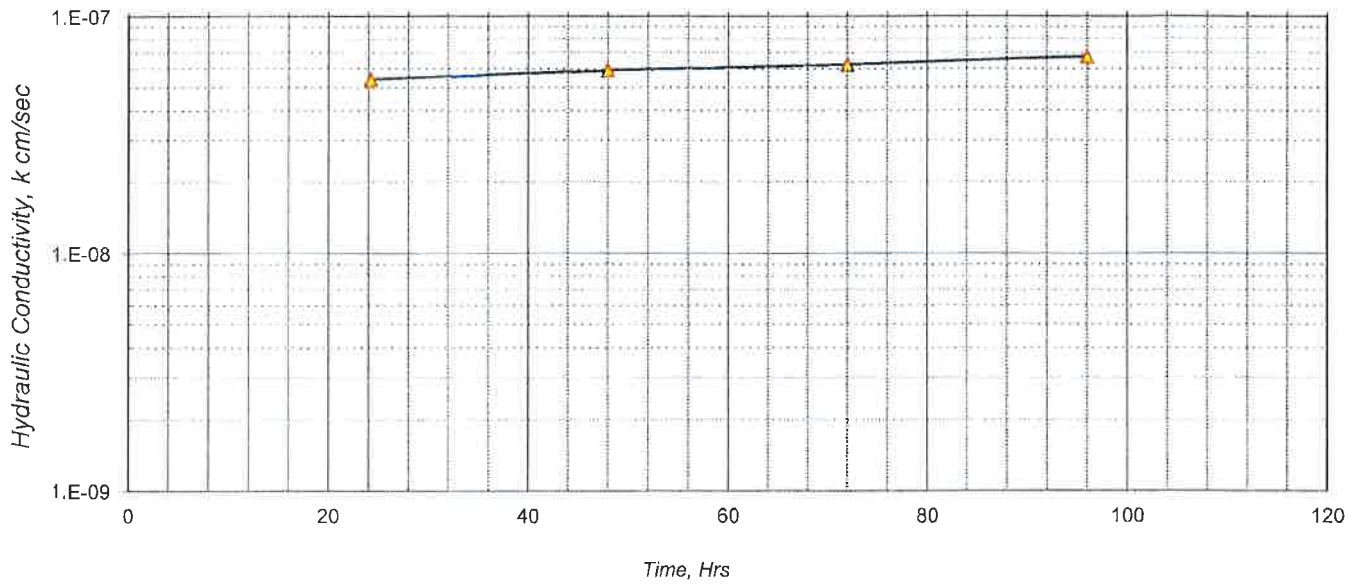
HYDRAULIC CONDUCTIVITY REPORT

ASTM D-5084, Method C

Client / Project Name:	Project No:	Lab Sample Number:
Hillside Dairy	15-10-28	3759
Sample ID:	**Sample Location:**	**Report Date:**
1	#1	November 16, 2015

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	1	
DESCRIPTION:	#1	
	INITIAL	FINAL
HEIGHT, in.	2.8	2.8
DIAMETER, in.	2.9	2.9
WATER CONTENT, %	14.7	18.9
DRY DENSITY, pcf	114	111
SATURATION, %	83	98
(Specific Gravity assumed as 2.7)		
SAMPLE COLOR	Light Brown	
SAMPLE CONSISTENCY	Clay	

COMMENTS:

Tap water used as permeant.

TEST DATA

ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	3 - 4
IN / OUT RATIO:	1.00

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	24.3	5.4E-08
2	48.0	5.9E-08
3	72.1	6.3E-08
4	96.0	6.8E-08

AVERAGE LAST 4 : **6.1E-08**

CALCULATION OF SPECIFIC DISCHARGE

SITE: **Hillside Dairy**
LOCATION: **Erath County, TX**
STRUCTURE: **RCS #1**

ENGINEER: **NHM**
DATE: **Nov. '15**

This worksheet calculates the specific discharge through a soil liner based on the measured thickness of the installed clay liner and the results of the permeability testing. The maximum allowable specific discharge of the installed liner is 1.1 x E-06 cm/sec or 0.0374 in/day.

	Hydraulic Conductivity Results of Core Samples								
Laboratory Sample I.D.	3759								
1. Water Depth, feet	15								
2. Liner Thickness, inches	18.0								
3. Hydraulic Conductivity, cm/sec	6.10E-08								
4. Calculated specific discharge, v'									
Seepage Rate, inches/day	0.0228								
Maximum Seepage Rate, inches/day	0.0374								

NOTES:

(1) Water depth of the pond in feet.

(2) Soil liner thickness in inches.

(3) Hydaulic conductivity of the core sample(s) as determined by flexible wall permeameter in cm/sec (Ref: ASTM D 5084).

The following equation is used:

$$v' = k (H + d) / d$$

where: v' = Specific Discharge of area representative of core sample, inches/day

d = Measure Liner Thickness at core sample location, feet

k = Hydaulic Conductivity of liner based on core sample testing, inches/day

H = Maximum Water Depth, feet

(4) Maximum Allowable Seepage Rate of 1.1 E-06 cm/sec (0.0374 in/day).

Norman Mullin 11/20/15

Norman Mullin, P.E. # 66107
Enviro-Ag Engineering, Inc.
TBPE Firm # 2507

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Wyly #1 Dairy
Erath County, Texas
RCS #2 Liner Certification

Four 3-inch Shelby tube core samples were collected from RCS #2 to document the clay liner meets the requirements of the TCEQ for soil liner. The sample locations were backfilled with bentonite clay chips for sealing. The liner thickness was documented to be a minimum of 18 inches.

The hydraulic conductivity of the clay liner is documented as follows:

- RCS #2-1 (Lab #1857) 3.7×10^{-8} cm/sec
- RCS #2-2 (Lab #1858) 2.2×10^{-8} cm/sec
- RCS #2-3 (Lab #1940) 4.5×10^{-8} cm/sec
- RCS #2-4 (Lab #1941) 8.8×10^{-8} cm/sec

The clay liner present in RCS #2 is determined to be in accordance with TCEQ specific discharge requirements of 1.1×10^{-6} cm/sec. The observed hydraulic conductivity from RCS #2 is considered protective of ground and surface water resources.

Supporting moisture and density laboratory results indicate the embankment and liners were installed at 95% maximum dry density and within the moisture range of minus 1% to plus 3% of optimum moisture content (see attached moisture/density test results). The liner present in RCS #2 is determined to be constructed in accordance with TCEQ requirements for soil liners

I certify that RCS #2 at Wyly #1 Dairy meets the construction requirements of NRCS Practice Codes 313 (Waste Storage Ponds), 378 (Pond Embankment) and 521D (Pond Sealing or Lining, Compacted Clay Treatment). Erosion protection and emergency spillway are in place and the staff gauge is installed and calibrated.

Prepared by:

NORMAN H. MULLIN
66107
REGISTERED
PROFESSIONAL ENGINEER

12/21/2010

Norman Mullin, P.E. # 66107
Enviro-Ag Engineering, Inc.
TBPE Firm # 2507

(Supporting Documentation Attached)

CALCULATION OF SPECIFIC DISCHARGE

SITE: **Wyly #1 Dairy**
LOCATION: **Erath County, TX**
STRUCTURE: **RCS #2**

ENGINEER: **NHM**
DATE: **Dec '10**

This worksheet calculates the specific discharge through a soil liner based on the measured thickness of the installed clay liner and the results of the permeability testing. The maximum allowable specific discharge of the installed liner is 1.1 x E-06 cm/sec or 0.0374 in/day.

	Hydraulic Conductivity Results of Core Samples								
Laboratory Sample I.D.	1857	1858	1940	1941					
1. Water Depth, feet	11	11	11	11					
2. Liner Thickness, inches	18.0	18.0	18.0	18.0					
3. Hydraulic Conductivity, cm/sec	3.70E-08	2.20E-08	4.50E-08	8.80E-08					
4. Calculated specific discharge, v'									
Seepage Rate, inches/day	0.0105	0.0062	0.0128	0.0249					
Maximum Seepage Rate, inches/day	0.0374	0.0374	0.0374	0.0374					

NOTES:

(1) Water depth of the pond in feet.

(2) Soil liner thickness in inches.

(3) Hydaulic conductivity of the core sample(s) as determined by flexible wall permeameter in cm/sec (Ref: ASTM D 5084).
The following equation is used:

$$v' = k (H + d) / d$$

where: v' = Specific Discharge of area representative of core sample, inches/day
d = Measure Liner Thickness at core sample location, feet
k = Hydaulic Conductivity of liner based on core sample testing, inches/day
H = Maximum Water Depth, feet

(4) Maximum Allowable Seepage Rate of 1.1 E-06 cm/sec (0.0374 in/day).

12/21/2010

Norman Mullin, P.E. # 66107
Enviro-Ag Engineering, Inc.
TBPE Firm # 2507

TRIAXIAL PERMEABILITY CHAIN of CUSTODY

STRUCTURE	PERM REPORT i.D.	LAB LOG
2-1		1857
2-2		1858

Facility Name: WYLY

Project Engineer:

Sampled by:

Date Sampled: 10/20/10

Date to Lab: 10/21/10 Received: Nicki Bohn

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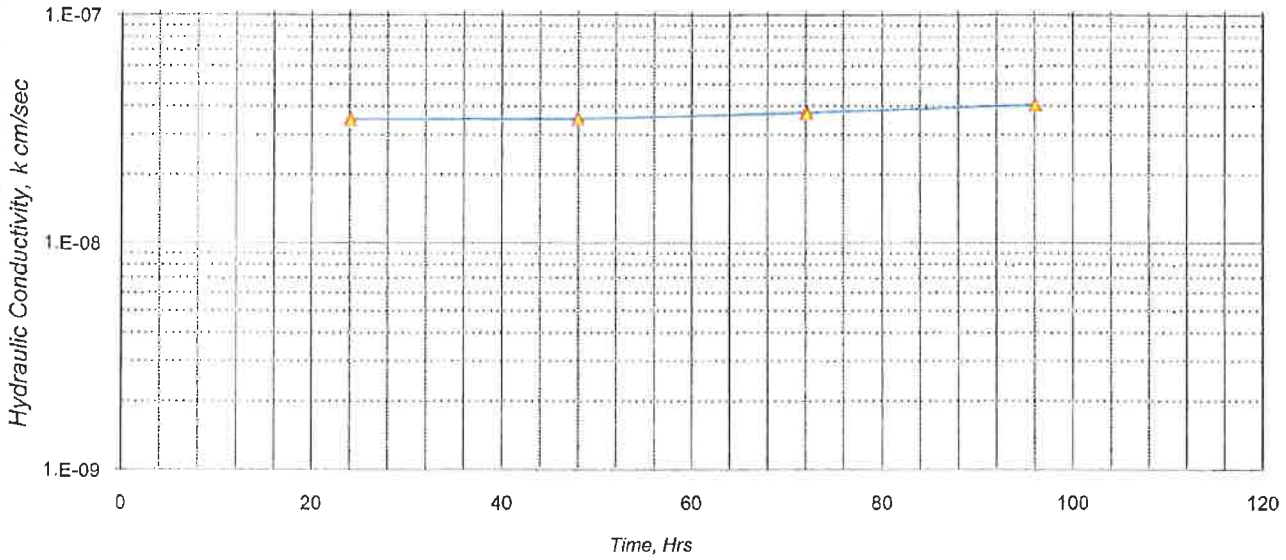
HYDRAULIC CONDUCTIVITY REPORT

ASTM D-5084, Method C

Client / Project Name:	Project No:	Lab Sample Number:
Wyly	10-10-20	1857
Sample ID:	**Sample Location:**	**Report Date:**
1	2 - 1	November 8, 2010

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	1	
DESCRIPTION:	2 - 1	
	INITIAL	FINAL
HEIGHT, in.	4.3	4.3
DIAMETER, in.	2.9	2.9
WATER CONTENT, %	14.0	19.2
DRY DENSITY, pcf	111	110
SATURATION, %	73	97
(Specific Gravity assumed as 2.7)		
SAMPLE COLOR	Yellow / Brown	
SAMPLE CONSISTENCY	Clay	

TEST DATA

ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	2 - 2
IN / OUT RATIO:	0.97

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	24.1	3.5E-08
2	48.0	3.5E-08
3	72.2	3.7E-08
4	96.1	4.1E-08

AVERAGE LAST 4 : **3.7E-08**

COMMENTS:
Tap water used as permeant.

Enviro-Ag Engineering, Inc.

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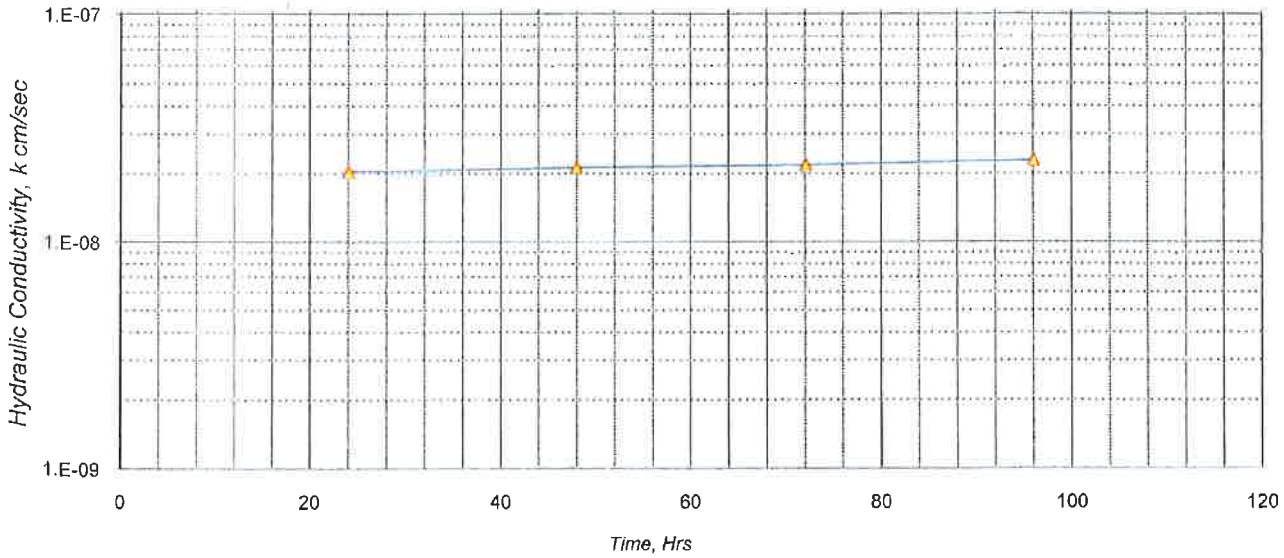
HYDRAULIC CONDUCTIVITY REPORT

ASTM D-5084, Method C

Client / Project Name:	Project No:	Lab Sample Number:
Wyly	10-10-20	1858
Sample ID:	**Sample Location**	**Report Date:**
2	2 - 2	November 8, 2010

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	2	
DESCRIPTION:	2 - 2	
	INITIAL	FINAL
HEIGHT, in.	4.8	4.8
DIAMETER, in.	2.8	2.8
WATER CONTENT, %	20.7	30.3
DRY DENSITY, pcf	93	91
SATURATION, %	69	97
(Specific Gravity assumed as 2.7)		
SAMPLE COLOR	Yellow / Brown	
SAMPLE CONSISTENCY	Clay	

COMMENTS:
Tap water used as permeant.

TEST DATA

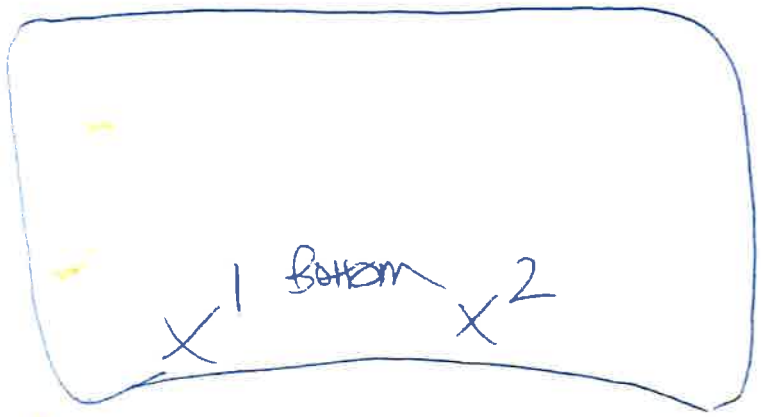
ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	2 - 2
IN / OUT RATIO:	1.00

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	24.1	2.0E-08
2	48.0	2.1E-08
3	72.2	2.2E-08
4	96.1	2.3E-08

AVERAGE LAST 4 : **2.2E-08**

TRIAXIAL PERMEABILITY CHAIN of CUSTODY



STRUCTURE	PERM REPORT I.D.	LAB LOG
Bottom 1	1	1940
Bottom 2	2	1941

Facility Name: Wylie #1

Project Engineer: JJ Norman Mullin

Sampled by: Roland Stokes

Date Sampled: 11/12/10

Date to Lab: 11/17/10 VIA USPS

Received: Heidi Baker

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(254) 965-3500
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Enviro-Ag Engineering, Inc.

3404 Airway Blvd., Amarillo, TX 79118 (806) 353-6123
LABORATORY SERVICES

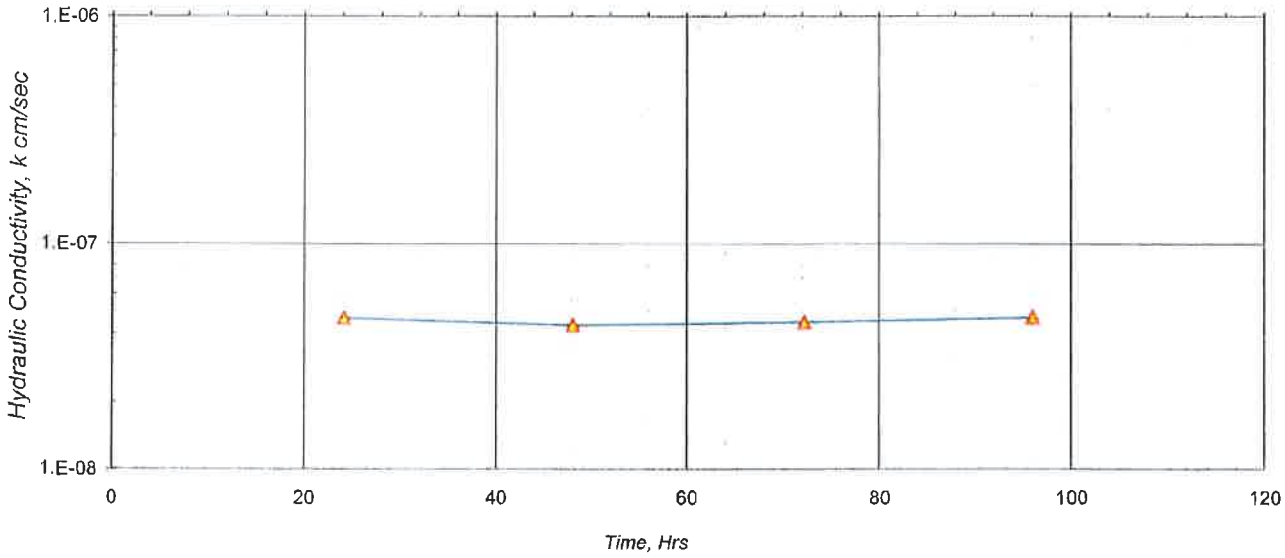
EAE

HYDRAULIC CONDUCTIVITY REPORT

ASTM D-5084, Method C

Client / Project Name:	Project No:	Lab Sample Number:
Wyly #1	10-11-12	1940
Sample ID:	**Sample Location**	**Report Date:**
1	Bottom 1	December 3, 2010

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	1	
DESCRIPTION:	Bottom 1	
	INITIAL	FINAL
HEIGHT, in.	3.7	3.7
DIAMETER, in.	2.9	2.9
WATER CONTENT, %	13.3	17.1
DRY DENSITY, pcf	117	115
SATURATION, %	82	100
(Specific Gravity assumed as 2.7)		
SAMPLE COLOR	Yellow	
SAMPLE CONSISTENCY	Clay	

COMMENTS:
Tap water used as permeant.

TEST DATA

ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	2 - 3
IN / OUT RATIO:	0.95

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	24.1	4.6E-08
2	48.2	4.3E-08
3	72.2	4.5E-08
4	96.1	4.7E-08

AVERAGE LAST 4 : **4.5E-08**

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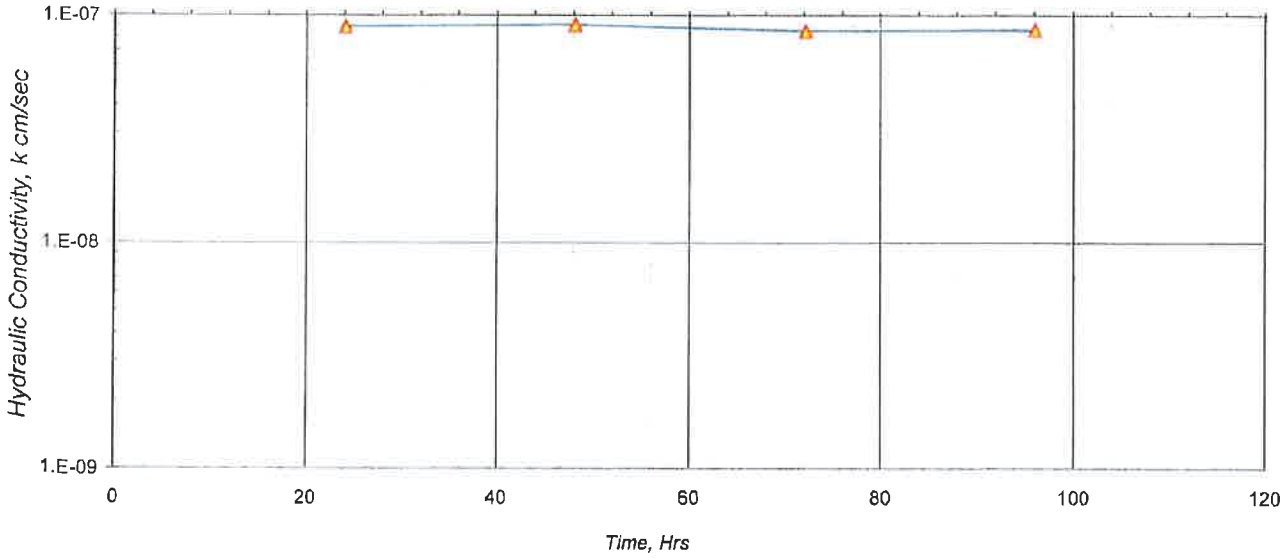
HYDRAULIC CONDUCTIVITY REPORT

ASTM D-5084, Method C

Client / Project Name	Project No	Lab Sample Number
Wyly #1	10-11-12	1941
Sample ID:	**Sample Location:**	**Report Date:**
2	Bottom 2	December 3, 2010

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	2	
DESCRIPTION:	Bottom 2	
	INITIAL	FINAL
HEIGHT, in.	3.6	3.7
DIAMETER, in.	2.8	2.9
WATER CONTENT, %	12.5	22.7
DRY DENSITY, pcf	106	103
SATURATION, %	57	97
(Specific Gravity assumed as 2.7)		
SAMPLE COLOR	Yellow	
SAMPLE CONSISTENCY	Clay	

TEST DATA

ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	2 - 3
IN / OUT RATIO:	1.01

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	24.1	8.9E-08
2	48.2	9.1E-08
3	72.2	8.6E-08
4	96.1	8.6E-08

AVERAGE LAST 4 : **8.8E-08**

COMMENTS:
Tap water used as permeant.

ENVIRO-AG ENGINEERING, INC.
EAE
AMARILLO STEPHENVILLE ARTESIA

Corporate Office:
3404 Airway Blvd.
Amarillo TX 79118

Central Texas:
9855 FM 847
Dublin TX 76446

New Mexico:
110 East Mill Road
Artesia NM 88210

CERTIFICATION

Wyly #1 Dairy
Erath County, Texas

Liner Maintenance Certification – RCS #2

Where a soil liner is installed to prevent hydrologic connection, the operator must maintain the liner to inhibit infiltration of wastewaters to the underlying soils and groundwater. Liners shall be protected from animals by fences or other protective devices. No trees shall be allowed to grow within the potential distance of the root zone. Documentation of liner maintenance shall be maintained in the pollution prevention plan.

Description of Disturbance:

Wyly #1 Dairy repaired the north sidewall of RCS #2 due to leaking in the summer of 2019.

Action Taken:

At the request of Wyly #1 Diary, Enviro-Ag Engineering, Inc. made an inspection of the soil on the north sidewall of RCS #2 on October 10, 2019 to ensure that its integrity was not compromised after mechanical repairing of the north sidewall of the pond. A site inspection of the north sidewall revealed no mechanical or structural damage. Two shelby tube core samples of the soil were collected and analyzed for permeability. The results indicated that the soil within the north sidewall of RCS#2 meet the requirements of the TCEQ General Permit.

Respectfully submitted,

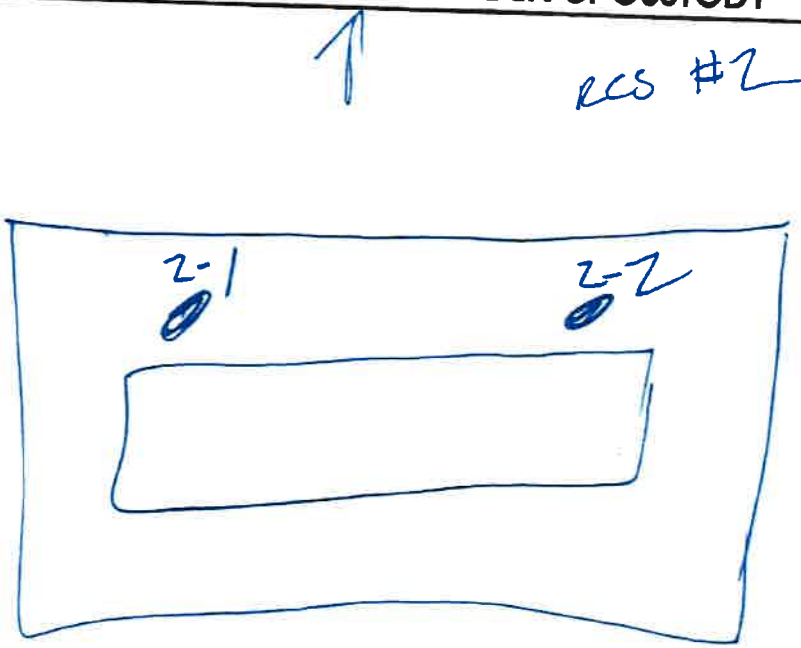
Norman H. Mullin
11/13/19

STATE OF TEXAS
NORMAN H. MULLIN
66107
LICENSED
PROFESSIONAL ENGINEER

Norman Mullin, P.E. – License No. 66107
Enviro-Ag Engineering, Inc. – Firm No. 2507

Attachments: EAE Permeability Reports

TRIAXIAL PERMEABILITY CHAIN of CUSTODY



STRUCTURE	PERM REPORT I.D.	LAB LOG
RCS 2 Seep#1		5022
RCS 2 Seep# 2		5023

Facility Name: Wyly Dairy

Project Engineer: Norman

Sampled by: Corey

Date Sampled: 10/10/19

Date to Lab: 10/16/19

Received:

EAE
302 Morgan Mill Road
Bldg C
Stephenville, TX 76401
(254) 965-3500
Fax: (254) 965-8000

Enviro-Ag Engineering, Inc.

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LABORATORY SERVICES

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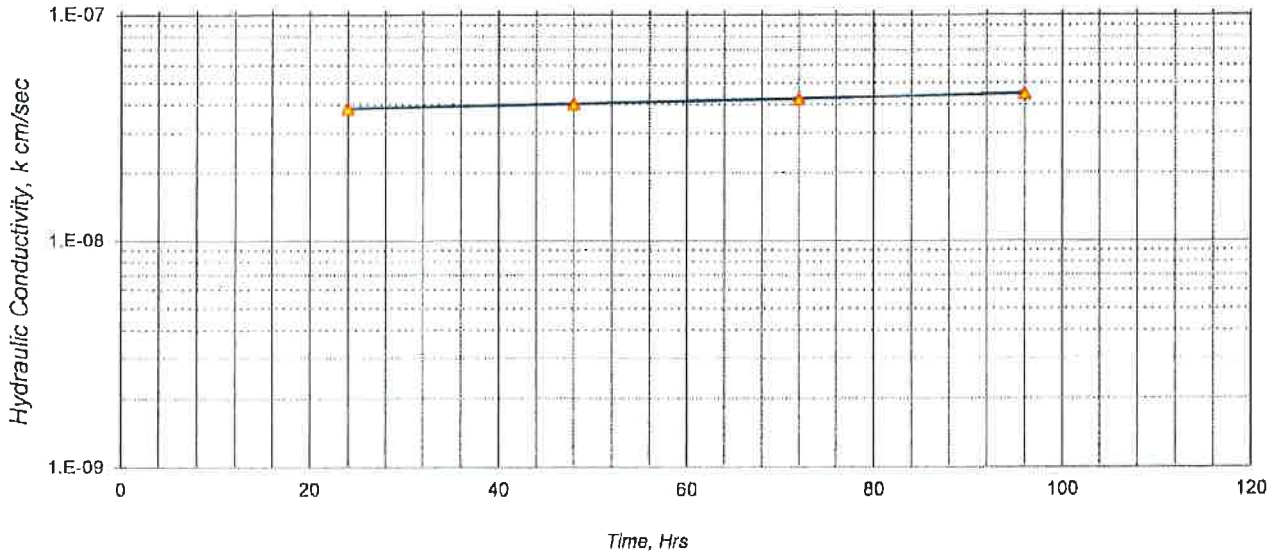
HYDRAULIC CONDUCTIVITY REPORT

ASTM D-5084, Method C

Client / Project Name:	Project No:	Lab Sample Number:
Wyly Dairy	19/24/10	5022
Sample ID:	**Sample Location:**	**Report Date:**
1	RCS 2 Seep #1	November 7, 2019

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	1	
DESCRIPTION:	RCS 2 Seep #1	
	INITIAL	FINAL
HEIGHT, in.	2.3	2.6
DIAMETER, In.	2.9	2.9
WATER CONTENT, %	13.9	21.4
DRY DENSITY, pcf	118	106
SATURATION, %	88	98
(Specific Gravity assumed as 2.7)		
SAMPLE COLOR	Light Brown	
SAMPLE CONSISTENCY	Clay	

COMMENTS:
Tap water used as permeant.

TEST DATA

ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	2 - 3
IN / OUT RATIO:	1.00

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	24.0	3.9E-08
2	48.0	4.1E-08
3	72.0	4.3E-08
4	96.0	4.5E-08

AVERAGE LAST 4 : **4.2E-08**

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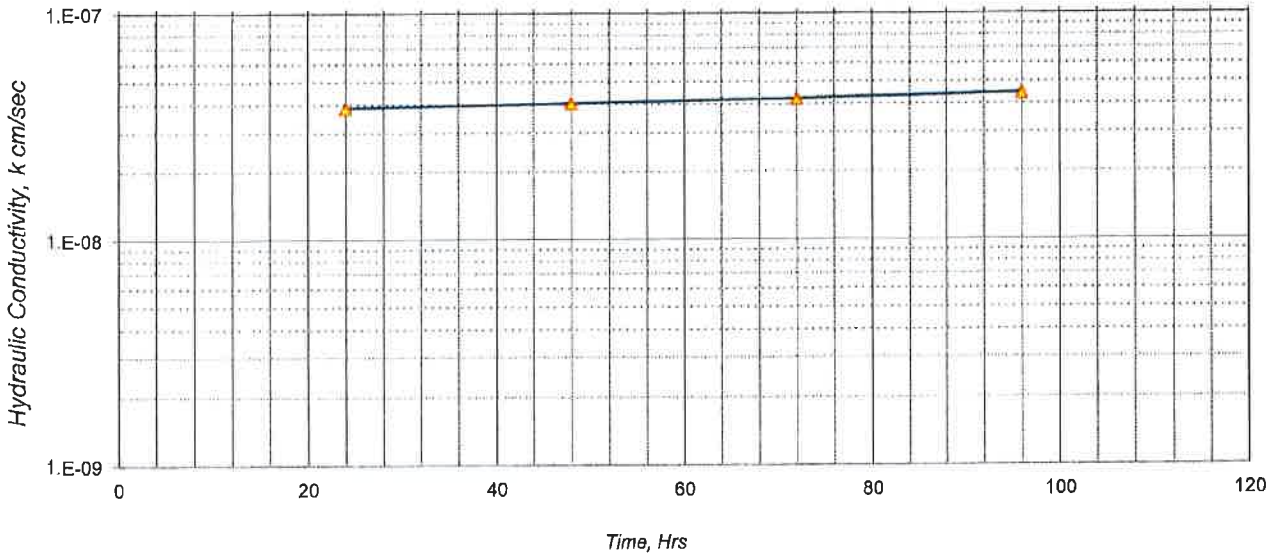
HYDRAULIC CONDUCTIVITY REPORT

ASTM D-5084, Method C

Client / Project Name:	Project No:	Lab Sample Number:
Wyly Dairy	19/24/10	5023
Sample ID:	**Sample Location:**	**Report Date:**
2	RCS 2 Seep #2	November 7, 2019

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	2	
DESCRIPTION:	RCS 2 Seep #2	
	INITIAL	FINAL
HEIGHT, in.	2.8	2.8
DIAMETER, in.	2.9	2.9
WATER CONTENT, %	13.9	19.1
DRY DENSITY, pcf	115	113
SATURATION, %	80	104
(Specific Gravity assumed as 2.7)		
SAMPLE COLOR	Light Brown	
SAMPLE CONSISTENCY	Clay	

COMMENTS:
Tap water used as permeant.

TEST DATA

ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	2 - 2
IN / OUT RATIO:	1.00

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	24.0	3.9E-08
2	48.0	4.1E-08
3	72.0	4.2E-08
4	96.0	4.5E-08

AVERAGE LAST 4 : **4.2E-08**

Z : Soils Lab\Perms \1919 \ 19/24/10 \ 5023	Print Date:	Reviewed By:	LSN:
DCN: EAE-QC-GRAPH (rev. 11/10/04)	11/07/19	Micah Mullin	5023

ENVIRO-AG ENGINEERING, INC
EAE
AMARILLO · STEPHENVILLE · ARTESIA

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Amarillo TX 79118

Central Texas:
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Dublin TX 76446

New Mexico:
203 East Main Street
Artesia NM 88210

CERTIFICATION

Hillside Dairy
Erath County, Texas

Lack of Hydrologic Certification – Slurry Pit #1

Two Shelby tube core samples were collected from Slurry Pit #1 at Hillside Dairy in Erath County to document that the in-situ soil permeability. The Shelby tube core samples were collected and analyzed by Enviro-Ag Engineering, Inc., of Amarillo, Texas.

Permeability Test Result	
#1	2.3×10^{-8} cm/sec
#2	3.3×10^{-8} cm/sec

Based on the above permeability analysis, the in-situ soils located in Slurry Pit #1 are determined to be suitable for maintaining a Lack of Hydrologic Connection.

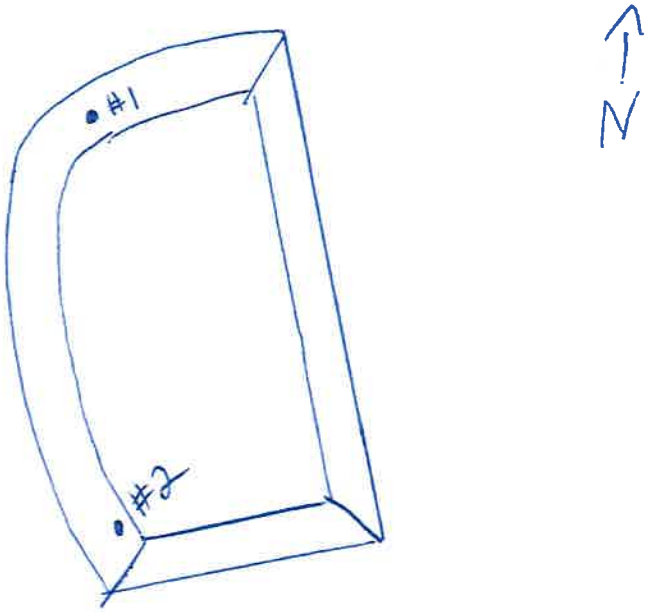
Respectfully submitted,

Norman Mullin 7/18/18

Norman Mullin, P.E. – License No. 66107
Enviro-Ag Engineering, Inc. – Firm No. F-2507

Attachments: Enviro-Ag Engineering Permeability Reports

TRIAXIAL PERMEABILITY CHAIN of CUSTODY



STRUCTURE	PERM REPORT I.D.	LAB LOG
Slurry pit #1		4637
Slurry pit #2		4638

Facility Name: Hillside Dairy

Project Engineer: NORMAN MULLEN

Sampled by: Matthew Gray

Date Sampled: 6/18/18

Date to Lab: 6-28-18 Received:

ENVIRO-AG ENGINEERING, INC.
9855 FM 847
Dublin, TX 76446
(254) 965-3500
Fax: (254) 965-8000

Enviro-Ag Engineering, Inc.

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LABORATORY SERVICES

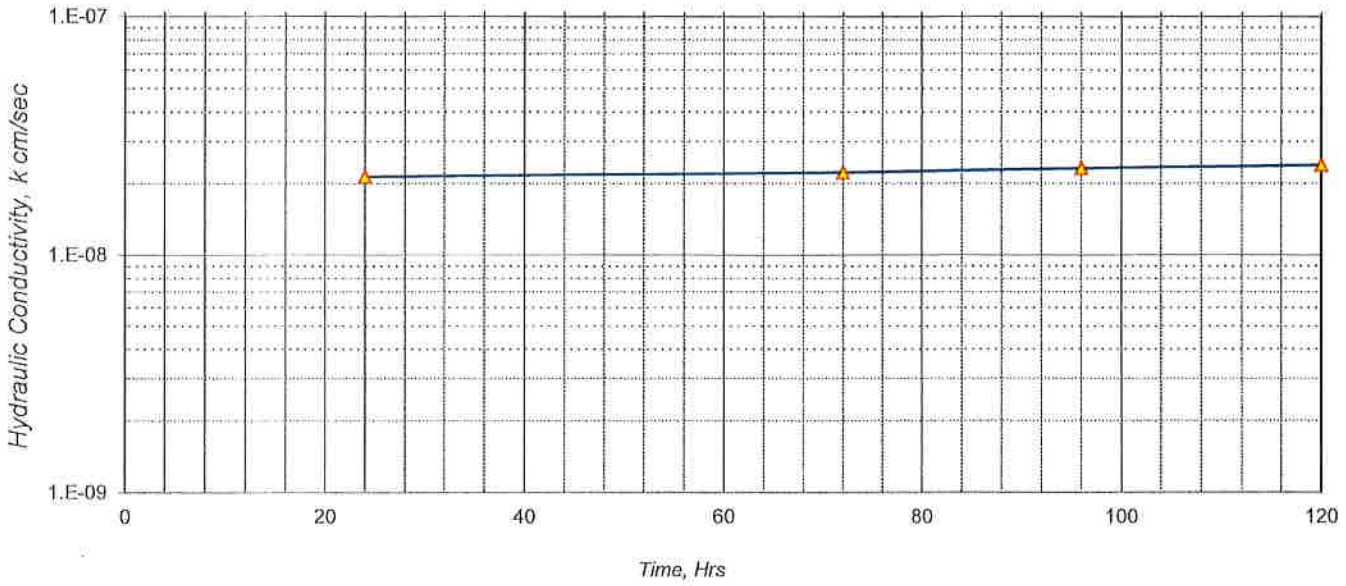
EAE

HYDRAULIC CONDUCTIVITY REPORT

ASTM D-5084, Method C

Client / Project Name:	Project No:	Lab Sample Number:
Hillside Dairy	18/06/26	4637
Sample ID:	**Sample Location:**	**Report Date:**
1	Slurry Pit #1	July 11, 2018

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	1	
DESCRIPTION:	Slurry Pit #1	
	INITIAL	FINAL
HEIGHT, in.	2.6	2.6
DIAMETER, in.	2.9	2.9
WATER CONTENT, %	13.3	21.8
DRY DENSITY, pcf	109	105
SATURATION, %	65	97
(Specific Gravity assumed as 2.7)		
SAMPLE COLOR	Light Brown	
SAMPLE CONSISTENCY	Clay	

TEST DATA

ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	3 - 4
IN / OUT RATIO:	1.00

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	24.0	2.1E-08
2	72.0	2.2E-08
3	96.0	2.3E-08
4	120.0	2.4E-08

AVERAGE LAST 4 : **2.3E-08**

COMMENTS:
Tap water used as permeant.

Enviro-Ag Engineering, Inc.

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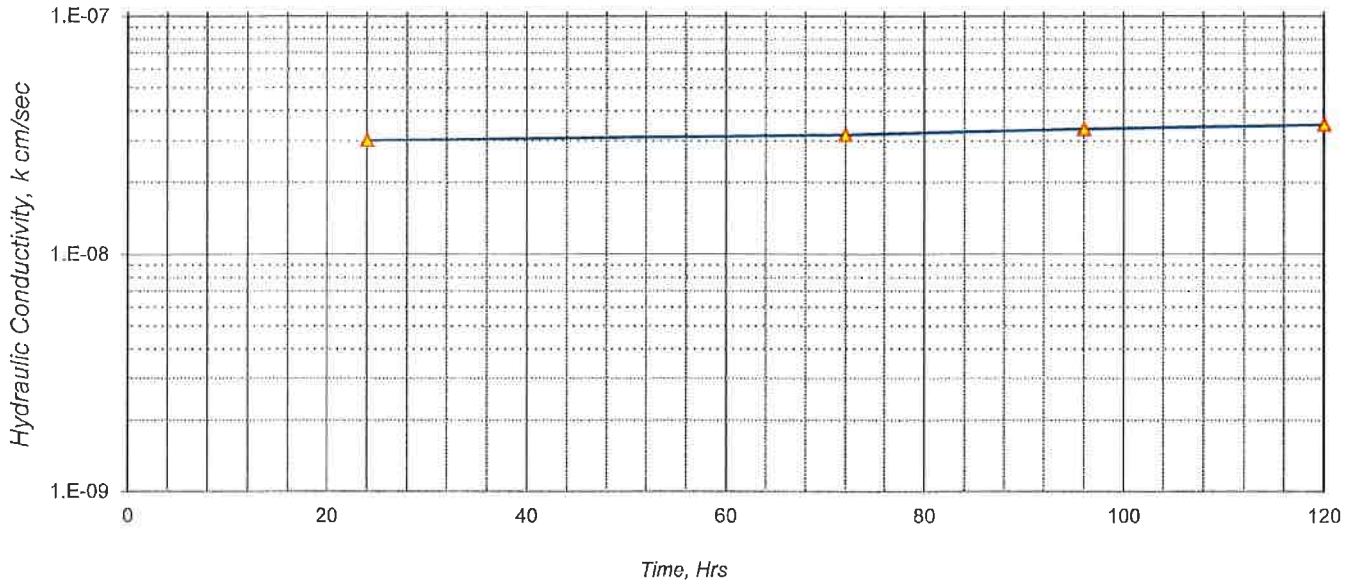
HYDRAULIC CONDUCTIVITY REPORT

ASTM D-5084, Method C

Client / Project Name:	Project No:	Lab Sample Number:
Hillside Dairy	18/06/26	4638
Sample ID:	**Sample Location:**	**Report Date:**
2	Slurry Pit #2	July 11, 2018

Hydraulic Conductivity vs Time



SPECIMEN DATA

SAMPLE ID:	2	
DESCRIPTION:	Slurry Pit #2	
	INITIAL	FINAL
HEIGHT, in.	2.7	2.7
DIAMETER, in.	2.9	2.9
WATER CONTENT, %	13.7	23.0
DRY DENSITY, pcf	109	104
SATURATION, %	68	101
(Specific Gravity assumed as 2.7)		
SAMPLE COLOR	Light Brown	
SAMPLE CONSISTENCY	Clay	

COMMENTS:
Tap water used as permeant.

TEST DATA

ASTM D-5084, Method C

EFFECTIVE STRESS:	5 psi
GRADIENT RANGE:	3 - 4
IN / OUT RATIO:	1.00

TRIAL nos.	TIME hrs.	HYDRAULIC CONDUCTIVITY cm / sec
1	24.0	3.0E-08
2	72.0	3.2E-08
3	96.0	3.4E-08
4	120.0	3.5E-08

AVERAGE LAST 4 : **3.3E-08**

4.0 WASTE UTILIZATION & NUTRIENT MANAGEMENT PLAN

4.1 Nutrient Utilization

Agronomic application of dairy wastewater enhances soil productivity and provides the crop and forage growth with needed nutrients for optimum growth and vigor. Land application of wastewater will take place according to a Nutrient Utilization/Nutrient Management Plan (NUP/NMP) in accordance with NRCS Codes 590 and 633. The NUP/NMP for crop year 2025 is attached.

Per 30 TAC §321.42(j), existing dairy facilities located in a major sole-source impairment zone may request the TCEQ to allow the operator to provide manure, litter and wastewater to owners of third-party fields (areas not owned, operated, controlled, rented, or leased by the permittee) that have been identified in the PPP. Hillside Dairy requests access to third-party fields to be operated in accordance with 30 TAC §321.42(j)(1)-(4). Third-party written contracts between the permittee and the third-party recipient will be maintained in the PPP. These contracts will confirm that the third party will allow manure, wastewater and slurry from the facility to be beneficially applied at agronomic rates based on the soil test phosphorus in accordance with applicable requirements of 30 TAC §321.36 and §321.40.

A Texas State Soil and Water Conservation Board (TSSWCB) certified Comprehensive Nutrient Management Plan (CNMP) has been developed.

4.2 Waste Handling Procedures

The dairy shall operate under the provisions of 30 TAC §321.42, which describes certain waste management and disposal requirements for individual water quality permits for dairy concentrated animal feeding operations (CAFOs) when an operation is located in a major sole-source impairment zone. Waste disposal options include:

- Beneficial use outside the watershed
- Disposed in permitted landfills outside the watershed
- Delivered to a composting facility approved by the Executive Director
- Other beneficial use approved by the Executive Director
- Applied on-site in accordance with a certified NRCS Code 590/633 NMP or NUP, as dictated by annual soil test results
- Provided to third parties as discussed above in Section 4.1

Executive Summary
Hillside Dairy
WQ0003160000

LMU Summary:

LMU's 1, 2, 3, 3A, 4, 4A, 5, and E1 are cropped in Coastal Hay and Small Grains with moderate grazing.

Nutrient Summary:

LMU#	Max N Lb/ac Application Rates	Max P205 Lb/ac Application Rates	Planned N Lb/ac Application Rates	Planned P Lb/ac Application Rates
1	259	108	86	36
2	259	108	86	36
3	560	233	185	77
3A	169	96	169	96
4	260	108	83	34
4A	460	262	460	262
5	460	191	147	61
E1	189	108	189	108

Supplemental nutrients will be necessary to achieve the desired yields. Commercial fertilizer applications should be split such that individual application events do not exceed 100 lb/Ac.

All remaining manure is to be hauled off by a contract hauler for beneficial use. Offsite manure transfer activities will be in accordance with NRCS and TCEQ requirements for sampling, recordkeeping, and land application.

Waste Utilization and Nutrient Management Plan

Hillside Dairy
1865 Private Road 1233
Hico, TX

TCEQ Permit Number:
WQ0003160000

Owner
Hillside Dairy, LLC
1865 Private Road 1233
Hico, TX 76457

Type of Organic Nutrient Management Plan:
Other AFO-CAFO Waste Plan
located in Erath County

Prepared By:

(Signature)
Stephen Colby
Certified Nutrient Management Specialist
Certificate Number = TX2025004
Expiration Date = December 31, 2025
Enviro-Ag Engineering
9855 FM 847
Dublin, TX 76446
(254) 233-9948

This plan is based on:
590 Organic Nutrient Management Plan V 5.0

4/16/25 12:07 PM

Waste Utilization and Nutrient Management Plan

EXECUTIVE SUMMARY: Permit #: WQ0003160000

This Nutrient Management Plan has fields that meet NMP and/or NUP requirements.

See Attached Executive Summary

LOCATION AND PURPOSE OF THE PLAN

This animal operation is located in **Erath** 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 **2025** 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 Lagoon** . Approximately **4500** head will be confined with the average weight of **1400** 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 #: WQ0003160000

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.

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.

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.

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 #: WQ0003160000

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 #: WQ0003160000

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

OPERATION AND MAINTENANCE: Permit #: WQ0003160000

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: **Stephen Colby** Date: **4/16/2025**

Plan Approved by: [signature] Date: 4/16/25

Producer Signature: Discussed with Producer Date: 4/16/25

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.

Waste Utilization and Nutrient Management Plan

Table 1 - Estimated Effluent and Solids Quantities Produced Permit #: WQ0003160000

Avg. Number of Animals	Type of Waste
4,500	Dairy Lagoon
	Other 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* **934**

Estimated Tons Solids to be Land Applied Annually (on or off site)* **124,832.0**

*From engineering design.

Estimated Nutrient Availabilty Effluent

	pounds/yr	Pounds / 1000 gal	Pounds / Acre Inch	
N	23,374	0.92	25.0	**
P2O5	9,697	0.38	10.4	
K2O	55,895	2.20	59.8	

** Effluent Values Based on Analysis dated: June 14, 2024

Estimated Nutrient Availabilty Solids

	pounds / yr	pounds / ton	
N	683,081	5.5	**
P2O5	388,777	3.1	
K2O	772,960	6.2	

** Solids Values Based on Analysis dated: June 14, 2024

Default values were used on all fields for plant removal of nutrients and yield levels.

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 [5]	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 [5]	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 [5]	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 [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/ When soil test phosphorus levels are ≥ 500 ppm, with a P-Index rating of "High" or "Very High", there will be no additional application of phosphorus to a CMU or field.

PI Index by Field

Printed on: 4/16/25 12:17 PM

This plan is based on: lutrient Management Plan V 5.0

Permit #: WQ0003160000

Client Name: Hillside Dairy

Planner: Stephen Colby

Date: 4/16/2025

Location: Erath

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	Coastal Hay 4 cut, SG mod graze	1.1%	87	8	0	6	0	0.5	0	2	0	16.5	Medium	9/19/24
2	Coastal Hay 4 cut, SG mod graze	2.1%	87	8	0	6	0	0.5	0	2	0	16.5	Medium	9/19/24
3	Coastal Hay 4 cut, SG mod graze	1.8%	87	8	0	6	0	0.5	0	2	0	16.5	Medium	9/19/24
3A	Coastal Hay 3 cut, SG mod graze	1.8%	87	8	0	6	0	4	0	2	0	20	Medium	9/30/24
4	Coastal Hay 4 cut, SG mod graze	2.1%	87	8	0	6	0	0.5	0	4	0	18.5	Medium	9/19/24
4A	Coastal Hay 3 cut, SG mod graze	1.6%	87	8	0	6	0	4	0	2	0	20	Medium	9/19/24
5	Coastal Hay 3 cut, SG mod graze	3.2%	87	8	0	6	0	0.5	0	4	0	18.5	Medium	9/19/24
E1	Coastal Hay 4 cut, SG mod graze	2.1%	87	8	0	6	0	4	0	2	0	20	Medium	9/30/24

Waste Utilization and Nutrient Management Plan

Table 3 - Crop Removal Rates (For Information Only) Permit #: WQ0003160000

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	50.0	Coastal Hay 4 cut, SG mod graze M	NUP	Default	357	108	318
2	39.0	Coastal Hay 4 cut, SG mod graze M	NUP	Default	357	108	318
3	47.0	Coastal Hay 4 cut, SG mod graze M	NMP	Default	357	108	318
3A	65.0	Coastal Hay 3 cut, SG mod graze M	NUP	Default	319	96	284
4	48.0	Coastal Hay 4 cut, SG mod graze M	NUP	Default	357	108	318
4A	42.0	Coastal Hay 3 cut, SG mod graze M	NMP	Default	319	96	284
5	21.0	Coastal Hay 3 cut, SG mod graze M	NMP	Default	319	96	284
E1	60.0	Coastal Hay 4 cut, SG mod graze M	NUP	Default	357	108	318

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 #: WQ0003160000

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)
124,832	1							
	2							
	3							
	3A	65.0	Coastal Hay 3 cut, SG mod graze M	235	96	A	30.9	2007
	4							
	4A	42.0	Coastal Hay 3 cut, SG mod graze M	187	262	A	84.1	3531
	5							
	E1	60.0	Coastal Hay 4 cut, SG mod graze M	212	108	A	34.6	2074
Total Solids Application Acres								
167								
Application Allowable on-site (tons)								
7611.6								
Not Adequate								
Solids to be used off-site (tons)								
117,220.4								

End of Table 4

Waste Utilization and Nutrient Management Plan

Table 5 - Nutrients Applied/Needs at Maximum Solids Rates Permit #: WQ0003160000

	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							
3A	169	96	191	185	0	0	0
4							
4A	460	262	521	0	0	0	0
5							
E1	189	108	214	310	0	0	0

Waste Utilization and Nutrient Management Plan

Table 6 - Planned Solids Application Rates Permit #: WQ0003160000

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									
3A		65.0	Coastal Hay 3 cut, SG mod graze M	235	A	30.9	100	30.9	2007.4
4									
4A		42.0	Coastal Hay 3 cut, SG mod graze M	187	A	84.1	100	84.1	3530.7
5									
E1		60.0	Coastal Hay 4 cut, SG mod graze M	212	A	34.6	100	34.6	2073.5
Acres		167.0							7611.6
124832			Tons of wet solids produced Annually					Will the planned per acre application rates use all of the Solids?	NO
0			Tons to be used off-site at Max. rates					Tons to be used off-site at planned rates	117220

Waste Utilization and Nutrient Management Plan

Table 7 - Nutrients Applied/Needed at Planned Solids Rates Permit #: WQ0003160000

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							
3A	169	96	191	185	0	0	0
4							
4A	460	262	521	0	0	0	0
5							
E1	189	108	214	310	0	0	0

Waste Utilization and Nutrient Management Plan

Table 8 - Maximum Effluent Application Per Field Permit #: WQ0003160000

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)
934	1	50.0		Coastal Hay 4 cut, SG mod graze M	270	108	A	10.4	518
Source:	2	39.0		Coastal Hay 4 cut, SG mod graze M	384	108	A	10.4	404
	3	47.0		Coastal Hay 4 cut, SG mod graze M	109	232	A	22.4	1053
	3A								
Dairy Lagoon	4	48.0		Coastal Hay 4 cut, SG mod graze M	336	108	A	10.4	499
	4A								
	5	21.0		Coastal Hay 3 cut, SG mod graze M	152	191	A	18.4	386
	E1								
Total Effluent Application Acres									
205									
Maximum Effluent Application Allowable On-Site (ac in)									
2861									
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 #: WQ0003160000

	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	259	108	620	190	0	0	0
2	259	108	620	225	0	0	0
3	560	233	1340	0	0	0	0
3A							
4	260	108	622	265	0	0	0
4A							
5	460	191	1101	0	0	0	0
E1							

Waste Utilization and Nutrient Management Plan

Table 10 - Planned Effluent Application Rates Permit #: WQ0003160000

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	50.0		Coastal Hay 4 cut, SG mod graze M	270	A	10.4	**33.0**	3.4	171
2	39.0		Coastal Hay 4 cut, SG mod graze M	384	A	10.4	**33.0**	3.4	133
3	47.0		Coastal Hay 4 cut, SG mod graze M	109	A	22.4	**33.0**	7.4	347
3A									
4	48.0		Coastal Hay 4 cut, SG mod graze M	336	A	10.4	**32.0**	3.3	160
4A									
5	21.0		Coastal Hay 3 cut, SG mod graze M	152	A	18.4	**32.0**	5.9	124
E1									
Acres	**205.0**					**Will the planned application rates use all of the Effluent?**			**935** **YES**

Plan is based on: 590 Organic Nutrient Management Plan

Waste Utilization and Nutrient Management Plan

Table 11 - Nutrients Applied/Needed at the Planned Effluent Rates Permit #: WQ0003160000

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	86	36	205	365	0	0	0
2	86	36	205	395	0	0	0
3	185	77	442	315	0	0	0
3A							
4	83	34	199	445	0	0	0
4A							
5	147	61	352	240	0	0	0
E1							

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 #: WQ0003160000

LMU / Field #	AWC (inches)	Restrictive Texture
1	1.76	rves Dugout Malote
2	1.91	Purves Clay
3	0.75	lalatorre Gravelly Cl
3A		
4	1.87	rves Dugout Malote
4A		
5	1.91	Purves Clay
E1		

LMU / Field #	AWC (inches)	Restrictive Texture

Waste Utilization and Nutrient Management Plan

Table 13 - Non Application Areas by Field Permit #: WQ0003160000

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			
2	0.0	0.0			
3	0.0	0.0			
3A	0.0	0.0			
4	0.0	0.0			
4A	0.0	0.0			
5	0.0	0.0			
E1	0.0	0.0			

LMU / Field #	FS Acres	FB Acres	RFB Acres	OLEA Acres	Total Excluded

See Application Map for location of buffers

Totals	0.0	0.0	0.0	0.0	0.0

Total 590-633 application acres: 372.0

Total 590-633 Field Acres: 372.0

Waste Utilization and Nutrient Management Data Entries

General Data

Date :	4/16/2025
Farmer Name :	Hillside Dairy
County in which the Land is located :	Erath
Type of Waste Plan :	Other AFO-CAFO Waste Plan
Is this plan in a TMDL watershed for nutrients? Yes or No :	Yes
Is any field PERMITTED by TCEQ? Yes or No :	Yes
Permit # :	WQ0003160000

All other entries on General Page appear on the Cover Page

Animal Information

Plan Year :	2025
Are you receiving waste from another producer?	No
Number of animals :	4500
Approximate Weight :	1400
Days per year in confinement :	365
Hours per day confined :	24
ACRE FEET of effluent to be irrigated* :	77.85
Estimated annual gallons of effluent to be irrigated/applied annually :	25367266.8
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)* :	15604
Is this the first Year of the AFO-CAFO Operation? :	No

Analysis Information

Effluent Information

Date of Analysis:	6/14/2024
Manure Source:	Dairy Lagoon
Nitrogen % From Analysis:	0.0138
Phosphorus % From Analysis:	0.002
Potassium % From Analysis:	0.022
Moisture % From Analysis:	99.8

Manure / Solids Information

Date of Analysis:	6/14/2024	
Manure Source:	Other Solids	Explain Other:
Nitrogen % From Analysis:	2.736	Slurry
Phosphorus % From Analysis:	0.544	
Potassium % From Analysis:	2.064	
Moisture % From Analysis:	87.5	
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: rganic Nutrient Management Plan

Printed on: 4/16/25 12:07 PM

Field and Buffer Entries

Permit #: WQ0003160000

Printed on: 4/16/25 12:07 PM

Plan is based on: 590 Organic Nutrient Management Plan

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	This Column Intentionally Left Blank
1	50					0.0	50.0	
2	39					0.0	39.0	
3	47					0.0	47.0	
3A	65					0.0	65.0	
4	48					0.0	48.0	
4A	42					0.0	42.0	
5	21					0.0	21.0	
E1	60					0.0	60.0	

Soil Test, Crop Information and Plant Analysis Data Entries

Printed on: 4/16/25 12:07 PM Plan is based on: 590 Organic Nutrient Management Plan V 5.0 Permit #: WQ0003160000

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)
54.7	270	1825			1	50.0	Coastal Hay 4 cut, SG mod graze M	E	N				
38.59	384	1545			2	39.0	Coastal Hay 4 cut, SG mod graze M	E	N				
30.5	109	295			3	47.0	Coastal Hay 4 cut, SG mod graze M	E	N				
53.72	235	430			3A	65.0	Coastal Hay 3 cut, SG mod graze M	S	N				
16.527	336	842			4	48.0	Coastal Hay 4 cut, SG mod graze M	E	N				
36.754	187	349			4A	42.0	Coastal Hay 3 cut, SG mod graze M	S	N				
36.866	152	350			5	21.0	Coastal Hay 3 cut, SG mod graze M	E	N				
29.394	212	397			E1	60.0	Coastal Hay 4 cut, SG mod graze M	S	N				

Solids Application Rate Entries

Solids - Set the Planned Application Rates

Permit #: WQ

124832 "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							
3A	65.0	Coastal Hay 3 cut, SG mod graze M	235	230	Annual	30.9	100.0
4							
4A	42.0	Coastal Hay 3 cut, SG mod graze M	187	230	Annual	84.1	100.0
5							
E1	60.0	Coastal Hay 4 cut, SG mod graze M	212	175	Annual	34.6	100.0

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Plan is based on: 590 Organi

Effluent Application Rate Entries

Effluent - Set the Planned Application Rates

Permit #: WQ0003160000

25367267	Gallons of Effluent to be used annually				Will the planned rates use all of the effluent?	Yes			
934	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	50.0	Coastal Hay 4 cut, SG mod graze M	270	175	Annual	10.4	33.0	3.42	171
2	39.0	Coastal Hay 4 cut, SG mod graze M	384	175	Annual	10.4	33.0	3.42	133
3	47.0	Coastal Hay 4 cut, SG mod graze M	109	175	Annual	22.4	33.0	7.39	347
3A									
4	48.0	Coastal Hay 4 cut, SG mod graze M	336	175	Annual	10.4	32.0	3.33	160
4A									
5	21.0	Coastal Hay 3 cut, SG mod graze M	152	230	Annual	18.4	32.0	5.89	124
E1									
								Total Effluent This Page	935

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Plan is based on: 590 Organic Nutrient Management Plan

Available Water Capacity Entries

Printed on: 4/16/25 12:08 PM Plan is based on: 590 Organic Nutrient Management Pla Permit #: WQ0003160000

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	·ves Dugout Malote	0	8	0.11	0.2	8	12	0.08	0.18	12	14	0	0	14	24	0	0	1.76
2	Purves Clay	0	8	0.12	0.2	8	12	0.08	0.18	12	14	0.04	0.07	14	40	0	0	1.91
3	ılatorre Gravelly C	0	5	0.14	0.16	5	20	0	0	20	24	0	0	24				0.75
4	·ves Dugout Malote	0	8	0.11	0.2	8	12	0.08	0.18	12	14	0.04	0.07	14	24	0	0	1.87
5	Purves Clay	0	8	0.12	0.2	8	12	0.08	0.18	12	14	0.04	0.07	14	40	0	0	1.91

SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/19/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): 1
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm			
Phosphorus (extractable), ppm			
Potassium (extractable), ppm			
Sodium (extractable), ppm			
Magnesium (extractable), ppm			
Calcium (extractable), ppm			
Electrical Conductivity/Soluble Salts, dS/m			
pH, SU			

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	54.777	33.591
Phosphorus (extractable), ppm	270	27.6
Potassium (extractable), ppm	1825	983
Sodium (extractable), ppm	197	325
Magnesium (extractable), ppm	990	668
Calcium (extractable), ppm	8489	13204
Electrical Conductivity/Soluble Salts, dS/m	0.63	0.582
pH, SU	7.96	8.09

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

C. 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 information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature: Jule Mullin => for

Date: 4/7/25

Telephone Number: (254) 968-7101

D. How to Submit

The soil monitoring report with attached soil analyses should be included in the Annual Report that is required to be submitted by March 31 of each year. For State Only CAFOs, submit this soil monitoring report form to the TCEQ, Enforcement Division (MC-224), P.O. Box 13087, Austin, Texas 78711-3087 and provide a copy to the TCEQ Regional Office.

If you have any additional questions about this form or soil sample collection and soil analyses requirements, contact:

By e-mail: CAFO@tceq.texas.gov or call (512) -239-4671

SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/19/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): 2
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm			
Phosphorus (extractable), ppm			
Potassium (extractable), ppm			
Sodium (extractable), ppm			
Magnesium (extractable), ppm			
Calcium (extractable), ppm			
Electrical Conductivity/Soluble Salts, dS/m			
pH, SU			

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	38.598	28.756
Phosphorus (extractable), ppm	384	7.14
Potassium (extractable), ppm	1545	636
Sodium (extractable), ppm	263	316
Magnesium (extractable), ppm	832	510
Calcium (extractable), ppm	8351	28098
Electrical Conductivity/Soluble Salts, dS/m	0.606	0.631
pH, SU	8.16	8.15

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

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Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature:

Date: 4/5/25

Telephone Number: (254) 968-7101

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SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/19/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): 3
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm			
Phosphorus (extractable), ppm			
Potassium (extractable), ppm			
Sodium (extractable), ppm			
Magnesium (extractable), ppm			
Calcium (extractable), ppm			
Electrical Conductivity/Soluble Salts, dS/m			
pH, SU			

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	30.555	17.303
Phosphorus (extractable), ppm	109	13.5
Potassium (extractable), ppm	295	149
Sodium (extractable), ppm	53.2	63.6
Magnesium (extractable), ppm	256	155
Calcium (extractable), ppm	11087	22549
Electrical Conductivity/Soluble Salts, dS/m	0.398	0.414
pH, SU	7.56	7.8

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

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Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature: [signature]

Date: 4/7/25

Telephone Number: (254) 968-7101

D. How to Submit

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SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/30/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): 3A
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm			
Phosphorus (extractable), ppm			
Potassium (extractable), ppm			
Sodium (extractable), ppm			
Magnesium (extractable), ppm			
Calcium (extractable), ppm			
Electrical Conductivity/Soluble Salts, dS/m			
pH, SU			

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	53.72	39.639
Phosphorus (extractable), ppm	235	31.9
Potassium (extractable), ppm	430	241
Sodium (extractable), ppm	39.0	90.2
Magnesium (extractable), ppm	393	372
Calcium (extractable), ppm	393	372
Electrical Conductivity/Soluble Salts, dS/m	0.537	0.512
pH, SU	7.36	7.79

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

C. Certification

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Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature:

Date: 4/7/25

Telephone Number: (254) 968-7101

D. How to Submit

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SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/19/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): 4
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm			
Phosphorus (extractable), ppm			
Potassium (extractable), ppm			
Sodium (extractable), ppm			
Magnesium (extractable), ppm			
Calcium (extractable), ppm			
Electrical Conductivity/Soluble Salts, dS/m			
pH, SU			

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	16.527	6.93
Phosphorus (extractable), ppm	336	26.7
Potassium (extractable), ppm	842	422
Sodium (extractable), ppm	154	266
Magnesium (extractable), ppm	612	461
Calcium (extractable), ppm	7316	15903
Electrical Conductivity/Soluble Salts, dS/m	0.434	0.651
pH, SU	7.96	7.93

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

C. 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 information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature:

Date: 4/7/25

Telephone Number: (254) 968-7101

D. How to Submit

The soil monitoring report with attached soil analyses should be included in the Annual Report that is required to be submitted by March 31 of each year. For State Only CAFOs, submit this soil monitoring report form to the TCEQ, Enforcement Division (MC-224), P.O. Box 13087, Austin, Texas 78711-3087 and provide a copy to the TCEQ Regional Office.

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SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/19/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): 4A
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm			
Phosphorus (extractable), ppm			
Potassium (extractable), ppm			
Sodium (extractable), ppm			
Magnesium (extractable), ppm			
Calcium (extractable), ppm			
Electrical Conductivity/Soluble Salts, dS/m			
pH, SU			

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	36.754	39.301
Phosphorus (extractable), ppm	187	15.9
Potassium (extractable), ppm	349	155
Sodium (extractable), ppm	118	201
Magnesium (extractable), ppm	415	284
Calcium (extractable), ppm	8039	15971
Electrical Conductivity/Soluble Salts, dS/m	0.569	0.99
pH, SU	7.58	7.74

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

C. 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 information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature:

Date: 4/7/25

Telephone Number: (254) 968-7101

D. How to Submit

The soil monitoring report with attached soil analyses should be included in the Annual Report that is required to be submitted by March 31 of each year. For State Only CAFOs, submit this soil monitoring report form to the TCEQ, Enforcement Division (MC-224), P.O. Box 13087, Austin, Texas 78711-3087 and provide a copy to the TCEQ Regional Office.

If you have any additional questions about this form or soil sample collection and soil analyses requirements, contact:

By e-mail: CAFO@tceq.texas.gov or call (512) -239-4671

SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/19/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): 5
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm			
Phosphorus (extractable), ppm			
Potassium (extractable), ppm			
Sodium (extractable), ppm			
Magnesium (extractable), ppm			
Calcium (extractable), ppm			
Electrical Conductivity/Soluble Salts, dS/m			
pH, SU			

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	36.866	18.692
Phosphorus (extractable), ppm	152	7.10
Potassium (extractable), ppm	350	166
Sodium (extractable), ppm	31.6	73.1
Magnesium (extractable), ppm	355	217
Calcium (extractable), ppm	8721	19384
Electrical Conductivity/Soluble Salts, dS/m	0.386	0.308
pH, SU	7.49	7.85

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

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Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature:

Date: 4/7/25

Telephone Number: (254) 968-7101

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SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/19/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): 5A
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm			
Phosphorus (extractable), ppm			
Potassium (extractable), ppm			
Sodium (extractable), ppm			
Magnesium (extractable), ppm			
Calcium (extractable), ppm			
Electrical Conductivity/Soluble Salts, dS/m			
pH, SU			

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	47.381	50.059
Phosphorus (extractable), ppm	226	12.8
Potassium (extractable), ppm	321	148
Sodium (extractable), ppm	34.5	87.0
Magnesium (extractable), ppm	388	289
Calcium (extractable), ppm	7907	23878
Electrical Conductivity/Soluble Salts, dS/m	0.186	0.512
pH, SU	7.38	7.75

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

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Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature:

Date: 4/7/25

Telephone Number: (254) 968-7101

D. How to Submit

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SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/19/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): 6
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	37.826	16.067	11.324
Phosphorus (extractable), ppm	73.1	70.0	1.56
Potassium (extractable), ppm	403	264	117
Sodium (extractable), ppm	23.1	25.0	32.2
Magnesium (extractable), ppm	313	281	203
Calcium (extractable), ppm	11636	13299	33303
Electrical Conductivity/Soluble Salts, dS/m	0.323	0.224	0.386
pH, SU	7.32	7.66	7.82

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm		
Phosphorus (extractable), ppm		
Potassium (extractable), ppm		
Sodium (extractable), ppm		
Magnesium (extractable), ppm		
Calcium (extractable), ppm		
Electrical Conductivity/Soluble Salts, dS/m		
pH, SU		

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

C. Certification

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Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature:

Date: 4/7/25

Telephone Number: (254) 968-7101

D. How to Submit

The soil monitoring report with attached soil analyses should be included in the Annual Report that is required to be submitted by March 31 of each year. For State Only CAFOs, submit this soil monitoring report form to the TCEQ, Enforcement Division (MC-224), P.O. Box 13087, Austin, Texas 78711-3087 and provide a copy to the TCEQ Regional Office.

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By e-mail: CAFO@tceq.texas.gov or call (512) -239-4671

SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/30/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): 8A
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm			
Phosphorus (extractable), ppm			
Potassium (extractable), ppm			
Sodium (extractable), ppm			
Magnesium (extractable), ppm			
Calcium (extractable), ppm			
Electrical Conductivity/Soluble Salts, dS/m			
pH, SU			

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	8.794	3.68
Phosphorus (extractable), ppm	62.6	5.41
Potassium (extractable), ppm	190	146
Sodium (extractable), ppm	9.51	35.6
Magnesium (extractable), ppm	192	186
Calcium (extractable), ppm	9871	24319
Electrical Conductivity/Soluble Salts, dS/m	0.223	0.279
pH, SU	7.66	7.9

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

C. Certification

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Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature:

Date: 4/4/25

Telephone Number: (254) 968-7101

D. How to Submit

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SOIL MONITORING REPORT FOR CAFO INDIVIDUAL PERMITS IN THE SOLE SOURCE IMPAIRMENT ZONES

A. Sample collection

1) Samples were collected for the land management unit (LMU) identified below.

☑ Yes, complete this form and Tables 1 and 2 below. **Attach a copy of the laboratory analyses to this soil monitoring report form.**

☐ No, provide the facility information for the LMU below with the exception of the tables.

2) Reporting Year: 2024 Sample Collection Date: 9/30/2024

B. Facility Information

1) Permit Number: WQ0003160000
2) Site Name: Hillside Dairy
3) Name of LMU (**LMU Name should correspond to field designation located on the Map included in the PPP**): E1
4) Name of Owner/Operator: Hillside Dairy, LLC
5) Mailing Address for Owner/Operator: 1865 Private Road 1233, Hico, TX 76457

Table 1. Soil Analysis Report Where Manure, Sludge and Wastewater are not Incorporated

Soil Sample Parameter	0-2 inches soil depth	2-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm	29.394	10.046	4.009
Phosphorus (extractable), ppm	212	25.1	6.56
Potassium (extractable), ppm	397	333	155
Sodium (extractable), ppm	50.7	94.8	86.2
Magnesium (extractable), ppm	440	283	154
Calcium (extractable), ppm	8216	10224	14519
Electrical Conductivity/Soluble Salts, dS/m	0.309	0.325	0.421
pH, SU	7.54	7.74	7.86

Table 2. Soil Analysis Report Where Manure, Sludge and Wastewater are Incorporated

Soil Sample Parameter	0-6 inches soil depth	6-24 inches soil depth
Nitrate-Nitrogen (NO_3-N), ppm		
Phosphorus (extractable), ppm		
Potassium (extractable), ppm		
Sodium (extractable), ppm		
Magnesium (extractable), ppm		
Calcium (extractable), ppm		
Electrical Conductivity/Soluble Salts, dS/m		
pH, SU		

Note: ppm = parts per million, considered to be equivalent to milligrams per liter (mg/l); dS/m = decisiemins per meter, equivalent to millimhols per centimeter (mmhols/cm); SU = standard units.

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Print Name and Title of Responsible Official or Authorized Agent: Clemens Kuiper / Owner

Signature: [signature]

Date: 4/7/25

Telephone Number: (254) 968-7101

D. How to Submit

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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Lakeside Dairy

Chain of Custody Record

55741

E

Location:

(Do not fill in this shaded area if the facility information must be confidential)

Permit #: 3160

Region:	Organization #:	PCA Code:	Program:	Sampler telephone number: 254-552-1510
E-Mail ID:	Sampler: (signature) Vanessa Gardner			Sampler: (please print clearly) Vanessa Gardner

Lab ID Number	Sample ID	Date	Time	# of Bottles	Grab/ Comp.	Matrix L,S,M,O,T	CL2	pH	Cond.	Analyses Requested	REMARKS
14122	-01	9-19-24	13:10							see RFA	LMU#1 0-6
14123	-02		13:10								LMU#1 6-24
14124	-03		12:45								LMU#2 0-6
14125	-04		12:45								LMU#2 6-24
14126	-05		11:20								LMU#3 0-6
14127	-06	"	11:20								LMU#3 6-24
14128	-07	9/30/24	1100								LMU#3A 0-6
14129	-08	9/30/24	1100								LMU#3A 6-24
14130	-09	9-Fr24	13:30								LMU#4 0-6
14131	-10	9-19-24	13:30								LMU#4 6-24

	Date	Time		
Relinquished by: Chris Whitfield	10-8-24	9:00	Received by:	10-9-24
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by:	
Relinquished by:	Date	Time	Received by:	
Shipper name: FED EX	Shipper Number: 7790 9180 7986			

For Laboratory Use:

Received on ice:	Y	N	deg. C
Preservatives:	Y	N	
COC Seal:	Y	N	
Seals Intact:	Y	N	

TCEQ-10065 (11/02) White (Original) -Lab Yellow-Lab Pink-Contract Lab Manager Goldenrod-Collector Copy

Report for Samples analyzed Under Contract Number: 582-10-99518

Report ID: 055741a-45607
Print Date: 11-Nov-24

Texas A&M AgriLife Extension Service Soil, Water and Forage Testing Laboratory
108 Soil Testing Laboratory, 2478 TAMU
College Station, TX 77843-2478
979-862-4955

Client Name: Hillside Dairy
Client address: not provided

Standard Sample Report TCEQ COC# 055741

Laboratory ID:	TCEQ/client Sample ID:	Sample Depth (inches)	Sample Coll. Date:	Collector Name:	TCEQ Region #	Date Received	Sample Type:	Sample opened Date	Sample Ground Date	Process Tech.
14122	55741-01	0-6	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14123	55741-02	6-24	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14124	55741-03	0-6	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14125	55741-04	6-24	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14126	55741-05	0-6	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14127	55741-06	6-24	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14128	55741-07	0-6	9/30/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14129	55741-08	6-24	9/30/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14130	55741-09	0-6	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14131	55741-10	6-24	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP

Methods and Sample Preparation:

Receiving of samples Processing - SWFTL0097R0.SOP

Upon opening of sample chests, all samples are identified and organized as listed on COC to insure completeness and condition of shipment. Individually each sample is spread across a non-reactive tray where foreign materials is physically removed and discarded. The sample(s) are then placed inside a 65C drying oven and allow to remain until dry. Individual samples were then removed from drying oven and pulverized with an Agvise soil pulzerized fitted with a shaking 2mm screen. Every attempt was again made to remove any remaining plant tissue in the pulverized sample(s). Soil was then transferred to the laboratory sample cups and while additional sample was stored.

Analytical Methods:

Soil pH 2:1 DI water:soil SOIL pH AND CONDUCTIVITY - SWFTL0015R1.SOP

Schofield, R.K. and A.W. Taylor. 1955. The measurement of soil pH. Soil Sci. Soc. Am. Proc. 19:164-167.

Soil Conductivity 2:1 DI Water:Soil SOIL pH AND CONDUCTIVITY - SWFTL0015R1.SOP

Rhoades, J.D. 1982. Soluble salts. p. 167-178. In: A.L. Page, et al. (ed.). Methods of Soil Analysis: Part 2. Agronomy Monogr. 9. 2nd ed. ASA and SSSA, Madison, WI.

Soil Nitrate-N KCl Extractable with Cd-Reduction Analyses NO3-N EXTRACTION - SWFTL0014R5.SOP/NO3-N ANALYSIS - SWFTL0089R1.SOP

Keeney, D.R. and D.W. Nelson. 1982. Nitrogen - inorganic forms. p. 643-687. In: A.L. Page, et al. (ed.). Methods of Soil Analysis: Part 2. Agronomy Monogr. 9. 2nd ed. ASA and SSSA, Madison, WI.

Soil P, K, Ca, Mg, S and Na -- Mehlich III by ICP M3 EXTRACTION - SWFTL0079R1.SOP/M3 ANALYSIS - SWFTL0081R2.SOP

Mehlich-3 soil test extractant: a modification of Mehlich-2 extractant. Commun. Soil Sci. Plant Anal. 15(12):1409-1416

Report ID: 055741a-45607 Print Date: 11-Nov-24

Standard Sample Report TCEQ COC# 055741

Laboratory ID:	TCEQ/client Sample ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg units	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
14122	55741-01	270	ppm	1825	ppm	8489	ppm	990	ppm	105	ppm	197	ppm
14123	55741-02	27.6	ppm	983	ppm	13204	ppm	668	ppm	129	ppm	325	ppm
14124	55741-03	384	ppm	1545	ppm	8351	ppm	832	ppm	95.8	ppm	263	ppm
14125	55741-04	7.14	ppm	636	ppm	28098	ppm	510	ppm	240	ppm	316	ppm
14126	55741-05	109	ppm	295	ppm	11087	ppm	256	ppm	112	ppm	53.2	ppm
14127	55741-06	13.5	ppm	149	ppm	22549	ppm	155	ppm	188	ppm	63.6	ppm
14128	55741-07	235	ppm	430	ppm	6587	ppm	393	ppm	73.9	ppm	39.0	ppm
14129	55741-08	31.9	ppm	241	ppm	16191	ppm	372	ppm	148	ppm	90.2	ppm
14130	55741-09	336	ppm	842	ppm	7316	ppm	612	ppm	81.5	ppm	154	ppm
14131	55741-10	26.7	ppm	422	ppm	15903	ppm	461	ppm	158	ppm	266	ppm

Laboratory ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
Detection Limit	0.0219	ppm	1.8799	ppm	2.9331	ppm	0.4222	ppm	0.0100	ppm	0.7463	ppm
Reporting Limit	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm

Laboratory ID:	TCEQ/client Sample ID:	Mehlich III Extract Date	Mehlich III Extract Tech	Mehlich III Anal.Date	Mehlich III Anal. Tech
14122	55741-01	10/24/2024	FMR	10/24/2024	JLP
14123	55741-02	10/24/2024	FMR	10/24/2024	JLP
14124	55741-03	10/24/2024	FMR	10/24/2024	JLP
14125	55741-04	10/24/2024	FMR	10/24/2024	JLP
14126	55741-05	10/24/2024	FMR	10/24/2024	JLP
14127	55741-06	10/24/2024	FMR	10/24/2024	JLP
14128	55741-07	10/24/2024	FMR	10/24/2024	JLP
14129	55741-08	10/24/2024	FMR	10/24/2024	JLP
14130	55741-09	10/24/2024	FMR	10/24/2024	JLP
14131	55741-10	10/24/2024	FMR	10/24/2024	JLP

Report ID: 055741a-45607 Print Date: 11-Nov-24

Standard Sample Report TCEQ COC# 055741

Laboratory ID:	TCEQ/client Sample ID:	pH	pH units	Conductivity	Conductivity units	Nitrate-N	Nitrate-N units
14122	55741-01	7.96	NA	0.63	dS/M	54.777	ppm
14123	55741-02	8.09	NA	0.582	dS/M	33.591	ppm
14124	55741-03	8.16	NA	0.606	dS/M	38.598	ppm
14125	55741-04	8.15	NA	0.631	dS/M	28.756	ppm
14126	55741-05	7.56	NA	0.398	dS/M	30.555	ppm
14127	55741-06	7.8	NA	0.414	dS/M	17.303	ppm
14128	55741-07	7.36	NA	0.537	dS/M	53.72	ppm
14129	55741-08	7.79	NA	0.512	dS/M	39.639	ppm
14130	55741-09	7.96	NA	0.434	dS/M	16.527	ppm
14131	55741-10	7.93	NA	0.651	dS/M	6.93	ppm

Laboratory ID:	pH	pH units	Conductivity	Conductivity units	Nitrate-N	Nitrate-N units
Detection Limit	0.01	na	0.001	dS/M	0.01	ppm
Reporting Limit	0.1	na	0.001	dS/M	1	ppm

Laboratory ID:	TCEQ/client	pH/Conductivity prep		pH Analysis		Conductivity		Nitate-N Extract		Nitrate-N Analysis	
	Sample ID:	Date	Tech	Date	Tech	Date	Tech	Date	Tech	Date	Tech
14122	55741-01	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14123	55741-02	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14124	55741-03	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14125	55741-04	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14126	55741-05	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14127	55741-06	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14128	55741-07	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14129	55741-08	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14130	55741-09	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14131	55741-10	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW

Report ID: 055741a-45607 Print Date: 11-Nov-24
Quality Control Report TCEQ COC# 055741

Laboratory ID:		Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
14139	IC1009	43.9	ppm	275	ppm	2276	ppm	315	ppm	35.2	ppm	37.3	ppm
14140	IC1010	41.5	ppm	257	ppm	1934	ppm	298	ppm	33.4	ppm	35.3	ppm
	Mean IC	0	ppm	0	ppm	0	ppm	0	ppm	0	ppm	0	ppm
	IC Lower	37.5	ppm	235.0	ppm	1576.0	ppm	275.0	ppm	24.5	ppm	28.0	ppm
	IC Upper	45.9	ppm	300.0	ppm	2350.0	ppm	350.0	ppm	39.0	ppm	53.0	ppm
	blk217	0.545	ppm	<1.88	ppm	<2.93	ppm	<0.422	ppm	<0.0100	ppm	<0.100	ppm

Laboratory ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
Detection Limit	0.0219	ppm	1.8799	ppm	2.9331	ppm	0.4222	ppm	0.0100	ppm	0.7463	ppm
Reporting Limit	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm

Laboratory ID:	Mehlich III Extract Date	Mehlich III Extract Tech	Mehlich III Anal.Date	Mehlich III Anal. Tech
IC1009	10/24/2024	FMR	10/24/2024	JLP
IC1010	10/24/2024	FMR	10/24/2024	JLP
blk217	10/24/2024	FMR	10/24/2024	JLP

Report ID: 055741a-45607 Print Date: 11-Nov-24

Quality Control Report TCEQ COC# 055741

Laboratory ID:		pH	pH units	Conducitity conc.	Conducitity units	Nitrate-N conc.	Nitrate-N units	Nitrate-N % recovery
14139	IC1009	5.8	na	0.254	dS/M	5.945	ppm	
14140	IC1010	5.8	na	0.257	dS/M	5.345	ppm	
	Mean IC	5.825	na	0.2555	dS/M	5.645	ppm	
14140spike	Spiked sample	-	-	-	-	4.9	ppm	77.9
	IC lower	5.760	na	0.229	dS/M	4.7	ppm	
	IC Upper	5.990	na	0.299	dS/M	7.1	ppm	
	blk217	-	na	0	dS/M	0.636	ppm	

Laboratory ID:	pH	pH units	Conducitity conc.	Conducitity units	Nitrate-N conc.	Nitrate-N units
Detection Limit	0.01	na	0.001	dS/M	0.01	ppm
Reporting Limit	0.1	na	0.001	dS/M	1	ppm

Laboratory ID:	pH/Conductivity prep		pH Analysis		Conductivity		Nitate-N Extract		Nitrate-N Analysis	
	Date	Tech	Date	Tech	Date	Tech	Date	Tech	Date	Tech
IC1009	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
IC1010	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
blk217	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Hillside Dairy

Chain of Custody Record

55742

Location:

(Do not fill in this shaded area if the facility information must be confidential)

Permit #: 311.0

Region:	Organization #:	PCA Code:	Program:	Sampler telephone number:

E-Mail ID:

Sampler: (signature) Vanessa Gardner

Sampler: (please print clearly) Vanessa Gardner

Lab ID Number	Sample ID	Date	Time	# of Bottles	Grab/ Comp.	Matrix L,S,M,O,T	CL2	pH	Cond.	Analyses Requested	REMARKS
14132	-01	9-19-24	13:50							See RFA	LMU #4A 0-6
14133	-02		13:50								LMU #4A 6-24
14134	-03		10:50								LMU #5 0-6
14135	-04		10:50								LMU #5 6-24
14136	-05		10:15								LMU #5A 0-6
14137	-06		10:15								LMU #5A 6-24
14138	-07		9:48								LMU #6 0-~~12~~
14141	-08		9:48								LMU #6 6-24
	-09										~~LMU #8 0-6~~
	-10										~~LMU #8 6-24~~

Relinquished by:	Date	Time	Received by:	For Laboratory Use:
Cris Whitfield	10-8-24	9:00	10-9-24	
Relinquished by:	Date	Time	Received by:	Received on ice: Y N deg. C
Relinquished by:	Date	Time	Received by:	Preservatives: Y N
Relinquished by:	Date	Time	Received by:	COC Seal: Y N
Shipper name: Fed Ex	Shipper Number: 7790 9160 7986			Seals Intact: Y N

TCEQ-10065 (11/02) White (Original) -Lab Yellow-Lab Pink-Contract Lab Manager Goldenrod-Collector Copy

Report for Samples analyzed Under Contract Number: 582-10-99518

Report ID: 055742a-45607
Print Date: 11-Nov-24

Texas A&M AgriLife Extension Service Soil, Water and Forage Testing Laboratory
108 Soil Testing Laboratory, 2478 TAMU
College Station, TX 77843-2478
979-862-4955

Client Name: Hillside Dairy
Client address: not provided

Standard Sample Report TCEQ COC# 055742

Laboratory ID:	TCEQ/client Sample ID:	Sample Depth (inches)	Sample Coll. Date:	Collector Name:	TCEQ Region #	Date Received	Sample Type:	Sample opened Date	Sample Ground Date	Process Tech.
14132	55742-01	0-6	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14133	55742-02	6-24	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14134	55742-03	0-6	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14135	55742-04	6-24	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14136	55742-05	0-6	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14137	55742-06	6-24	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14138	55742-07	0-2	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP

Methods and Sample Preparation:

Receiving of samples Processing - SWFTL0097R0.SOP

Upon opening of sample chests, all samples are identified and organized as listed on COC to insure completeness and condition of shipment. Individually each sample is spread across a non-reactive tray where foreign materials is physically removed and discarded. The sample(s) are then placed inside a 65C drying oven and allow to remain until dry. Individual samples were then removed from drying oven and pulverized with an Agvise soil pulzerized fitted with a shaking 2mm screen. Every attempt was again made to remove any remaining plant tissue in the pulverized sample(s). Soil was then transferred to the laboratory sample cups and while additional sample was stored.

Analytical Methods:

Soil pH 2:1 DI water:soil SOIL pH AND CONDUCTIVITY - SWFTL0015R1.SOP

Schofield, R.K. and A.W. Taylor. 1955. The measurement of soil pH. Soil Sci. Soc. Am. Proc. 19:164-167.

Soil Conductivity 2:1 DI Water:Soil SOIL pH AND CONDUCTIVITY - SWFTL0015R1.SOP

Rhoades, J.D. 1982. Soluble salts. p. 167-178. In: A.L. Page, et al. (ed.). Methods of Soil Analysis: Part 2. Agronomy Monogr. 9. 2nd ed. ASA and SSSA, Madison, WI.

Soil Nitrate-N KCl Extractable with Cd-Reduction Analyses NO3-N EXTRACTION - SWFTL0014R5.SOP/NO3-N ANALYSIS - SWFTL0089R1.SOP

Keeney, D.R. and D.W. Nelson. 1982. Nitrogen - inorganic forms. p. 643-687. In: A.L. Page, et al. (ed.). Methods of Soil Analysis: Part 2. Agronomy Monogr. 9. 2nd ed. ASA and SSSA, Madison, WI.

Soil P, K, Ca, Mg, S and Na -- Mehlich III by ICP M3 EXTRACTION - SWFTL0079R1.SOP/M3 ANALYSIS - SWFTL0081R2.SOP

Mehlich-3 soil test extractant: a modification of Mehlich-2 extractant. Commun. Soil Sci. Plant Anal. 15(12):1409-1416

Report ID: 055742a-45607 Print Date: 11-Nov-24

Standard Sample Report TCEQ COC# 055742

Laboratory ID:	TCEQ/client Sample ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg units	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
14132	55742-01	187	ppm	349	ppm	8039	ppm	415	ppm	103	ppm	118	ppm
14133	55742-02	15.9	ppm	155	ppm	15971	ppm	284	ppm	192	ppm	201	ppm
14134	55742-03	152	ppm	350	ppm	8721	ppm	355	ppm	86.7	ppm	31.6	ppm
14135	55742-04	7.10	ppm	166	ppm	19384	ppm	217	ppm	165	ppm	73.1	ppm
14136	55742-05	226	ppm	321	ppm	7907	ppm	388	ppm	78.9	ppm	34.5	ppm
14137	55742-06	12.8	ppm	148	ppm	23878	ppm	289	ppm	205	ppm	87.0	ppm
14138	55742-07	73.1	ppm	403	ppm	11636	ppm	313	ppm	106	ppm	23.1	ppm

Laboratory ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
Detection Limit	0.0219	ppm	1.8799	ppm	2.9331	ppm	0.4222	ppm	0.0100	ppm	0.7463	ppm
Reporting Limit	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm

Laboratory ID:	TCEQ/client Sample ID:	Mehlich III Extract Date	Mehlich III Extract Tech	Mehlich III Anal.Date	Mehlich III Anal. Tech
14132	55742-01	10/24/2024	FMR	10/24/2024	JLP
14133	55742-02	10/24/2024	FMR	10/24/2024	JLP
14134	55742-03	10/24/2024	FMR	10/24/2024	JLP
14135	55742-04	10/24/2024	FMR	10/24/2024	JLP
14136	55742-05	10/24/2024	FMR	10/24/2024	JLP
14137	55742-06	10/24/2024	FMR	10/24/2024	JLP
14138	55742-07	10/24/2024	FMR	10/24/2024	JLP

Report ID: 055742a-45607 Print Date: 11-Nov-24

Standard Sample Report TCEQ COC# 055742

Laboratory ID:	TCEQ/client Sample ID:	pH	pH units	Conductivity	Conductivity units	Nitrate-N	Nitrate-N units
14132	55742-01	7.58	NA	0.569	dS/M	36.754	ppm
14133	55742-02	7.74	NA	0.99	dS/M	39.301	ppm
14134	55742-03	7.49	NA	0.386	dS/M	36.866	ppm
14135	55742-04	7.85	NA	0.308	dS/M	18.692	ppm
14136	55742-05	7.38	NA	0.186	dS/M	47.381	ppm
14137	55742-06	7.75	NA	0.512	dS/M	50.059	ppm
14138	55742-07	7.32	NA	0.323	dS/M	37.826	ppm

Laboratory ID:	pH	pH units	Conductivity	Conductivity units	Nitrate-N	Nitrate-N units
Detection Limit	0.01	na	0.001	dS/M	0.01	ppm
Reporting Limit	0.1	na	0.001	dS/M	1	ppm

Laboratory ID:	TCEQ/client	pH/Conductivity prep		pH Analysis		Conductivity		Nitate-N Extract		Nitrate-N Analysis	
	Sample ID:	Date	Tech	Date	Tech	Date	Tech	Date	Tech	Date	Tech
14132	55742-01	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14133	55742-02	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14134	55742-03	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14135	55742-04	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14136	55742-05	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14137	55742-06	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14138	55742-07	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW

Report ID: 055742a-45607 Print Date: 11-Nov-24

Quality Control Report TCEQ COC# 055742

Laboratory ID:		Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
14139	IC1009	43.9	ppm	275	ppm	2276	ppm	315	ppm	35.2	ppm	37.3	ppm
14140	IC1010	41.5	ppm	257	ppm	1934	ppm	298	ppm	33.4	ppm	35.3	ppm
	Mean IC	0	ppm	0	ppm	0	ppm	0	ppm	0	ppm	0	ppm
	IC Lower	37.5	ppm	235.0	ppm	1576.0	ppm	275.0	ppm	24.5	ppm	28.0	ppm
	IC Upper	45.9	ppm	300.0	ppm	2350.0	ppm	350.0	ppm	39.0	ppm	53.0	ppm
	blk217	0.545	ppm	<1.88	ppm	<2.93	ppm	<0.422	ppm	<0.0100	ppm	<0.100	ppm

Laboratory ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
Detection Limit	0.0219	ppm	1.8799	ppm	2.9331	ppm	0.4222	ppm	0.0100	ppm	0.7463	ppm
Reporting Limit	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm

Laboratory ID:	Mehlich III Extract Date	Mehlich III Extract Tech	Mehlich III Anal.Date	Mehlich III Anal. Tech
IC1009	10/24/2024	FMR	10/24/2024	JLP
IC1010	10/24/2024	FMR	10/24/2024	JLP
blk217	10/24/2024	FMR	10/24/2024	JLP

Report ID: 055742a-45607 Print Date: 11-Nov-24

Quality Control Report TCEQ COC# 055742

Laboratory ID:		pH	pH units	Conducitity conc.	Conducitity units	Nitrate-N conc.	Nitrate-N units	Nitrate-N % recovery
14139	IC1009	5.8	na	0.254	dS/M	5.945	ppm	
14140	IC1010	5.8	na	0.257	dS/M	5.345	ppm	
	Mean IC	5.825	na	0.2555	dS/M	5.645	ppm	
14140spike	Spiked sample	-	-	-	-	4.9	ppm	77.9
	IC lower	5.760	na	0.229	dS/M	4.7	ppm	
	IC Upper	5.990	na	0.299	dS/M	7.1	ppm	
	blk217	-	na	0	dS/M	0.636	ppm	

Laboratory ID:	pH	pH units	Conducitity conc.	Conducitity units	Nitrate-N conc.	Nitrate-N units
Detection Limit	0.01	na	0.001	dS/M	0.01	ppm
Reporting Limit	0.1	na	0.001	dS/M	1	ppm

Laboratory ID:	pH/Conductivity prep		pH Analysis		Conductivity		Nitate-N Extract		Nitrate-N Analysis	
	Date	Tech	Date	Tech	Date	Tech	Date	Tech	Date	Tech
IC1009	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
IC1010	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
blk217	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW

Report for Samples analyzed Under Contract Number: 582-10-99518

Report ID: 055742b-45607
Print Date: 11-Nov-24

Texas A&M AgriLife Extension Service Soil, Water and Forage Testing Laboratory
108 Soil Testing Laboratory, 2478 TAMU
College Station, TX 77843-2478
979-862-4955

Client Name: Hillside Dairy
Client address: not provided

Standard Sample Report TCEQ COC# 055742

Laboratory ID:	TCEQ/client Sample ID:	Sample Depth (inches)	Sample Coll. Date:	Collector Name:	TCEQ Region #	Date Received	Sample Type:	Sample opened Date	Sample Ground Date	Process Tech.
14141	55742-08	6-24	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP

Methods and Sample Preparation:

Receiving of samples Processing - SWFTL0097R0.SOP

Upon opening of sample chests, all samples are identified and organized as listed on COC to insure completeness and condition of shipment. Individually each sample is spread across a non-reactive tray where foreign materials is physically removed and discarded. The sample(s) are then placed inside a 65C drying oven and allow to remain until dry. Individual samples were then removed from drying oven and pulverized with an Agvise soil pulzerized fitted with a shaking 2mm screen. Every attempt was again made to remove any remaining plant tissue in the pulverized sample(s). Soil was then transferred to the laboratory sample cups and while additional sample was stored.

Analytical Methods:

Soil pH 2:1 DI water:soil SOIL pH AND CONDUCTIVITY - SWFTL0015R1.SOP

Schofield, R.K. and A.W. Taylor. 1955. The measurement of soil pH. Soil Sci. Soc. Am. Proc. 19:164-167.

Soil Conductivity 2:1 DI Water:Soil SOIL pH AND CONDUCTIVITY - SWFTL0015R1.SOP

Rhoades, J.D. 1982. Soluble salts. p. 167-178. In: A.L. Page, et al. (ed.). Methods of Soil Analysis: Part 2. Agronomy Monogr. 9. 2nd ed. ASA and SSSA, Madison, WI.

Soil Nitrate-N KCl Extractable with Cd-Reduction Analyses NO3-N EXTRACTION - SWFTL0014R5.SOP/NO3-N ANALYSIS - SWFTL0089R1.SOP

Keeney, D.R. and D.W. Nelson. 1982. Nitrogen - inorganic forms. p. 643-687. In: A.L. Page, et al. (ed.). Methods of Soil Analysis: Part 2. Agronomy Monogr. 9. 2nd ed. ASA and SSSA, Madison, WI.

Soil P, K, Ca, Mg, S and Na -- Mehlich III by ICP M3 EXTRACTION - SWFTL0079R1.SOP/M3 ANALYSIS - SWFTL0081R2.SOP

Mehlich-3 soil test extractant: a modification of Mehlich-2 extractant. Commun. Soil Sci. Plant Anal. 15(12):1409-1416

Report ID: 055742b-45607 Print Date: 11-Nov-24

Standard Sample Report TCEQ COC# 055742

Laboratory ID:	TCEQ/client Sample ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg units	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
14141	55742-08	1.56	ppm	117	ppm	33303	ppm	203	ppm	258	ppm	32.2	ppm

Laboratory ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
Detection Limit	0.0219	ppm	1.8799	ppm	2.9331	ppm	0.4222	ppm	0.0100	ppm	0.7463	ppm
Reporting Limit	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm

Laboratory ID:	TCEQ/client Sample ID:	Mehlich III Extract Date	Mehlich III Extract Tech	Mehlich III Anal.Date	Mehlich III Anal. Tech
14141	55742-08	10/24/2024	FMR	10/24/2024	JLP

Report ID: 055742b-45607 Print Date: 11-Nov-24

Standard Sample Report TCEQ COC# 055742

Laboratory ID:	TCEQ/client Sample ID:	pH	pH units	Conductivity	Conductivity units	Nitrate-N	Nitrate-N units
14141	55742-08	7.82	NA	0.386	dS/M	11.324	ppm

Laboratory ID:	pH	pH units	Conductivity	Conductivity units	Nitrate-N	Nitrate-N units
Detection Limit	0.01	na	0.001	dS/M	0.01	ppm
Reporting Limit	0.1	na	0.001	dS/M	1	ppm

Laboratory ID:	TCEQ/client	pH/Conductivity prep		pH Analysis		Conductivity		Nitate-N Extract		Nitrate-N Analysis	
	Sample ID:	Date	Tech	Date	Tech	Date	Tech	Date	Tech	Date	Tech
14141	55742-08	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW

Report ID: 055742b-45607 Print Date: 11-Nov-24
Quality Control Report TCEQ COC# 055742

Laboratory ID:		Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
14159	IC1011	40.0	ppm	260	ppm	1974	ppm	293	ppm	31.4	ppm	33.2	ppm
14160	IC1012	41.7	ppm	257	ppm	1897	ppm	298	ppm	32.6	ppm	32.3	ppm
	Mean IC	0	ppm	0	ppm	0	ppm	0	ppm	0	ppm	0	ppm
	IC Lower	37.5	ppm	235.0	ppm	1576.0	ppm	275.0	ppm	24.5	ppm	28.0	ppm
	IC Upper	45.9	ppm	300.0	ppm	2350.0	ppm	350.0	ppm	39.0	ppm	53.0	ppm
	blk217	0.545	ppm	<1.88	ppm	<2.93	ppm	<0.422	ppm	<0.0100	ppm	<0.100	ppm

Laboratory ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
Detection Limit	0.0219	ppm	1.8799	ppm	2.9331	ppm	0.4222	ppm	0.0100	ppm	0.7463	ppm
Reporting Limit	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm

Laboratory ID:	Mehlich III Extract Date	Mehlich III Extract Tech	Mehlich III Anal.Date	Mehlich III Anal. Tech
IC1011	10/24/2024	FMR	10/24/2024	JLP
IC1012	10/24/2024	FMR	10/24/2024	JLP
blk217	10/24/2024	FMR	10/24/2024	JLP

Report ID: 055742b-45607 Print Date: 11-Nov-24

Quality Control Report TCEQ COC# 055742

Laboratory ID:		pH	pH units	Conducitity conc.	Conducitity units	Nitrate-N conc.	Nitrate-N units	Nitrate-N % recovery
14159	IC1011	5.8	na	0.256	dS/M	7.072	ppm	
14160	IC1012	5.8	na	0.253	dS/M	5.683	ppm	
	Mean IC	5.815	na	0.2545	dS/M	6.3775	ppm	
14160spike	Spiked sample	-	-	-	-	4.9	ppm	77.9
	IC lower	5.760	na	0.229	dS/M	4.7	ppm	
	IC Upper	5.990	na	0.299	dS/M	7.1	ppm	
	blk217	-	na	0	dS/M	0.636	ppm	

Laboratory ID:	pH	pH units	Conducitity conc.	Conducitity units	Nitrate-N conc.	Nitrate-N units
Detection Limit	0.01	na	0.001	dS/M	0.01	ppm
Reporting Limit	0.1	na	0.001	dS/M	1	ppm

Laboratory ID:	pH/Conductivity prep		pH Analysis		Conductivity		Nitate-N Extract		Nitrate-N Analysis	
	Date	Tech	Date	Tech	Date	Tech	Date	Tech	Date	Tech
IC1011	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
IC1012	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
blk217	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Chain of Custody Record

55743

Location: Hillside Dairy
(Do not fill in this shaded area if the facility information must be confidential)

Permit #: 3160

Region:	Organization #:	PCA Code:	Program:	Sampler telephone number:
E-Mail ID:	Sampler: (signature) Vanessa Hardner		Sampler: (please print clearly) Vanessa Gardner	

Lab ID Number	Sample ID	Date	Time	# of Bottles	Grab/ Comp.	Matrix L,S,M,O,T	CL2	pH	Cond.	Analyses Requested	REMARKS
14142	-01	9/30/24	1155							See RFA	LMU #8A 0-6
14143	-02	9/30/24	1155								LMU #8A 6-24
14144	-03	9-19-24	12:15								LMU #E1 0-2
14145	-04	9-19-24	12:15								LMU #E1 2-6
14146	-05	9-19-24	12:15								LMU #E1 6-24
	-06										~~LMU #MR1 0-6~~
	-07										~~LMU #MR1 6-24~~
	-08										~~LMU #MR2 0-6~~
	-09										~~LMU #MR2 6-24~~
	-10										~~LMU #320 0-6~~

Relinquished by: Chris Whitefield	Date 10-8-24	Time 9:00	Received by: [signature] 10-9-24	For Laboratory Use:
Relinquished by:	Date	Time	Received by:	Received on ice: Y N deg. C
Relinquished by:	Date	Time	Received by:	Preservatives: Y N
Relinquished by:	Date	Time	Received by:	COC Seal: Y N
Shipper name: Fed Ex	Shipper Number: 7790 9180 7986			Seals Intact: Y N

TCEQ-10065 (11/02) White (Original) -Lab Yellow-Lab Pink-Contract Lab Manager Goldenrod-Collector Copy

Report for Samples analyzed Under Contract Number: 582-10-99518

Report ID: 055743a-45607
Print Date: 11-Nov-24

Texas A&M AgriLife Extension Service Soil, Water and Forage Testing Laboratory
108 Soil Testing Laboratory, 2478 TAMU
College Station, TX 77843-2478
979-862-4955

Client Name: Hillside Dairy
Client address: not provided

Standard Sample Report TCEQ COC# 055743

Laboratory ID:	TCEQ/client Sample ID:	Sample Depth (inches)	Sample Coll. Date:	Collector Name:	TCEQ Region #	Date Received	Sample Type:	Sample opened Date	Sample Ground Date	Process Tech.
14142	55743-01	0-6	9/30/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14143	55743-02	6-24	9/30/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14144	55743-03	0-2	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14145	55743-04	2-6	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP
14146	55743-05	6-24	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP

Methods and Sample Preparation:

Receiving of samples Processing - SWFTL0097R0.SOP

Upon opening of sample chests, all samples are identified and organized as listed on COC to insure completeness and condition of shipment. Individually each sample is spread across a non-reactive tray where foreign materials is physically removed and discarded. The sample(s) are then placed inside a 65C drying oven and allow to remain until dry. Individual samples were then removed from drying oven and pulverized with an Agvise soil pulzerized fitted with a shaking 2mm screen. Every attempt was again made to remove any remaining plant tissue in the pulverized sample(s). Soil was then transferred to the laboratory sample cups and while additional sample was stored.

Analytical Methods:

Soil pH 2:1 DI water:soil SOIL pH AND CONDUCTIVITY - SWFTL0015R1.SOP

Schofield, R.K. and A.W. Taylor. 1955. The measurement of soil pH. Soil Sci. Soc. Am. Proc. 19:164-167.

Soil Conductivity 2:1 DI Water:Soil SOIL pH AND CONDUCTIVITY - SWFTL0015R1.SOP

Rhoades, J.D. 1982. Soluble salts. p. 167-178. In: A.L. Page, et al. (ed.). Methods of Soil Analysis: Part 2. Agronomy Monogr. 9. 2nd ed. ASA and SSSA, Madison, WI.

Soil Nitrate-N KCl Extractable with Cd-Reduction Analyses NO3-N EXTRACTION - SWFTL0014R5.SOP/NO3-N ANALYSIS - SWFTL0089R1.SOP

Keeney, D.R. and D.W. Nelson. 1982. Nitrogen - inorganic forms. p. 643-687. In: A.L. Page, et al. (ed.). Methods of Soil Analysis: Part 2. Agronomy Monogr. 9. 2nd ed. ASA and SSSA, Madison, WI.

Soil P, K, Ca, Mg, S and Na -- Mehlich III by ICP M3 EXTRACTION - SWFTL0079R1.SOP/M3 ANALYSIS - SWFTL0081R2.SOP

Mehlich-3 soil test extractant: a modification of Mehlich-2 extractant. Commun. Soil Sci. Plant Anal. 15(12):1409-1416

Report ID: 055743a-45607 Print Date: 11-Nov-24

Standard Sample Report TCEQ COC# 055743

Laboratory ID:	TCEQ/client Sample ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg units	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
14142	55743-01	62.6	ppm	190	ppm	9871	ppm	192	ppm	84.4	ppm	9.51	ppm
14143	55743-02	5.41	ppm	146	ppm	24319	ppm	186	ppm	193	ppm	35.6	ppm
14144	55743-03	212	ppm	397	ppm	8216	ppm	440	ppm	85.4	ppm	50.7	ppm
14145	55743-04	25.1	ppm	333	ppm	10224	ppm	283	ppm	97.3	ppm	94.8	ppm
14146	55743-05	6.56	ppm	155	ppm	14519	ppm	154	ppm	127	ppm	86.2	ppm

Laboratory ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
Detection Limit	0.0219	ppm	1.8799	ppm	2.9331	ppm	0.4222	ppm	0.0100	ppm	0.7463	ppm
Reporting Limit	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm

Laboratory ID:	TCEQ/client Sample ID:	Mehlich III Extract Date	Mehlich III Extract Tech	Mehlich III Anal.Date	Mehlich III Anal. Tech
14142	55743-01	10/24/2024	FMR	10/24/2024	JLP
14143	55743-02	10/24/2024	FMR	10/24/2024	JLP
14144	55743-03	10/24/2024	FMR	10/24/2024	JLP
14145	55743-04	10/24/2024	FMR	10/24/2024	JLP
14146	55743-05	10/24/2024	FMR	10/24/2024	JLP

Report ID: 055743a-45607 Print Date: 11-Nov-24

Standard Sample Report TCEQ COC# 055743

Laboratory ID:	TCEQ/client Sample ID:	pH	pH units	Conductivity	Conductivity units	Nitrate-N	Nitrate-N units
14142	55743-01	7.66	NA	0.223	dS/M	8.794	ppm
14143	55743-02	7.9	NA	0.279	dS/M	3.68	ppm
14144	55743-03	7.54	NA	0.309	dS/M	29.394	ppm
14145	55743-04	7.74	NA	0.325	dS/M	10.046	ppm
14146	55743-05	7.86	NA	0.421	dS/M	4.009	ppm

Laboratory ID:	pH	pH units	Conductivity	Conductivity units	Nitrate-N	Nitrate-N units
Detection Limit	0.01	na	0.001	dS/M	0.01	ppm
Reporting Limit	0.1	na	0.001	dS/M	1	ppm

Laboratory ID:	TCEQ/client	pH/Conductivity prep		pH Analysis		Conductivity		Nitate-N Extract		Nitrate-N Analysis	
	Sample ID:	Date	Tech	Date	Tech	Date	Tech	Date	Tech	Date	Tech
14142	55743-01	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14143	55743-02	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14144	55743-03	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14145	55743-04	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
14146	55743-05	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW

Report ID: 055743a-45607 Print Date: 11-Nov-24
Quality Control Report TCEQ COC# 055743

Laboratory ID:		Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
14159	IC1011	40.0	ppm	260	ppm	1974	ppm	293	ppm	31.4	ppm	33.2	ppm
14160	IC1012	41.7	ppm	257	ppm	1897	ppm	298	ppm	32.6	ppm	32.3	ppm
	Mean IC	0	ppm	0	ppm	0	ppm	0	ppm	0	ppm	0	ppm
	IC Lower	37.5	ppm	235.0	ppm	1576.0	ppm	275.0	ppm	24.5	ppm	28.0	ppm
	IC Upper	45.9	ppm	300.0	ppm	2350.0	ppm	350.0	ppm	39.0	ppm	53.0	ppm
	blk217	0.545	ppm	<1.88	ppm	<2.93	ppm	<0.422	ppm	<0.0100	ppm	<0.100	ppm

Laboratory ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
Detection Limit	0.0219	ppm	1.8799	ppm	2.9331	ppm	0.4222	ppm	0.0100	ppm	0.7463	ppm
Reporting Limit	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm

Laboratory ID:	Mehlich III Extract Date	Mehlich III Extract Tech	Mehlich III Anal.Date	Mehlich III Anal. Tech
IC1011	10/24/2024	FMR	10/24/2024	JLP
IC1012	10/24/2024	FMR	10/24/2024	JLP
blk217	10/24/2024	FMR	10/24/2024	JLP

Report ID: 055743a-45607 Print Date: 11-Nov-24

Quality Control Report TCEQ COC# 055743

Laboratory ID:		pH	pH units	Conducitity conc.	Conducitity units	Nitrate-N conc.	Nitrate-N units	Nitrate-N % recovery
14159	IC1011	5.8	na	0.256	dS/M	7.072	ppm	
14160	IC1012	5.8	na	0.253	dS/M	5.683	ppm	
	Mean IC	5.815	na	0.2545	dS/M	6.3775	ppm	
14160spike	Spiked sample	-	-	-	-	4.9	ppm	77.9
	IC lower	5.760	na	0.229	dS/M	4.7	ppm	
	IC Upper	5.990	na	0.299	dS/M	7.1	ppm	
	blk217	-	na	0	dS/M	0.636	ppm	

Laboratory ID:	pH	pH units	Conducitity conc.	Conducitity units	Nitrate-N conc.	Nitrate-N units
Detection Limit	0.01	na	0.001	dS/M	0.01	ppm
Reporting Limit	0.1	na	0.001	dS/M	1	ppm

Laboratory ID:	pH/Conductivity prep		pH Analysis		Conductivity		Nitate-N Extract		Nitrate-N Analysis	
	Date	Tech	Date	Tech	Date	Tech	Date	Tech	Date	Tech
IC1011	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
IC1012	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
blk217	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Chain of Custody Record

55744

Location: Hillside Dairy
(Do not fill in this shaded area if the facility information must be confidential)

Permit #: 3160

Region:	Organization #:	PCA Code:	Program:	Sampler telephone number:

E-Mail ID:

Sampler: (signature) Vanessa Gardner

Sampler: (please print clearly) Vanessa Gardner

Lab ID Number	Sample ID	Date	Time	# of Bottles	Grab/ Comp.	Matrix L,S,M,O,T	CL2	pH	Cond.	Analyses Requested	REMARKS
	-01									~~See RFA~~	~~LMU# 220 6-24~~
14147	-02	9-19-24	9:45							See RFA	LMU#6 2-6
	-03										
	-04										
	-05										
	-06										
	-07										
	-08										
	-09										
	-10										

Relinquished by:	Date	Time	Received by:
Cindy Critchfield	10-8-24	9:00	[signature] 10-9-24
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:

Shipper name: Fed Ex

Shipper Number: 7790 9180 7986

For Laboratory Use:

Received on ice:	Y	N	deg. C
Preservatives:	Y	N	
COC Seal:	Y	N	
Seals Intact:	Y	N	

TCEQ-10065 (11/02) White (Original) -Lab Yellow-Lab Pink-Contract Lab Manager Goldenrod-Collector Copy

Report for Samples analyzed Under Contract Number: 582-10-99518

Report ID: 055744a-45607
Print Date: 11-Nov-24

Texas A&M AgriLife Extension Service Soil, Water and Forage Testing Laboratory
108 Soil Testing Laboratory, 2478 TAMU
College Station, TX 77843-2478
979-862-4955

Client Name: Hillside Dairy
Client address: not provided

Standard Sample Report TCEQ COC# 055744

Laboratory ID:	TCEQ/client Sample ID:	Sample Depth (inches)	Sample Coll. Date:	Collector Name:	TCEQ Region #	Date Received	Sample Type:	Sample opened Date	Sample Ground Date	Process Tech.
14147	55744-01	2-6	9/19/2024	Vanessa Gardner	4	10/9/2024	soil	10/9/2024	10/20/2024	TLP

Methods and Sample Preparation:

Receiving of samples Processing - SWFTL0097R0.SOP

Upon opening of sample chests, all samples are identified and organized as listed on COC to insure completeness and condition of shipment. Individually each sample is spread across a non-reactive tray where foreign materials is physically removed and discarded. The sample(s) are then placed inside a 65C drying oven and allow to remain until dry. Individual samples were then removed from drying oven and pulverized with an Agvise soil pulzerized fitted with a shaking 2mm screen. Every attempt was again made to remove any remaining plant tissue in the pulverized sample(s). Soil was then transferred to the laboratory sample cups and while additional sample was stored.

Analytical Methods:

Soil pH 2:1 DI water:soil SOIL pH AND CONDUCTIVITY - SWFTL0015R1.SOP

Schofield, R.K. and A.W. Taylor. 1955. The measurement of soil pH. Soil Sci. Soc. Am. Proc. 19:164-167.

Soil Conductivity 2:1 DI Water:Soil SOIL pH AND CONDUCTIVITY - SWFTL0015R1.SOP

Rhoades, J.D. 1982. Soluble salts. p. 167-178. In: A.L. Page, et al. (ed.). Methods of Soil Analysis: Part 2. Agronomy Monogr. 9. 2nd ed. ASA and SSSA, Madison, WI.

Soil Nitrate-N KCl Extractable with Cd-Reduction Analyses NO3-N EXTRACTION - SWFTL0014R5.SOP/NO3-N ANALYSIS - SWFTL0089R1.SOP

Keeney, D.R. and D.W. Nelson. 1982. Nitrogen - inorganic forms. p. 643-687. In: A.L. Page, et al. (ed.). Methods of Soil Analysis: Part 2. Agronomy Monogr. 9. 2nd ed. ASA and SSSA, Madison, WI.

Soil P, K, Ca, Mg, S and Na -- Mehlich III by ICP M3 EXTRACTION - SWFTL0079R1.SOP/M3 ANALYSIS - SWFTL0081R2.SOP

Mehlich-3 soil test extractant: a modification of Mehlich-2 extractant. Commun. Soil Sci. Plant Anal. 15(12):1409-1416

Report ID: 055744a-45607 Print Date: 11-Nov-24

Standard Sample Report TCEQ COC# 055744

Laboratory ID:	TCEQ/client Sample ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg units	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
14147	55744-01	70.0	ppm	264	ppm	13299	ppm	281	ppm	114	ppm	25.0	ppm

Laboratory ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
Detection Limit	0.0219	ppm	1.8799	ppm	2.9331	ppm	0.4222	ppm	0.0100	ppm	0.7463	ppm
Reporting Limit	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm

Laboratory ID:	TCEQ/client Sample ID:	Mehlich III Extract Date	Mehlich III Extract Tech	Mehlich III Anal.Date	Mehlich III Anal. Tech
14147	55744-01	10/24/2024	FMR	10/24/2024	JLP

Report ID: 055744a-45607 Print Date: 11-Nov-24

Standard Sample Report TCEQ COC# 055744

Laboratory ID:	TCEQ/client Sample ID:	pH	pH units	Conductivity	Conductivity units	Nitrate-N	Nitrate-N units
14147	55744-01	7.66	NA	0.224	dS/M	16.067	ppm

Laboratory ID:	pH	pH units	Conductivity	Conductivity units	Nitrate-N	Nitrate-N units
Detection Limit	0.01	na	0.001	dS/M	0.01	ppm
Reporting Limit	0.1	na	0.001	dS/M	1	ppm

Laboratory ID:	TCEQ/client Sample ID:	pH/Conductivity prep Date	pH/Conductivity prep Tech	pH Analysis Date	pH Analysis Tech	Conductivity Date	Conductivity Tech	Nitate-N Extract Date	Nitate-N Extract Tech	Nitrate-N Analysis Date	Nitrate-N Analysis Tech
14147	55744-01	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW

Report ID: 055744a-45607 Print Date: 11-Nov-24
Quality Control Report TCEQ COC# 055744

Laboratory ID:		Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
14159	IC1011	40.0	ppm	260	ppm	1974	ppm	293	ppm	31.4	ppm	33.2	ppm
14160	IC1012	41.7	ppm	257	ppm	1897	ppm	298	ppm	32.6	ppm	32.3	ppm
	Mean IC	0	ppm	0	ppm	0	ppm	0	ppm	0	ppm	0	ppm
	IC Lower	37.5	ppm	235.0	ppm	1576.0	ppm	275.0	ppm	24.5	ppm	28.0	ppm
	IC Upper	45.9	ppm	300.0	ppm	2350.0	ppm	350.0	ppm	39.0	ppm	53.0	ppm
	blk217	0.545	ppm	<1.88	ppm	<2.93	ppm	<0.422	ppm	<0.0100	ppm	<0.100	ppm

Laboratory ID:	Mehlich III P conc.	Mehlich III P units	Mehlich III K conc.	Mehlich III K units	Mehlich III Ca conc.	Mehlich III Ca units	Mehlich III Mg conc.	Mehlich III Mg conc.	Mehlich III S conc.	Mehlich III S units	Mehlich III Na conc.	Mehlich III Na units
Detection Limit	0.0219	ppm	1.8799	ppm	2.9331	ppm	0.4222	ppm	0.0100	ppm	0.7463	ppm
Reporting Limit	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm	1	ppm

Laboratory ID:	Mehlich III Extract Date	Mehlich III Extract Tech	Mehlich III Anal.Date	Mehlich III Anal. Tech
IC1011	10/24/2024	FMR	10/24/2024	JLP
IC1012	10/24/2024	FMR	10/24/2024	JLP
blk217	10/24/2024	FMR	10/24/2024	JLP

Report ID: 055744a-45607 Print Date: 11-Nov-24

Quality Control Report TCEQ COC# 055744

Laboratory ID:		pH	pH units	Conducitity conc.	Conducitity units	Nitrate-N conc.	Nitrate-N units	Nitrate-N % recovery
14159	IC1011	5.8	na	0.256	dS/M	7.072	ppm	
14160	IC1012	5.8	na	0.253	dS/M	5.683	ppm	
	Mean IC	5.815	na	0.2545	dS/M	6.3775	ppm	
14160spike	Spiked sample	-	-	-	-	4.9	ppm	77.9
	IC lower	5.760	na	0.229	dS/M	4.7	ppm	
	IC Upper	5.990	na	0.299	dS/M	7.1	ppm	
	blk217	-	na	0	dS/M	0.636	ppm	

Laboratory ID:	pH	pH units	Conducitity conc.	Conducitity units	Nitrate-N conc.	Nitrate-N units
Detection Limit	0.01	na	0.001	dS/M	0.01	ppm
Reporting Limit	0.1	na	0.001	dS/M	1	ppm

Laboratory ID:	pH/Conductivity prep		pH Analysis		Conductivity		Nitate-N Extract		Nitrate-N Analysis	
	Date	Tech	Date	Tech	Date	Tech	Date	Tech	Date	Tech
IC1011	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
IC1012	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW
blk217	10/24/2024	DEC	10/24/2024	DEC	10/24/2024	DEC	11/4/2024	FMR	11/5/2024	JW

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Fax: 806.677.0329

Lab No: **3723**

LABORATORY ANALYSIS REPORT

Report Date: 07/02/2024 01:06 pm

Send To: 6224	ENVIRO-AG ENGINEERING INC 3404 AIRWAY BLVD AMARILLO, TX 79118

Amy Meier
Data Review Coordinator

Client Name:	HILLSIDE DAIRY	**Received:**	06/18/2024
Sample ID:	WW	**Sampled:**	06/14/2024
Location	ERATH COUNTY	**Invoice No:**	425818
		P.O. #:	COREY MULLIN

	Analysis results		lbs/acre-in	meq/L
NUTRIENTS				
Nitrogen				
Total Nitrogen	138	ppm	31	9.9
Organic Nitrogen	51	ppm	12	3.6
Ammonium Nitrogen	45.2	ppm	10	3.2
Nitrate+Nitrite Nitrogen	42	ppm	10	3.0
Major and Secondary Nutrients				
Phosphorus	20	ppm		
Phosphorus as P2O5	50	ppm	11	
Potassium	220	ppm		5.6
Potassium as K2O	260	ppm	59	
OTHER PROPERTIES				
Moisture	99.8	%		
Total Solids	0.2	%	453	
Organic Matter	0.1	%	227	
Ash	0.1	%		
C:N Ratio	4.2	ratio		

Your opinion is valuable to us. Please let us know what you think about our services! Send an email to feedback@servitech.com.

ENVIRO-AG ENGINEERING INC
EAE
AMARILLO STEPHENVILLE ARTESIA

Enviro-Ag Engineering, Inc.
3404 Airway Blvd,. Amarillo, TX 79118
Tel. 806-353-6123 Fax 806-353-4132

WASTEWATER CHAIN OF CUSTODY RECORD

Producer/Facility: Hillside Dairy

County: Erath

Date Sampled: 6/14/2024

Date Shipped: 6/17/2024

Project Manager: Corey Mullin

Sample Type	Sample ID	Number of Containers	Test Package	Proper Preservation	Matrix
Wastewater	WW	2 3723	EAE TX CO KS LAGOON	Y	OT

Relinquished By: Ref. Internal COC
Company: EAE

Relinquished By: Lisa Postmus
Company: EAE
Date/Time: 6/18 1040
Received By:

Relinquished By:
Company: ServiTech Lab

servi tech
6921 S. Bell • Amarillo, TX 79109
www.servitech.com

Phone: 806.677.0093
800.557.7509
Fax: 806.677.0329

Lab No.: **3724**

LABORATORY ANALYSIS REPORT

Report Date: 06/30/2024 08:55 pm

Send To: 6224

ENVIRO-AG ENGINEERING INC
3404 AIRWAY BLVD
AMARILLO, TX 79118

Amy Meier
Data Review Coordinator

Results For:	HILLSIDE DAIRY	**Received:**	06/18/2024
Sample ID:	SLURRY	**Sampled:**	06/14/2024
Location	ERATH COUNTY	**Invoice No:**	425818
		P.O. #:	COREY MULLIN

				Total content		Estimated available first year*	
		Analysis (dry basis)	Analysis (as rec'd)	lbs per Acre-In	lbs per 1000 gal	lbs per Acre-In	lbs per 1000 gal
NUTRIENTS							
Nitrogen							
Total Nitrogen	%	2.736	0.342	6202.5	30.8	494.6	19.6
Organic Nitrogen	%	1.64	0.205	3717.9	18.4	184.0	7.3
Ammonium Nitrogen	%	1.096	0.137	2484.6	12.3	310.6	12.3
Nitrate+Nitrite Nitrogen	%	<0.0010	<0.0010	0	<0.1	<0.1	<0.1
Major and Secondary Nutrients							
Phosphorus	%	0.544	0.068				
Phosphorus as P2O5	%	1.248	0.156	2829.2	14.0	318.3	12.6
Potassium	%	2.064	0.258				
Potassium as K2O	%	2.48	0.310	5622.2	27.9	702.8	27.9
OTHER PROPERTIES							
Moisture	%		87.5				
Total Solids	%		12.5	226700	1125		
Organic Matter	%	64.0	8.0	145088	720		
Ash	%		4.5		405		
C:N Ratio	ratio		13.6				
Density	lbs/gal	70.4	8.8				

* Assumes 40% of organic nitrogen available during first crop year after application. Assumes 100% of ammonium and nitrate nitrogen available, but should be adjusted for potential field losses at application site.

Your opinion is valuable to us. Please let us know what you think about our services! Send an email to feedback@servitech.com.

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AMARILLO STEPHENVILLE ARTESIA

Enviro-Ag Engineering, Inc.
3404 Airway Blvd,. Amarillo, TX 79118
Tel. 806-353-6123 Fax 806-353-4132

MANURE CHAIN OF CUSTODY RECORD

Producer/Facility: Hillside Dairy

County: Erath

Date Sampled: 6/14/2024

Date Shipped: 6/17/2024

Project Manager: Corey Mullin

Sample Type	Sample ID	Number of Containers	Test Package	Proper Preservation	Matrix
Slurry	Slurry	1 3724	EAE TX CO KS SLURRY	Y	SL

Relinquished By: Ref. Internal COC
Company: EAE

Relinquished By: Lisa Postmus
Company: EAE
Date/Time: 6/18, 1040
Received By:

Relinquished By:
Company: ServiTech Lab

5.0 RECHARGE FEATURE CERTIFICATION

CERTIFICATION

I certify that potential Recharge Features in the form of artificial penetrations and natural features exist on property utilized under this application as defined in 30 TAC §321.32(50). The protective measures in the form of best management practices identified in this report, when implemented, are designed to avoid adverse impacts to these features and associated groundwater formations.

All information presented on this page and in the following supporting documents is true and accurate to the best of my knowledge.

3/27/25

Norman Mullin, P.E.

Enviro-Ag Engineering, Inc.

Firm #F-2507

5.1 General

This recharge feature certification report was authorized by Mr. Clemens Kuiper representing Hillside Dairy. The findings and recommendations contained herein were compiled by Ms. Jourdan Mullin and Mr. Norman Mullin, P.E., of Enviro-Ag Engineering, Inc., Amarillo, Texas.

5.2 Purpose of Report

Hillside Dairy is applying for a major amendment of current TPDES #3160 under 30 TAC, Chapter 321, Subchapter B, Concentrated Animal Feeding Operations. 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 effluent or solids from the facility into the underlying aquifer. At a minimum, the records and/or maps of the following entities/agencies were reviewed to locate any artificial recharge features: A) Texas Railroad Commission, B) local water district, C) Texas Water Development Board, D) TCEQ, E) Natural Resource Conservation Service (NRCS), F) current land owners and G) onsite inspection. The TCEQ Regulatory Guidance RG-433 was followed to identify recharge features and recommend best management practices.

5.3 Property Under Evaluation

The property under evaluation consists of approximately 372 acres in Erath County, Texas. The area is within the jurisdiction of Middle Trinity Ground Water Conservation District.

5.4 Definition of Waste Production

The processes by which wastewater is produced at a dairy begins with the use of fresh water to clean manure from the milking parlor and equipment sanitization. Wastewater from the milking parlor is directed to the sand land then to a concrete settling basin and then to RCS #1 and RCS #2 for storage and disposal through beneficial land application.

The second process of wastewater production involves the accumulation of manure solids in the open confinement lots. Rain falling on the open lots comes into contact with the manure layer and absorbs some of the excreted nutrients present in manure. The nutrient enriched runoff is considered wastewater, which flows by designed slopes from the open lots toward the concrete settling basins and into the RCS.

Manure solids accumulated in the open confinement lots are collected at least annually and hauled off-site to farmland by a waste transporter. While in the open lots, manure becomes compacted and slowly permeable due to hoof action by the cattle. This compacted manure layer results in an increase of the overall runoff volume during rainfall events. Infiltration of nutrients downward through the manure layer into the underlying soils is considered minimal as a result of pen surface compaction (Sweeten, 1990).

5.5 Definition of Recharge Feature

TCEQ rules define a "Recharge Feature" as: *"Those natural or artificial features either on or beneath the ground surface at the site under evaluation that provide or create a significant hydrologic connection 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 connections include, but are not limited to: faults, fractures, sinkholes or other macro pores that allow direct surface infiltration; a permeable or shallow soil material that overlies and aquifer; exposed geologic formations that are identified as an aquifer; or a water course bisecting an aquifer."* (30 TAC §321.32(50))

The TCEQ Regulatory Guidance RG-433 further defines a "recharge feature" as: *"A natural or artificial feature either on or beneath the ground surface that provides or creates a significant hydrologic connection (or pathway) between the ground surface and the underlying groundwater within an aquifer."*

The guidance document also defines a "significant pathway" as: *"A significant pathway between the land surface and the subsurface has the ability to transmit waste, wastewater, or precipitation mixed with waste to groundwater. The wastewater may impact the groundwater quality within an aquifer or migrate laterally to discharge as seeps that may impact surface water quality. Recharge features with significant pathways include geomorphologic, geologic, soil, and artificial features. Agricultural practices may also enhance existing recharge features."*

EVALUATION OF NATURAL FEATURES

5.6 Geomorphologic/Geologic Features

The Denton-Purves and Maloterre-Purves-Dugout soil associations in this area of Erath County are immediately underlain by the Cretaceous Walnut Formation as shown in Figure 5.1, Geologic Atlas.

The Walnut Formation comprises the beds of clay and nonchalky limestones at the base of the Fredericksburg division. They consist of alternations of calcareous laminated clays, weathering yellow on oxidation, semicrystalline limestone flags, and shell agglomerates, all of which grade upward without break into the chalkier beds of the Edwards limestone. In places they weather into rich black soils and make extensive agricultural belts (Hill, 1901).

Forming the upper unit of the Trinity Group, the Paluxy Formation consists of up to 400 feet of predominantly fine to coarse-grained sand interbedded with clay and shale. Underlying the Paluxy, the Glen Rose Formation forms a gulfward-thickening wedge of marine carbonates consisting primarily of limestone. Paluxy bedrock outcrops along the northeast portion of this site. Limiting application rates of wastewater and manure will protect this feature form adverse impacts.

The basal unit of the Trinity Group consists of the Twin Mountains and Travis Peak formations, which are laterally separated by a facies change. To the north, the Twin Mountains Formation consists mainly of medium-to coarse-grained sands, silty clays, and conglomerates (Ashworth, 1995).

Map Generated 3/24/2025

Legend:
Kwa Cretaceous Walnut Formation
Denotes Facility Location

N
W E
S

No Scale

Source: Geologic Atlas of Texas, Abilene Sheet, 1972.

Hillside Dairy Stephenville, Texas Erath County	Geologic Atlas of Texas Figure 5.1 Page 21	ENVIRO-AG EAF ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132

5.6.1 Outcrops/Stream Interception

An inspection of the CAFO property and review of the USGS topographic map of the area shows intermittent tributaries to Duffau Creek located in LMUs #E1, #3, #5, and #10. All of these areas are protected from waste and wastewater application with the required buffers. The freshwater pond located in LMU #3A is also protected with buffers from waste and wastewater application. The freshwater ponds that were located in LMUs #1, #3A (southern portion) and #3 are not present. They have been backfilled in with dirt.

5.6.2 Excessive Slopes

No slopes of greater than 8 percent are present on the property.

5.6.3 Other Large-Scale Conduits

No faults, fractured sediments, caves, sinkholes, solution cavities, vugs or concentrated or extensive animal burrowing was observed during an on-site visit, nor is identified on the geologic atlas, soil surveys or USGS maps.

5.6.4 Surface Water

The "water in the state" designation is based on Enviro-Ag Engineering, Inc., site inspections, the permittee's knowledge of the property and the USDA-FSA aerial photograph (2017). The buffer zones and LMU boundaries in Figure 6.1 (Refer to Section 6) are submitted with this application for TCEQ approval.

5.6.5 Aquifer

The Trinity aquifer consist of early Cretaceous age formations of the Trinity Group where they occur in a band extending through the central part of the state in all or parts of 55 counties, from the Red River in North Texas to the Hill Country of South-Central Texas.

Formations comprising the Trinity Group are (from youngest to oldest) the Paluxy, Glen Rose, and Twin Mountains-Travis peak. Updip, where the Glen Rose thins or is missing, the Paluxy and Twin Mountains coalesce to form the Antlers Formation. The Antlers consists of up to 900 feet of sand and gravel, with clay beds in the middle section. Water from the Antlers is mainly used for irrigation in the outcrop area of North and Central Texas (Ashworth and Hopkins, 1995).

The aquifer is underlain and confined by low-permeability rocks that range in age from Precambrian to Jurassic. Where the aquifer does not crop out, it is confined above by the Walnut Formation in most of the area.

Recharge to the Trinity aquifer is generally as precipitation that falls on aquifer outcrop areas and as seepage from streams and ponds where the head gradient is downward. In the Hill Country, water might flow laterally into the Trinity aquifer form the adjacent Edwards-Trinity aquifer. The aquifer discharges by evapotranspiration, spring discharges, diffuse lateral or upward leakage into shallower aquifers, and withdrawals from wells

(USGS, 2003). Land application at agronomic rates and maintain permanent cover crops will protect the feature from adverse impacts associated with this operation.

5.7 Soil Features

Soil mapping units included in this section for the production area and land application areas were taken from the electronic NRCS Soil Survey for Erath County. Soils descriptions are included in the supporting documentation and were obtained from the most current version of the NRCS electronic soil information database for Erath County available on the NRCS Web Soil Survey.

5.7.1 Production Area

Soils underlying the pen and pond areas are predominately of the Slidell (HoB), Maloterre (Ma), Purves (PcB & PcC) and Purves-Dugout-Maloterre (Pd) series. The RCS has been certified as meeting TCEQ guidelines for soil liner (30 TAC §321.38(g). Best management practices pertaining to surface drainage, surface compaction and manure management within the open lot confinement area will be followed. Steve Evans, Ph.D., soil physicist with the USDA Agricultural Research Service in Bushland, Texas, stated that his work with lysimeters and potential evapotranspiration indicated limited infiltration, and even less deep percolation will occur on areas with sloped surfaces (1996). Work performed by the NRCS calculated the feedlot surface curve number (potential for runoff) as 90 on a scale of 100.

5.7.2 Land Application Areas

Soils underlying the land application areas are primarily of the Slidell (HoA & HoB), Maloterre (Ma), Purves (PcB and PcC) and Purves-Dugout-Maloterre (Pd) series. The application of wastewater and/or manure will be performed at agronomic rates according to an approved NUP/NMP. No pooling or ponding is anticipated due to application through sprinklers.

Figure 5.2 shows the soils underlying the property as delineated from the electronic NRCS Soil Survey map for Erath County. The electronic version of the soil survey is considered the most current soils information available. Table 5.1 is a summary of the estimated physical properties of the soils in the subject area, obtained from the NRCS Web Soil Survey.

Table 5.1: Estimated Soil Properties

Soil Series (Map ID)	Slope (%)	HSG	Depth (in)	USDA Soil Texture	Permeability / Infiltration Rate (in/hr)	Available Water Capacity (in/in of soil)
HoA: Slidell	0-1	D	0-25	Clay	.001-0.06	0.10-0.18
HoB: Slidell	1-3	D	0-19 19-32	Clay	.001-0.06 .001-0.06	0.10-0.18 0.10-0.18

Ma: Maloterre	-----	D	0-5 5-20	Gravelly Clay Loam	0.6-2.0 0.06-2.0	0.14-0.16 -----
PcB: Purves	1-3	D	0-8 8-12 12-14 14-40	Clay	0.06-0.20 0.06-0.6 0.06-0.6 0.06-2.0	0.12-0.20 0.08-0.18 0.04-0.07 -----
PcC: Purves	3-5	D	0-7 7-12 12-17 17-40	Clay	0.06-0.20 0.06-0.6 0.06-0.6 0.06-2.0	0.12-0.20 0.08-0.18 0.04-0.07 -----
Pd: Puves	-----	D	0-8 8-12 12-14 14-24	Stony Clay	0.06-0.20 0.06-0.6 0.06-0.6 0.06-2.0	0.11-0.20 0.08-0.18 0.04-0.07 -----
Dugout		D	0-8 8-18 18-28	Gravelly Clay Loam	0.20-0.6 0.20-0.6 0.06-2.0	0.06-0.15 0.07-0.16 -----
Maloterre		D	0-8 8-18	Gravelly Clay Loam	0.6-2.0 .001-0.06	0.06-0.11 -----

The major soil series within each LMU are identified in Table 5.2. All soils at the site that have been identified by NRCS as being at high risk for various limitations are presented in Table 5.3. Associated best management practices will be implemented, as appropriate, based on physical and economic conditions.

Table 5.2: Major Soil Types

LMU ID	Major Soil Type
1, 4	Purves-Dugout-Maloterre (Pd)
2, 5	Purves (PcB)
3A, 4A, E1	Slidell (HoB)
3	Maloterre (Ma)

Table 5.3: Potential Soil Limitations for Land Application

Soil Series	Potential Soil Limitations	Best Management Practices
PcC, PcB	Depth to Hard Bedrock Droughty Slow Water Movement	– Land Application not to exceed agronomic rates for nutrients and soil hydraulic rates (refer to NMP). - No land application to inundated soils. – Land Application will be based upon the AWC (refer to NMP) of the soil and will not exceed agronomic rates for nutrients. -Maintain cover crop in LMUs. -Maintain soil moisture to promote crop growth.
HoA, HoB	Slow Water Movement	– Land Application not to exceed agronomic rates for nutrients and soil hydraulic rates (refer to NMP). - No land application to inundated soils.

Soil Series	Potential Soil Limitations	Best Management Practices
Ma	Droughty Depth to Hard Bedrock	– Land Application not to exceed agronomic rates for nutrients and soil hydraulic rates (refer to NMP). - No land application to inundated soils. -Maintain cover crop in LMUs. -Maintain soil moisture to promote crop growth.
Pd	Droughty Depth to Bedrock Slow Water movement Large Stones	– Land Application not to exceed agronomic rates for nutrients and soil hydraulic rates (refer to NMP). - No land application to inundated soils. -Maintain cover crop in LMUs. -Maintain soil moisture to promote crop growth.

5.7.3 Erosion

Figure 5.2 shows the onsite soils classified by NRCS as Highly Erodible Land (HEL), including Purves (PcB and PcC). LMUs will be protected with typical conservation farming practices within the standards of the NRCS. The following methods will be used to control/prevent erosion of exposed soils in the production area:

- Seeding/sprigging exposed areas with forage or cover crops,
- Constructing terraces or berms (shortening the length and steepness of slopes),
- Covering erosive areas with road surfacing materials,
- Implementing reduced tillage practices,
- Maintaining a cover of plants or crop residue.

Map Generated 3/25/2025

LEGEND:

Denotes Production Area

For specifics on soils, refer to Table 5.1

N
W E
S

660' 0 660' 1320'

SCALE AS SHOWN

Source: USDA–NRCS Soil Survey, Soil Survey Geographic Database for (Erath County, TX). Available at: http://soildatamart.nrcs.usda.gov. Accessed November 2017.

Hillside Dairy Stephenville, Texas Erath County	NRCS Soils Map Figure 5.2 Page 26	ENVIRO–AG ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132

ARTIFICIAL FEATURES

5.8 Railroad Commission Records

A search of the RRC database files was performed No proposed locations or existing penetrations for oil and gas were identified on the subject property. Railroad Commission database information is included as an attachment to this document.

5.9 Ground Water Conservation District Records

The Middle Trinity Groundwater Conservation District (GCD) was verbally contacted. Should an abandoned penetration be encountered anywhere on the subject property at any time, the penetration will be marked, inspected and properly sealed to prevent a potential impact to the underlying aquifer. Appropriate well plugging reports shall be submitted as required to the Texas Department of Licensing and Regulation (TDLR)and will be maintained in the onsite PPP.

5.10 GeoSearch

GeoSearch was not utilized in this application.

5.11 Texas Water Development Board Water Data Interactive (WDI)

The TWDB WDI online database was reviewed for artificial penetrations. The database revealed water wells registered with the TWDB as being located on the subject property. The wells that could be correlated with onsite wells are shown on Table 5.4.

5.12 Natural Resource Conservation Service

The historical NRCS Soil Survey of Erath County (1973) was reviewed for locations of potential recharge features. No potential recharge features were identified.

5.13 Other Artificial Features

Numerous features, such as irrigation tail water pits and stock ponds, exist on the subject property and are shown to be buffered on Figure 5.3. These areas shall be buffered during land application events or backfilled prior to the first land application event.

5.14 Previous/Current Landowners

Mr. Clemens Kuiper was contacted regarding then presence of any potential recharge features on the property. Mr. Kuiper is considered the most knowledgeable about the property. Mr. Kuiper confirmed the locations of all active water wells.

5.15 Onsite Inspection

The property has been inspected both on the ground and by historical mapping. All active water wells were documented on the property during the onsite inspection and are shown on Figure 5.3. The BMPs for all wells are listed in Table 5.4. Should any open well or test hole be encountered, it will be marked, reported to the Engineer, included on Figure 5.3 and properly plugged (30 TAC §321.34(f)(3)(B)). Well plugging reports shall be

submitted as required to the Texas Department of Licensing and Registration (Well Drillers Board) and will be maintained in the onsite PPP.

All well data listed in Table 5.4 is based on information received from the water district, TCEQ and TWDB files, onsite inspection, and interviews of persons knowledgeable of the property. The map number corresponds to the location shown in Figure 5.3. The well identification number corresponds to the database number or drilling report number used by the water district, TCEQ or TWDB Commission.

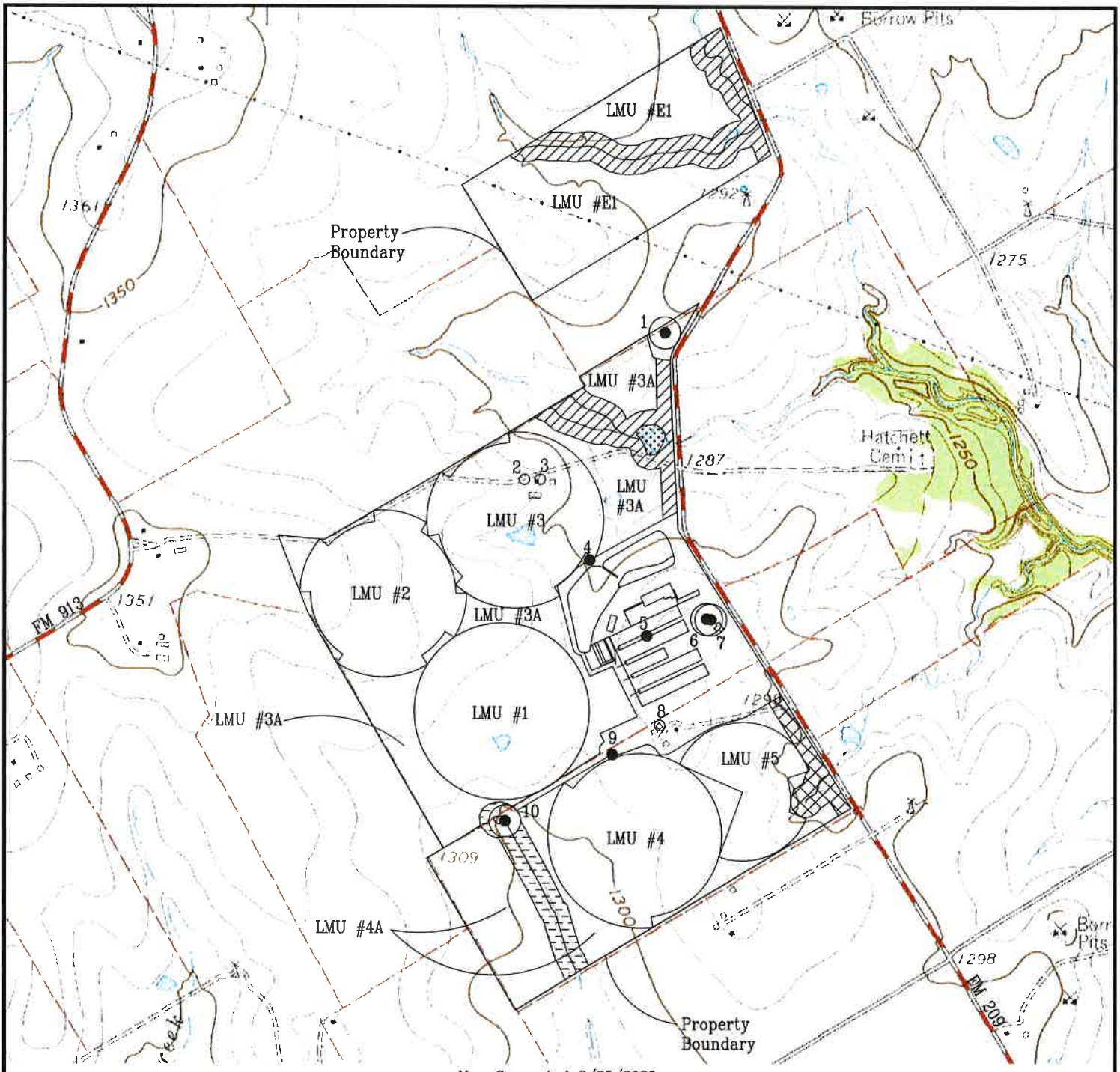
Table 5.4: Well Information

Map No.	Well ID	Best Management Practices
1	10474	• Maintain 150-ft buffer
2	62563	• See Attached Plugging Report
3	N/A	• To Be Plugged
4	19413	• See Attached Approved Well Buffer Exception
5	19412	• See Attached Approved Well Buffer Exception
6	19402	• Maintain 150-ft buffer
7	19403	• Maintain 150-ft buffer
8	72165	• See Attached Plugging Report
9	19415	• See Attached Approved Well Buffer Exception
10	19416	• Maintain 150-ft buffer

Note: A copy of the well logs for onsite wells are attached.

No public water supply wells are located within 500 feet of the property boundary. All off-site wells within the required buffer distances required by this authorization are shown (on the Site Map) with their appropriate buffers. Wells outside the required buffer distances are shown for reference only.

All irrigation systems or water distribution systems into which any type of chemical or foreign substance, such as wastewater, is distributed into the water pumped from the well are required by 16 TAC §76 to install an in-line, automatic quick-closing check valve capable of preventing pollution of groundwater.



Map Generated 3/25/2025

LEGEND:

- ○ Denotes Plugged Water Well
- ● Denotes Water Well
- ◉ Denotes Well w/150-ft Buffer
- Denotes 130-ft Buffer
- Denotes 136-ft Buffer
- Denotes 142-ft Buffer
- Denotes Fresh Water Pond

N
W E
S

660' 0 660' 1320'

SCALE AS SHOWN

Source: USDA-NRCS. Geospatial Data Gateway. Available at: http://datagateway.nrcs.usda.gov/. Digital Raster Graphic County Mosaic by NRCS - Accessed December 2017.

- Refer to Figures 1.3 & 1.4 for an overall facility map.

Hillside Dairy Stephenville, Texas Erath County	Recharge Feature Map Figure 5.3 Page 29	ENVIRO-AG ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132

REFERENCES

Ashworth and Hopkins, November 1995. Aquifers of Texas. Report 345, Texas Water Development Board

Bureau of Economic Geology, The University of Texas at Austin, Geologic Atlas of Texas - Abilene Sheet, 1972.

Evans, Steve. USDA-ARS Bushland, Texas - Telephone Interview, 1996.

Knowles, T., Nordstrom, P., Klemt, W. B., Report 288, "Evaluating the Ground Water Resources of the High Plains of Texas". Texas Department of Water Resources, Volume 1, May 1984.

Kuiper, Clemens Current Landowner Interview, March 2025.

Sweeten, J.M. 1990. Cattle Feedlot Waste Management Practices for Water and Air Pollution Control. B-1671, Texas Agricultural Extension Service, Texas A&M University System, 24 pp.

Texas Railroad Commission Files Search, March 2025.

Texas Railroad Commission, GIS Data Viewer, Accessed March 2025.

TCEQ and Texas Water Development Board, Files Search, March 2025.

Texas Water Development Board. Water Information Integration & Dissemination. Retrieved April 2019, from http://wiiddev.twdb.state.tx.us/

USDA NRCS, Soil Survey of Erath County, Texas, 1973.

USDA NRCS, National Soil Database, SSURGO digital soil data for Erath County, Texas, Retrieved March 2025. http://www.ftw.nrcs.usda.gov/ssur_data.html

USDA-NRCS Electronic Field Office Technical Guide, Soil Information Database – Erath County, Texas, Retrieved March 2025. http://www.nrcs.usda.gov/technical/efotg.

USGS. Groundwater Atlas of the United States. Oklahoma and Texas. HA_730E. http://capp.water.usgs.gov/gwa/ch_e/E_text8.html, March 2003.

Supporting Documentation

USDA Soil Descriptions & Limitations

Texas Railroad Commission Map

Water District Well Location Map (if available)

Onsite Well Logs (if available)

Physical Soil Properties

This table shows estimates of some physical 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.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (Ksat), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Report—Physical Soil Properties

Physical Soil Properties–Erath County, Texas														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
HoA—Slidell clay, 0 to 1 percent slopes														
Slidell	0-25	0-22- 35	20-28- 40	40-50- 60	1.10-1.45	0.01-0.42	0.10-0.18	7.0-16.0	1.0-4.0	.17	.17	5	4	86
	25-41	0-22- 35	20-28- 60	40-50- 60	1.10-1.45	0.01-0.42	0.10-0.18	6.6-17.0	1.0-3.0	.24	.24			
	41-62	0-22- 35	20-28- 60	40-50- 60	1.20-1.55	0.01-0.42	0.10-0.18	4.9-13.0	0.1-1.0	.24	.24			
	62-80	0-22- 35	20-28- 60	40-50- 60	1.20-1.55	0.01-0.42	0.10-0.18	4.9-10.8	0.1-1.0	.24	.24			
HoB—Slidell clay, 1 to 3 percent slopes														
Slidell	0-19	0-22- 35	20-28- 40	40-50- 60	1.10-1.45	0.01-0.42	0.10-0.18	7.0-16.0	1.0-4.0	.17	.17	5	4	86
	19-32	0-22- 35	20-28- 60	40-50- 60	1.10-1.45	0.01-0.42	0.10-0.18	6.6-17.0	1.0-3.0	.24	.24			
	32-49	0-22- 35	20-28- 60	40-50- 60	1.20-1.55	0.01-0.42	0.10-0.18	4.9-13.0	0.1-1.0	.24	.24			
	49-80	0-22- 35	20-28- 60	40-50- 60	1.20-1.55	0.01-0.42	0.10-0.18	4.9-10.8	0.1-1.0	.24	.24			
Ma—Maloterre gravelly clay loam, 1 to 8 percent slopes														
Maloterre	0-5	20-31- 45	20-35- 45	30-34- 40	1.37-1.39	4.00-14.00	0.14-0.16	2.6-5.6	0.5-1.0	.15	.28	1	5	56
	5-20	—	—	—	—	0.42-14.00	—	—	—					

Physical Soil Properties–Erath County, Texas														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
PcB—Purves clay, 1 to 3 percent slopes														
Purves	0-8	8-25- 40	7-28- 40	40-48- 55	1.15-1.45	0.42-1.40	0.12-0.20	5.4-10.9	1.0-5.0	.10	.10	1	4	86
	8-12	8-26- 40	20-29- 54	35-45- 55	1.20-1.45	0.42-4.00	0.08-0.18	5.0-10.3	1.0-4.0	.15	.15			
	12-14	8-26- 40	20-29- 54	35-45- 55	1.20-1.45	0.42-4.00	0.04-0.07	1.0-6.9	1.0-3.0	.05	.17			
	14-40	—	—	—	—	0.42-14.00	—	—	—					
PcC—Purves clay, 3 to 5 percent slopes														
Purves	0-7	8-25- 40	7-28- 40	40-48- 55	1.15-1.45	0.42-1.40	0.12-0.20	5.4-10.9	1.0-5.0	.15	.15	1	4	86
	7-12	8-26- 40	20-29- 54	35-45- 55	1.20-1.45	0.42-4.00	0.08-0.18	5.0-10.3	1.0-4.0	.17	.17			
	12-17	8-26- 40	20-29- 54	35-45- 55	1.20-1.45	0.42-4.00	0.04-0.07	1.0-6.9	1.0-3.0	.05	.17			
	17-40	—	—	—	—	0.42-14.00	—	—	—					

Physical Soil Properties–Erath County, Texas														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
Pd—Purves-Dugout-Maloterre complex, 1 to 20 percent slopes														
Purves, stony clay	0-8	8-25-40	7-28-40	40-48-55	1.16-1.35	0.42-1.40	0.11-0.20	4.1-9.3	1.0-5.0	.05	.10	1	5	56
	8-12	8-26-40	20-29-54	35-45-55	1.17-1.47	0.42-4.00	0.08-0.18	2.9-10.8	1.0-4.0	.15	.15			
	12-14	8-26-40	20-29-54	35-45-55	1.21-1.47	0.42-4.00	0.04-0.07	1.0-7.3	1.0-3.0	.05	.17			
	14-24	—	—	—	—	0.42-14.00	—	—	—					
Dugout, gravelly clay loam	0-8	22-30-42	28-42-51	27-28-35	1.31-1.47	1.40-4.00	0.06-0.15	1.9-5.4	1.0-2.0	.15	.28	1	5	56
	8-18	20-23-40	28-48-60	15-29-35	1.40-1.53	1.40-4.00	0.07-0.16	0.0-4.9	0.1-1.2	.28	.28			
	18-28	—	—	—	—	0.42-14.00	—	—	—					
Maloterre, gravelly clay loam	0-8	30-35-45	24-36-43	27-29-35	1.18-1.40	4.00-14.00	0.06-0.11	1.8-6.0	1.0-7.0	.15	.24	1	5	56
	8-18	—	—	—	—	0.01-0.42	—	—	—					

Data Source Information

Soil Survey Area: Erath County, Texas
Survey Area Data: Version 21, Aug 30, 2024

Physical Soil Properties

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Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:
United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (http://soils.usda.gov)

Report—Physical Soil Properties

Physical Soil Properties–Erath County, Texas														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	*Pct*	*Pct*	*Pct*	*g/cc*	*micro m/sec*	*In/In*	*Pct*	*Pct*					
HoB—Slidell clay, 1 to 3 percent slopes														
Slidell	0-19	0-22- 35	20-28- 40	40-50- 60	1.10-1.45	0.01-0.42	0.10-0.18	7.0-16.0	1.0-4.0	.17	.17	5	4	86
	19-32	0-22- 35	20-28- 60	40-50- 60	1.10-1.45	0.01-0.42	0.10-0.18	6.6-17.0	1.0-3.0	.24	.24			
	32-49	0-22- 35	20-28- 60	40-50- 60	1.20-1.55	0.01-0.42	0.10-0.18	4.9-13.0	0.1-1.0	.24	.24			
	49-80	0-22- 35	20-28- 60	40-50- 60	1.20-1.55	0.01-0.42	0.10-0.18	4.9-10.8	0.1-1.0	.24	.24			
Ma—Maloterre gravelly clay loam, 1 to 8 percent slopes														
Maloterre	0-5	20-31- 45	20-35- 45	30-34- 40	1.37-1.39	4.00-14.00	0.14-0.16	2.6-5.6	0.5-1.0	.15	.28	1	5	56
	5-20	—	—	—	—	0.42-14.00	—	—	—					
PcB—Purves clay, 1 to 3 percent slopes														
Purves	0-8	8-25- 40	7-28- 40	40-48- 55	1.15-1.45	0.42-1.40	0.12-0.20	5.4-10.9	1.0-5.0	.10	.10	1	4	86
	8-12	8-26- 40	20-29- 54	35-45- 55	1.20-1.45	0.42-4.00	0.08-0.18	5.0-10.3	1.0-4.0	.15	.15			
	12-14	8-26- 40	20-29- 54	35-45- 55	1.20-1.45	0.42-4.00	0.04-0.07	1.0-6.9	1.0-3.0	.05	.17			
	14-40	—	—	—	—	0.42-14.00	—	—	—					

Data Source Information

Soil Survey Area: Erath County, Texas
Survey Area Data: Version 21, Aug 30, 2024

RUSLE2 Related Attributes

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factor Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic layer.

Report—RUSLE2 Related Attributes

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed or the first mineral horizon below an organic surface horizon. Organic horizons are not displayed.

RUSLE2 Related Attributes–Erath County, Texas

Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
HoA—Slidell clay, 0 to 1 percent slopes								
Slidell	85	98	D	.17	5	22.0	28.0	50.0
HoB—Slidell clay, 1 to 3 percent slopes								
Slidell	85	298	D	.17	5	22.0	28.0	50.0
Ma—Maloterre gravelly clay loam, 1 to 8 percent slopes								
Maloterre	80	161	D	.28	1	31.0	35.0	34.0
PcB—Purves clay, 1 to 3 percent slopes								
Purves	89	298	D	.10	1	25.0	27.5	47.5
PcC—Purves clay, 3 to 5 percent slopes								
Purves	89	180	D	.15	1	25.0	27.5	47.5
Pd—Purves-Dugout-Maloterre complex, 1 to 20 percent slopes								
Purves, stony clay	37	200	D	.10	1	25.0	27.5	47.5
Dugout, gravelly clay loam	25	161	D	.28	1	30.0	42.0	28.0
Maloterre, gravelly clay loam	22	180	D	.24	1	35.0	36.0	29.0

Data Source Information

Soil Survey Area: Erath County, Texas
Survey Area Data: Version 21, Aug 30, 2024

RUSLE2 Related Attributes

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factor Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic layer.

Report—RUSLE2 Related Attributes

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed or the first mineral horizon below an organic surface horizon. Organic horizons are not displayed.

RUSLE2 Related Attributes–Erath County, Texas

Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
HoB—Slidell clay, 1 to 3 percent slopes								
Slidell	85	298	D	.17	5	22.0	28.0	50.0
Ma—Maloterre gravelly clay loam, 1 to 8 percent slopes								
Maloterre	80	161	D	.28	1	31.0	35.0	34.0
PcB—Purves clay, 1 to 3 percent slopes								
Purves	89	298	D	.10	1	25.0	27.5	47.5

Data Source Information

Soil Survey Area: Erath County, Texas
Survey Area Data: Version 21, Aug 30, 2024

Selected Soil Interpretations

This report allows the customer to produce a report showing the results of the soil interpretation(s) of his or her choice. It is useful when a standard report that displays the results of the selected interpretation(s) is not available.

When customers select this report, they are presented with a list of interpretations with results for the selected map units. The customer may select up to three interpretations to be presented in table format.

For a description of the particular interpretations and their criteria, use the "Selected Survey Area Interpretation Descriptions" report.

Report—Selected Soil Interpretations

Selected Soil Interpretations–Erath County, Texas

Map symbol and soil name	Pct. of map unit	AWM - Irrigation Disposal of Wastewater		AWM - Land Application of Municipal Sewage Sludge		ENG - Sewage Lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HoA—Slidell clay, 0 to 1 percent slopes							
Slidell	85	Very limited		Very limited		Not limited	
		Slow water movement	1.00	Slow water movement	1.00		
HoB—Slidell clay, 1 to 3 percent slopes							
Slidell	85	Very limited		Very limited		Not limited	
		Slow water movement	1.00	Slow water movement	1.00		
Ma—Maloterre gravelly clay loam, 1 to 8 percent slopes							
Maloterre	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Droughty	1.00	Droughty	1.00	Slope	0.68
		Seepage, porous bedrock	0.50			Seepage	0.21
		Too steep for surface application	0.32				
PcB—Purves clay, 1 to 3 percent slopes							
Purves	89	Very limited		Very limited		Very limited	
		Droughty	1.00	Droughty	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
		Slow water movement	1.00	Slow water movement	1.00		
		Seepage, porous bedrock	0.50				

Selected Soil Interpretations–Erath County, Texas							
Map symbol and soil name	Pct. of map unit	AWM - Irrigation Disposal of Wastewater		AWM - Land Application of Municipal Sewage Sludge		ENG - Sewage Lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
PcC—Purves clay, 3 to 5 percent slopes							
Purves	89	Very limited		Very limited		Very limited	
		Droughty	1.00	Droughty	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	0.32
		Slow water movement	1.00	Slow water movement	1.00		
		Seepage, porous bedrock	0.50				
		Too steep for surface application	0.08				
Pd—Purves-Dugout-Maloterre complex, 1 to 20 percent slopes							
Purves, stony clay	37	Very limited		Very limited		Very limited	
		Droughty	1.00	Droughty	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	0.08
		Slow water movement	1.00	Slow water movement	1.00		
		Large stones on the surface	1.00	Large stones on the surface	1.00		
		Seepage, porous bedrock	0.50				
Dugout, gravelly clay loam	25	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Droughty	1.00	Droughty	1.00	Slope	0.68
		Seepage, porous bedrock	0.50	Slow water movement	0.37	Seepage	0.21
		Slow water movement	0.37				
		Too steep for surface application	0.32				
Maloterre, gravelly clay loam	22	Very limited		Very limited		Very limited	
		Slow water movement	1.00	Slow water movement	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00	Slope	0.32
		Droughty	1.00	Droughty	1.00		
		Seepage, porous bedrock	0.50				
		Too steep for surface application	0.08				

Data Source Information

Soil Survey Area: Erath County, Texas
Survey Area Data: Version 21, Aug 30, 2024

Selected Soil Interpretations

This report allows the customer to produce a report showing the results of the soil interpretation(s) of his or her choice. It is useful when a standard report that displays the results of the selected interpretation(s) is not available.

When customers select this report, they are presented with a list of interpretations with results for the selected map units. The customer may select up to three interpretations to be presented in table format.

For a description of the particular interpretations and their criteria, use the "Selected Survey Area Interpretation Descriptions" report.

Report—Selected Soil Interpretations

Selected Soil Interpretations–Erath County, Texas

Map symbol and soil name	Pct. of map unit	AWM - Irrigation Disposal of Wastewater		AWM - Land Application of Municipal Sewage Sludge		ENG - Sewage Lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
HoB—Slidell clay, 1 to 3 percent slopes							
Slidell	85	Very limited		Very limited		Not limited	
		Slow water movement	1.00	Slow water movement	1.00		
Ma—Maloterre gravelly clay loam, 1 to 8 percent slopes							
Maloterre	80	Very limited		Very limited		Very limited	
		Depth to bedrock	1.00	Depth to bedrock	1.00	Depth to hard bedrock	1.00
		Droughty	1.00	Droughty	1.00	Slope	0.68
		Seepage, porous bedrock	0.50			Seepage	0.21
		Too steep for surface application	0.32				
PcB—Purves clay, 1 to 3 percent slopes							
Purves	89	Very limited		Very limited		Very limited	
		Droughty	1.00	Droughty	1.00	Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Depth to bedrock	1.00		
		Slow water movement	1.00	Slow water movement	1.00		
		Seepage, porous bedrock	0.50				

Data Source Information

Soil Survey Area: Erath County, Texas
Survey Area Data: Version 21, Aug 30, 2024

(ii) wells used exclusively for private water supply 150 feet; or
(iii) wells used exclusively for agriculture irrigation 100 feet.

(2) Irrigation of wastewater directly over a well head will require a structure protective of the wellhead that will prevent contact from irrigated wastewater.

(3) Construction of any new water wells must be done by a licensed water well driller.

(4) All abandoned and unuseable wells shall be plugged according to 16 TAC §76.104.

(5) The permittee may continue the operation and use of any existing holding pens and RCSs located within the required well buffer zones provided they are in accordance with the facility's approved recharge feature evaluation and certification. Buffer zone variance documentation must be kept on-site and made available to TCEQ personnel upon request. A Well Buffer Exception request for Well #4, #5 and #9 was submitted to and approved by the TCEQ Water Quality Assessment Team. Table 3 below shows the status of all wells on the facility and the best management practices (BMPs) used to protect them.

Table 3: Well Status and Best Management Practices

Well Number*	Status	BMPs
1	Producing	Maintain 150 ft buffer
2	Non-Producing	Plugged
3	Producing	Maintain 150 ft buffer
4	Producing	Surface slab and RCS spillway located downgradient of well
5	Producing	Enclosed in a covered concrete vault and located up-gradient of pen areas
6	Producing	Maintain 150 ft buffer
7	Producing	Maintain 150 ft buffer
8	Non-Producing	Plugged
9	Producing	A concrete slab, no irrigation over wellhead and a protective cover is installed
10	Producing	Maintain 150 ft buffer
11	Producing	Maintain 150 ft buffer
12	Producing	Maintain 150 ft buffer
13	Producing	Maintain 150 ft buffer
14	Producing	Maintain 150 ft buffer
15	Producing	Maintain 150 ft buffer
16	Producing	Maintain 150 ft buffer
17	Producing	Maintain 150 ft buffer
18	Producing	Maintain 150 ft buffer

*Well Numbers correspond with Attachment D

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 31, 2011 — 91 7108 2133 3935 2010 5564

CERTIFIED MAIL

Mr. Randy Wyly
Wyly Dairy #1
3502 County Road 209
Hico, Texas 76457

Re: Well Buffer Exception Request, Wyly #1, Permit Number WQ0003160000
(CN 601116213; RN 102065166)

Dear Mr. Wyly:

The Water Quality Assessment (WQA) Team has reviewed the well buffer exception request for one well identified as Well #9 in a letter dated May 25, 2011. The letter was signed and certified by Mr. Norman Mullin, P.E., of Enviro-Ag Engineering, Inc. and requested an exception to the 150-foot buffer requirement for this existing well. Additional protective measures for Well #9 include: a concrete slab, no irrigation of waste over the wellhead and a protective cover is installed.

The WQA Team conditionally approves the well buffer exception request for well #9 upon repairing apparent cracks in the surface casing. Within 90 days of the date of this letter, please submit photographs clearly showing the repairs have been made or any other appropriate documentation to the WQA Team (at MC-150) or via email to WQA Team Leader Lynda Clayton, at lynda.clayton@tceq.texas.gov for inclusion in the Texas Commission on Environmental Quality (TCEQ) permit file.

Inspections shall be conducted regularly for the well using a developed inspection checklist. This approval letter and all supporting documentation must be kept on-site and made available to TCEQ personnel upon request. If you have any questions, please contact me by phone at (512) 239-0171 or e-mail at james.moore@tceq.texas.gov.

Sincerely,

James M. Moore, P.E., Manager
Water Quality Assessment Section
Water Quality Division

cc: Mr. Norman Mullin, P.E., Enviro-Ag Engineering, Inc., 3404 Airway Boulevard, Amarillo, Texas 79118

ENVIRO-AG ENGINEERING

RECHARGE FEATURE PROTECTIVE MEASURES
Water Well Buffer Distance Variance Request
Wyly #1 Dairy (WQ Permit No. 3160)
Erath County, Texas

The Recharge Feature Certification provided by Enviro-Ag Engineering, Inc. (EAE) identified an additional water well located on the property which do not meet the specified well buffer distance of 100 feet (Refer to Figure 5.3) to land application. The wells to be considered for variance to the required buffer distance include:

Well #9 — Located next to LMU #4. BMPs include surface slab and no irrigation of waste over the wellhead. There is a protective cover installed.

Wellhead protective measures (BMPs) currently in place for each of these wells(artificial recharge features) are shown on the attached photographs. These protective measures, in lieu of the buffer distances currently in place at Wyly #1 Dairy, in my professional opinion, are protective of groundwater resources.

Submitted by:

STATE OF TEXAS — NORMAN H. MULLIN — 86107 — REGISTERED PROFESSIONAL ENGINEER

5/25/2011

Norman Mullin, P.E. No. 86107
Enviro-Ag Engineering, Inc.
Firm No. F-2507

(See Attached Supporting Documentation)

3404 AIRWAY BLVD. • AMARILLO, TEXAS 79118 • TEL (806) 353-6123 • FAX (806) 353-4132
www.enviroag.com

Well #2

STATE OF TEXAS PLUGGING REPORT for Tracking #62563

Owner:	**Wyly, Randy**	Owner Well #:	**No Data**
Address:	**3502 CR 209 Hico, TX 76457**	Grid #:	**31-56-8**
Well Location:	**3502 CR 209 Hico, TX 76457**	Latitude:	**32° 09' 16" N**
		Longitude:	**098° 04' 30" W**
Well County:	**Erath**	Elevation:	**No Data**

Well Type: **Withdrawal of Water**

Drilling Information

Company:	**No Data**	Date Drilled:	**No Data**
Driller:	**No Data**	License Number:	**No Data**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4**		**100**

Plugging Information

Date Plugged: **2/13/2010** Plugger: **Randy Wyly/Land Owner**

Plug Method: **Tremmie pipe cement from bottom to top**

Casing Left in Well:			Plug(s) Placed in Well:		
Dia (in.)	*Top (ft.)*	*Bottom (ft.)*	*Top (ft.)*	*Bottom (ft.)*	*Description (number of sacks & material)*
4	**2**	**100**	**0**	**100**	**26**

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **Landowner Plugged**

3502 CR 209
Hico, TX 76457

Driller Name: **Randy Wyly** License Number: **N/A**

Comments: **Added information for question #12 (Well Owner performaing the plugging) on hard copy of plugging report per isntructions from David Gunn WWD/PI Program Manager.**
^EO

Well #8

STATE OF TEXAS PLUGGING REPORT for Tracking #72165

Owner:	**Randy Wyly**	Owner Well #:	**No Data**
Address:	**3502 CR209 Hico, TX 76457**	Grid #:	**31-56-8**
Well Location:	**3502 CR209 Hico, TX 76457**	Latitude:	**32° 08' 52" N**
		Longitude:	**098° 04' 17" W**
Well County:	**Erath**	Elevation:	**No Data**

Well Type: **Withdrawal of Water**

Drilling Information

Company:	**No Data**	Date Drilled:	**No Data**
Driller:	**No Data**	License Number:	**No Data**

	Diameter (in.)	*Top Depth (ft.)*	*Bottom Depth (ft.)*
Borehole:	**4**		

Plugging Information

Date Plugged: **5/12/2011** Plugger: **Thomas Lange**

Plug Method: **Pour in 3/8 bentonite chips when standing water in well is less than 100 feet depth, cement top 2 feet**

Casing Left in Well:

Dia (in.)	*Top (ft.)*	*Bottom (ft.)*
4	**2**	**70**

Plug(s) Placed in Well:

Top (ft.)	*Bottom (ft.)*	*Description (number of sacks & material)*
0	**2**	**1 Bag of Cement**
2	**70**	**9 Bags of Bentonite**

Certification Data: The driller certified that the driller plugged this well (or the well was plugged 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 reports(s) being returned for completion and resubmittal.

Company Information: **Dowell Water Well Service, Inc**

1491 W South Loop
Stephenville, TX 76401

Driller Name: **Jarrell D Dowell Sr** License Number: **4187**

Apprentice Name: **Thomas Lange** Apprentice Number: **58524**

Comments: **No Data**

March 26, 2025

1:18,056

0 0.13 0.25 0.5 mi

0 0.2 0.4 0.8 km

Maxar

HIllside Dairy

Texas Water Development Board

March 26, 2025

Plugging Reports
Well Reports
TWDB Groundwater

0 0.15 0.3 0.6 mi
0 0.23 0.45 0.9 km
1:18,056

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

6.0 SURFACE WATER & TMDL ASSESSMENT

6.1 Surface Water Assessment

Figure 6.1, Aerial Photograph, shows the existing land features, production area, Land Management Unit boundaries, and areas designated as "water in the state," as defined by 30 TAC §321.32(63). Buffer zones between waters in the state and LMUs will be maintained as required in 30 TAC §321.40(h) plus additional filter strips specified by NRCS Code 393, as required in 30 TAC §321.42(w)(2). Based on NRCS Code 393, Appendix 3, Table 1, and LMU slope and soil types, the buffer zones shown in the attached map will be maintained. According to NRCS, Codes 601 (applied to severely eroded areas) and 332 (applied to cropland) are not currently applicable to the LMUs at this facility. Should field conditions or cropping systems change, Codes 601 and 332 will be implemented as necessary.

The "water in the state" designation is based on Enviro-Ag Engineering, Inc., site inspections, the permittee's knowledge of the property and the USDA-FSA aerial photograph (2017). The buffer zones and LMU boundaries in Figure 6.1 are submitted with this application for TCEQ approval.

6.2 TMDL Assessment

Hillside Dairy is located in Segment No.1226, North Bosque River, Brazos River Basin, which is a 303(d)-listed watershed. To demonstrate that Hillside Dairy is designed and will be constructed and operated in a manner that is consistent with the Phosphorus Total Maximum Daily Load (TMDL) and Implementation Plan approved in 2001 and to address the other listed impairments for this segment, the following practices have been or will be implemented:

1. Implement a Nutrient Utilization Plan that limits P application to crop requirement and incorporates a P reduction component on fields over 200 ppm P.
2. Limit maximum P level in soils to 200 ppm.
3. Perform annual soil sampling in accordance with the provisions of 30 TAC §321.42(k)-(m) and with Texas Cooperative Extension guidelines for composite sampling.
4. Implement a certified Comprehensive Nutrient Management Plan that meets the NRCS requirements for a whole-farm Resource Management System.
5. Maintain contracts with owners of third-party fields in accordance with 30 TAC §321.42(j)(1)-(4) and with applicable requirements of 30 TAC §321.36 and §321.40.
6. Operate the facility in accordance with 30 TAC §321.42 with additional Best Management Practices as follows:
    a. Scrape freestalls and cattle lanes to reduce or eliminate the need for flushing.
    b. Excluding extraneous drainage areas from the RCSs (roof areas, etc.)

c. Reduce the potential for soil erosion and downgradient sediment deposition by maintaining permanent pastures and additional filter strips. adjacent to waters in the state, as described above in Section 6.1.

Map Generated 3/24/2025

LEGEND:

- ○ Denotes Plugged Water Well
- ● Denotes Water Well
- ◉ Denotes Well w/Buffer
- Denotes 130-ft Buffer
- Denotes 136-ft Buffer
- Denotes 142-ft Buffer
- Denotes Fresh Water Pond

N
W E
S

600' 0 600' 1200'

SCALE AS SHOWN

Source: USDA-NRCS. Geospatial Data Gateway. Available at: http://datagateway.nrcs.usda.gov/. Digital Raster Graphic County Mosaic by NRCS – Accessed November 2017.

- Refer to Figure 1.4 for an overall facility map.

Hillside Dairy Stephenville, Texas Erath County	Aerial Photograph Figure 6.1 Page 34	ENVIRO-AG ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132

7.0 AIR STANDARD PERMIT REQUIREMENTS

7.1 Permit Requirements

This facility was constructed prior to August 19, 1998. The facility meets the ¼-mile buffer option required in 30 TAC §321.43(j)(2) for facility expansion. The facility is designed, and will be operated, in accordance with the provisions and emissions limitations of the air standard permit in 30 TAC §321.43(j) regarding abatement of nuisance conditions, wastewater treatment, dust control and maintenance and housekeeping procedures. The facility uses an anaerobic treatment pond to minimize odors from process generated wastewater in accordance with §321.43(j)(3).

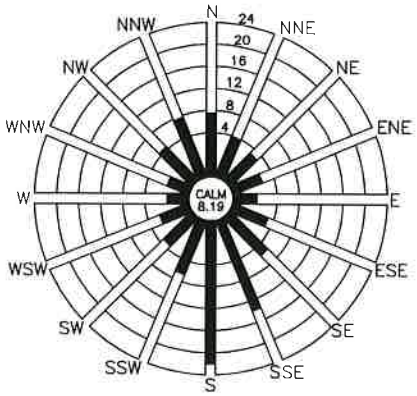
An Area Land Use Map (Figure 7.1) is attached depicting the locations of all occupied residences or business structures, schools (including associated recreational areas), churches, or public parks within 1 mile of the permanent odor sources of the facility. The map includes a north arrow, direction of prevailing wind, and scale. For the purposes of this application, the measurement of buffer distances is from the nearest edge of the permanent odor source to the occupied structure or designated recreational area identified on the Area Land Use Map (30 TAC §321.32(43)).

SCALE AS SHOWN

Legend:
- Denotes Occupied Structure
- Denotes Applicant Owned Structure

Site Visit - 3/24/2025
Map Generated - 3/26/2025

Source: USDA-NRCS. Geospatial Data Gateway. Available at: http://datagateway.nrcs.usda.gov/. Digital Raster Graphic County Mosaic by NRCS -- Accessed November 2017.



ANNUAL WIND ROSE
LOCATION: STEPHENVILLE, TEXAS
PERIOD OF RECORD: 1984 - 1992
SOURCE: TCEQ WINDROSE DATA

Note:
Hatched area represents permanent odor sources. These include, but are not limited to, pens, confinement buildings, lagoons, RCSs, manure stockpile areas, separators. Permanent odor sources do not include any feed handling facilities, land application equipment or fields.

Hillside Dairy Stephenville, Texas Erath County	Area Land Use Map Figure 7.1 Page 36	ENVIRO-AG ENGINEERING, INC. Enviro-Ag Engineering, Inc. ENGINEERING CONSULTANTS 3404 Airway Boulevard AMARILLO, TEXAS 79118 TEL (806) 353-6123 FAX (806) 353-4132