



Technical Package Cover Page

This file contains the following documents:

1. Summary of application (in plain language)
 - English
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 2. First notice (NORI-Notice of Receipt of Application and Intent to Obtain a Permit)
 - English
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 3. Second notice (NAPD-Notice of Preliminary Decision)
 - English
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 4. Application materials *
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 6. Technical summary or fact sheet *
-



Portada de Paquete Técnico

Este archivo contiene los siguientes documentos:

1. Resumen de la solicitud (en lenguaje sencillo)
 - Inglés
 - Idioma alternativo (español)
2. Primer aviso (NORI, Aviso de Recepción de Solicitud e Intención de Obtener un Permiso)
 - Inglés
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3. Segundo aviso (NAPD, Aviso de Decisión Preliminar)
 - Inglés
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4. Materiales de la solicitud **
5. Proyecto de permiso **
6. Resumen técnico u hoja de datos **

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF RECEIPT OF APPLICATION AND INTENT TO OBTAIN A BENEFICIAL LAND USE PERMIT RENEWAL

PERMIT NO. WQ0004467000

APPLICATION. City of Gonzales, P.O. Box 547, Gonzales, Texas 78629, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew beneficial land use Permit No. WQ0004467000 to authorize the land application of wastewater treatment plant Class B biosolids for beneficial use on approximately 45.4 acres. The beneficial land use site is located on the north side of County Road 488, approximately 0.2 mile north of the intersection of County Road 488 and Farm-to-Market Road 532, and approximately 2.5 miles northeast of the City of Gonzales, in Gonzales County, Texas 78629. TCEQ received this application on October 9, 2024. The permit application will be available for viewing and copying at Gonzales City Hall, 820 North St. Joseph Street, Gonzales, 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/sludge-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=-97.41287,29.523058&level=18>

ALTERNATIVE LANGUAGE NOTICE. Alternative language notice in Spanish is available at

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/sludge-applications>

El aviso de idioma alternativo en español está disponible en

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/sludge-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 person who may be affected by the application may request a 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 germane 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.**

TCEQ may act on an application to renew a permit without providing an opportunity for a contested case hearing if certain criteria are met.

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 <http://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 City of Gonzales at the address stated above or by calling Mr. Ryan Wilkerson, Plant Manager, (830) 672-2815.

Issuance Date: November 13, 2024

COMISIÓN DE CALIDAD AMBIENTAL DE TEXAS



AVISO DE RECIBIMIENTO DE LA SOLICITUD E INTENCIÓN DE OBTENER UN PERMISO DE USO BENÉFICO DEL SUELO RENOVACIÓN

DE PERMISO N.º WQ0004467000

SOLICITUD. La Ciudad de Gonzales, P.O. Box 547, Gonzales, TX 78629 ha solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) para renovar el permiso de uso benéfico del suelo N.º WQ000446700 para autorizar la solicitud de tierra de residuos de plantas de tratamiento de aguas residuales para uso benéfico en aproximadamente 45.5 acres. El sitio de uso benéfico del suelo se encuentra aproximadamente 0.2 millas al norte de la intersección de County Road 488, y Farm-to-Market Road 532 y 2.5 millas al noroeste de la Ciudad de Gonzales en el condado de Gonzales, Texas 78629. La TCEQ recibió esta solicitud el 9 de Octubre. La solicitud de permiso estará disponible para ver y copiar en la alcaldía dirección 820 North St. Joseph Street, Gonzales, Texas antes de la fecha de publicación de este aviso en el periódico. Este enlace a un mapa electrónico de la ubicación general del sitio o instalación se proporciona como cortesía pública y no como parte de la solicitud o aviso. Para conocer la ubicación exacta, consulte la solicitud.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.41287,29.523058&level=18>

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud está administrativamente completa y llevará a cabo una revisión técnica de la solicitud. Una vez completada la revisión técnica de la solicitud, el Director Ejecutivo puede preparar un bosquejo del permiso y emitirá una decisión preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar se publicarán y enviarán por correo a aquellos que están en la lista de correo de todo el condado y a aquellos que están en la lista de correo para esta solicitud. Ese aviso contendrá la fecha límite para enviar comentarios públicos.**

COMENTARIO PÚBLICO / REUNIÓN PÚBLICA. Puede enviar comentarios públicos o solicitar una reunión pública sobre esta solicitud. El propósito de una reunión pública es para brindar la oportunidad de enviar comentarios o hacer preguntas sobre la solicitud. La TCEQ convocará una reunión pública si el Director Ejecutivo determina que existe un grado significativo de interés público en la solicitud o si lo solicita un legislador local. Una reunión pública no es una audiencia de caso impugnado.

OPORTUNIDAD PARA UNA AUDIENCIA DE CASO IMPUGNADO. Después de la fecha límite para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios oportunos y preparará una respuesta a todos los comentarios públicos relevantes y materiales, o significativos. **A menos que la solicitud se remita directamente para una audiencia de caso impugnado, la respuesta a los comentarios y la decisión del**

Director Ejecutivo sobre la solicitud se enviarán por correo a todos los que hayan presentado comentarios públicos y a las personas que estén en la lista de correo para esta solicitud. Si se reciben comentarios, el correo también proporcionará instrucciones para solicitar la reconsideración de la decisión del Director Ejecutivo y para solicitar una audiencia de caso impugnado. Una persona que pueda verse afectada por la solicitud puede solicitar una audiencia. Una audiencia de caso impugnado es un procedimiento legal similar a un juicio civil en un tribunal de distrito estatal.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, DEBE INCLUIR LOS SIGUIENTES ELEMENTOS EN SU SOLICITUD: su nombre, dirección, número de teléfono; nombre del solicitante y número de permiso propuesto; la ubicación y distancia de su propiedad/actividades en relación con la instalación propuesta; una descripción específica de cómo se vería afectado negativamente por la instalación de una manera que no es común para el público en general; una lista de todas las cuestiones de hecho controvertidas que presente durante el periodo de comentarios y la declaración "[Yo/nosotros] solicito/amos una audiencia de caso impugnado". Si la solicitud de audiencia de caso impugnado se presenta en nombre de un grupo o asociación, la solicitud debe designar al representante del grupo para recibir correspondencia futura; identificar por nombre y dirección física a un miembro individual del grupo que se vería afectado negativamente por la instalación o actividad propuesta; proporcionar la información discutida anteriormente con respecto a la ubicación y distancia del miembro afectado de la instalación o actividad; explicar cómo y por qué el miembro se vería afectado; y explicar cómo los intereses que el grupo busca proteger están relacionados con el propósito del grupo.

Tras el cierre de todos los periodos de comentarios y solicitudes aplicables, el Director Ejecutivo remitirá la solicitud y cualquier solicitud de reconsideración o de una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración en una reunión programada de la Comisión.

La Comisión sólo podrá conceder una solicitud de audiencia de un asunto impugnado sobre cuestiones que el solicitante haya presentado en sus observaciones oportunas que no hayan sido retiradas posteriormente. **Si se concede una audiencia, el tema de una audiencia se limitará a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas con preocupaciones relevantes y materiales sobre la calidad del agua presentadas durante el periodo de comentarios.**

La TCEQ puede actuar sobre una solicitud para renovar un permiso sin brindar la oportunidad de una audiencia de caso impugnado si se cumplen ciertos criterios.

LISTA DE CORREO. Si envían comentarios públicos, una solicitud de una audiencia de caso impugnado o una reconsideración de la decisión del Director Ejecutivo, se le agregará a la lista de correo de esta solicitud específica para recibir futuros avisos públicos enviados por correo por la Oficina del Secretario Oficial. Además, puede solicitar ser colocado en: (1) la lista de correo permanente para un nombre de solicitante específico y número de permiso; y/o (2) la lista de correo para un condado específico. Si desea ser colocado en la lista de correo permanente y/o del condado, especifique claramente qué lista(s) y envíe su solicitud a la Oficina del Secretario Oficial de la TCEQ a la dirección a continuación.

INFORMACIÓN DISPONIBLE EN LÍNEA. Para obtener detalles sobre el estado de la solicitud, visite la Base de Datos Integrada de los Comisionados en www.tceq.texas.gov/goto/cid. Busque en la base de datos utilizando el número de permiso para esta aplicación, que se proporciona en la parte superior de este aviso.

CONTACTOS E INFORMACIÓN DE LA AGENCIA. Todos los comentarios y solicitudes públicas deben enviarse electrónicamente a <http://www14.tceq.texas.gov/epic/eComment/>, o por escrito a Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que cualquier información de contacto que proporcione, incluido su nombre, número de teléfono, dirección de correo electrónico y dirección física, se convertirá en parte del registro público de la agencia. Para obtener más información sobre esta solicitud de permiso o el proceso de permisos, llame al Programa de Educación Pública de la TCEQ, sin cargo, al 1-800-687-4040 o visite su sitio web en www.tceq.texas.gov/goto/pep. Si desea información en español, puede llamar al 1-800-687-4040.

También se puede obtener más información de la Ciudad de Gonzales en la dirección indicada anteriormente o llamando a Ryan Wilkerson gerente de planta al (830) 672-2815.

Fecha de emisión: 13 de noviembre de 2024

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR LAND APPLICATION OF BIOSOLIDS PERMIT

RENEWAL

PERMIT NO. WQ0004467000

APPLICATION AND PRELIMINARY DECISION. City of Gonzales, P.O. Box 547, Gonzales, Texas 78629, has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of TCEQ Permit No. WQ0004467000, which authorizes the land application of Class B wastewater treatment plant biosolids for beneficial use on 45.4 acres. This permit will not authorize a discharge of pollutants into water in the state. TCEQ received this application on October 9, 2024.

The land application unit is located on the north side of County Road 488, approximately 0.2 mile north of the intersection of County Road 488 and Farm-to-Market Road 532, and approximately 2.5 miles northeast of the City of Gonzales, in Gonzales County, Texas 78629.

The land application unit is located within the drainage basin of Guadalupe River Below San Marcos River in Segment No. 1803 of the Guadalupe River Basin.

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Gonzales City Hall, 820 North St. Joseph Street, Gonzales, Texas. This link to an electronic map of the facility's 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=-97.41287,29.523058&level=18>

The application, including any updates, and associated notices are available electronically at the following webpage: <https://www.tceq.texas.gov/permitting/wastewater/pending-permits/sludge-applications>

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

PUBLIC COMMENT / PUBLIC MEETING. You may submit public comments or request a public meeting about this application. The purpose of a public meeting is to provide the opportunity to submit comments or to ask questions about the application. TCEQ holds 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 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 a contested case hearing or reconsideration of the Executive Director's decision.** A contested case hearing is a legal proceeding similar to a civil trial in a 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 permit number; the location and distance of your property/activities relative to the 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 germane 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.**

TCEQ may act on an application to renew a permit for the land application of biosolids without providing an opportunity for a contested case hearing if certain criteria are met.

EXECUTIVE DIRECTOR ACTION. The Executive Director may issue final approval of the application unless a timely contested case hearing request or request for reconsideration is filed. If a timely hearing request or request for reconsideration is filed, the Executive Director will not issue final approval of the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting.

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 (2) the mailing list for a specific county. If you wish to be placed on the permanent and the county mailing list, clearly specify which list(s) and send your request to TCEQ Office of the Chief Clerk at the address below.

All written public comments and public meeting requests must be submitted to the Office of the Chief Clerk, MC 105, Texas Commission on Environmental Quality, P.O. Box 13087, Austin, TX 78711-3087 or electronically at www.tceq.texas.gov/goto/comment within 30 days from the date of newspaper publication of this notice.

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. Public comments and requests must be submitted either electronically at www.tceq.texas.gov/goto/comment, 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. Any personal information you submit to the TCEQ will become part of the agency's record; this includes email addresses. 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 City of Gonzales at the address stated above or by calling Mr. Ryan Wilkerson, Plant Manager, at (830) 672-2815.

Issuance Date: February 26, 2025

Comisión De Calidad Ambiental Del Estado De Texas



AVISO DE LA SOLICITUD Y DECISION PRELIMINAR PARA EL PERMISO DE CALIDAD DEL AGUA PARA EL USO BENEFICIAL DE SUELO

RENOVACION

PERMISO NO. WQ0004467000

SOLICITUD Y DECISIÓN PRELIMINAR. *La Ciudad de Gonzales, P.O. Box 547, Gonzales, TX 78629* ha/han solicitado a la Comisión de Calidad Ambiental de Texas (TCEQ) una renovación al permiso de lodos, Permiso No. WQ000446700 para uso beneficioso del suelo de lodos de la planta de tratamiento de aguas residuales en aproximadamente 45.4 acres. Este permiso no autorizará la descarga de contaminantes a las aguas del estado. La TCEQ recibió esta solicitud el *9 de Octubre del 2024*.

El sitio de terreno beneficiado está ubicado en *aproximadamente 0.2 millas al norte de la intersección de County Road 488, y Farm-to-Market Road 532 y 2.5 millas al noroeste de la Ciudad de Gonzales* en el Condado de Gonzales, Texas. El sitio de uso beneficioso del suelo está ubicado en la cuenca de drenaje del *Río Guadalupe* en el Segmento No. 1803 de la Cuenca del Río Guadalupe.

El Director Ejecutivo de la TCEQ ha completado la revisión técnica de la solicitud y ha preparado un borrador del permiso. El borrador del permiso, si es aprobado, establecería las condiciones bajo las cuales la instalación debe operar. El Director Ejecutivo ha tomado una decisión preliminar que si este permiso es emitido, cumple con todos los requisitos normativos y legales. La solicitud del permiso, la decisión preliminar del Director Ejecutivo y el borrador del permiso están disponibles para leer y copiar en *la alcaldía dirección 820 North St. Joseph Street, Gonzales, TX* La solicitud (cualquier actualización y aviso inclusive) está disponible electrónicamente en la siguiente página web:

<https://www.tceq.texas.gov/permitting/wastewater/pending-permits/sludge-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=-97.41287,29.523058&level=18>

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

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 persona que puede ser afectado por esta solicitud puede 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.

Si ciertos criterios se cumplen, la TCEQ puede actuar sobre una solicitud para renovar un permiso sin proveer una oportunidad de una audiencia administrativa de lo contencioso.

ACCIÓN DEL DIRECTOR EJECUTIVO. El Director Ejecutivo puede emitir una aprobación final de la solicitud a menos que exista un pedido antes del plazo de vencimiento de una audiencia administrativa de lo contencioso o se ha presentado un pedido de reconsideración. Si un pedido ha llegado antes del plazo de vencimiento de la audiencia o el pedido de reconsideración ha sido presentado, el Director Ejecutivo no emitirá una aprobación final sobre el permiso y enviará la solicitud y el pedido a los Comisionados de la TCEQ para consideración en una reunión programada de la Comisión.

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. Además, puede pedir que la TCEQ ponga su nombre en una o más de las listas de 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 específico. Si desea que se agregue su nombre en una de las listas designe cual lista(s) y envía por correo su pedido a la Oficina del Secretario Principal de la TCEQ.

Todos los comentarios escritos del público y los pedidos una reunión deben ser presentados durante los 30 días después de la publicación del aviso a la Oficina del Secretario Principal, MC 105, TCEQ, P.O. Box 13087, Austin, TX 78711-3087 or por el internet a www.tceq.texas.gov/about/comments.html. Tenga en cuenta que cualquier información personal que usted proporcione, incluyendo su nombre, número de teléfono, dirección de correo electrónico y dirección física pasarán a formar parte del registro público de la Agencia.

CONTACTOS E INFORMACIÓN DE LA TCEQ. Si necesita más información en Español sobre esta solicitud para un permiso o el proceso del permiso, por favor llame a El Programa de Educación Pública de la TCEQ, sin cobro, al 1-800-687-4040. La información general sobre la TCEQ puede ser encontrada en nuestro sitio de la red: www.tceq.texas.gov.

También se puede obtener información adicional de *la Ciudad de Gonzales* a la dirección indicada arriba o llamando a *Ryan Wilkerson gerente de planta* al (830) 672-2815.

Fecha de emission: 26 de febrero de 2025



PERMIT NO. WQ0004467000

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
P.O. Box 13087
Austin, Texas 78711-3087

This is a renewal of Permit No.
WQ0004467000 issued on March
18, 2020.

PERMIT TO LAND APPLY BIOSOLIDS

under provisions of Chapter 26 of the Texas Water Code,
Chapter 361 of the Texas Health and Safety Code,
and Chapter 312 of the Texas Administrative Code.

I. PERMITTEE

City of Gonzales
P. O. Box 547
Gonzales, Texas 78629

II. AUTHORIZATION

Beneficial Land Application of Class B Wastewater Treatment Plant (WWTP) Biosolids.

III. GENERAL DESCRIPTION AND LOCATION OF SITE

Description: The permittee is authorized to land apply Class B WWTP biosolids at an annual rate not to exceed 6.42 dry tons per acre per year on Field A, B, and C2; and 1.05 dry tons per acre per year on Field C1, on 45.4 acres located within approximately 158.8 acres at this site*.

* See Special Provision A.

Location: The land application unit is located on the north side of County Road 488, approximately 0.2 mile north of the intersection of County Road 488 and Farm-to-Market Road 532, and approximately 2.5 miles northeast of the City of Gonzales, in Gonzales County, Texas 78629 (see Attachment A).

SIC Code: 4952

Drainage Basin: The land application unit is located in the drainage basin of Guadalupe River Below San Marcos River in Segment No. 1803 of the Guadalupe River Basin. No discharge of pollutants into water in the state is authorized by this permit.

This permit and the authorization contained herein shall expire at midnight five years from the date of issuance listed below.

ISSUED DATE:

For the Commission

IV. GENERAL REQUIREMENTS

- A. The permittee shall handle and dispose of Class B biosolids in accordance with 30 Texas Administrative Code (TAC) Chapter 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present.
- B. An application for renewing this permit shall be submitted by the permittee at least 180 days prior to the expiration date of this permit.
- C. Class B WWTP Biosolids
 1. In all cases, the generator or processor of biosolids shall provide necessary analytical information to the parties who receive the biosolids, including those receiving the biosolids for land application, to assure compliance with these regulations.
 2. The permittee shall not accept biosolids that fails the Toxicity Characteristic Leaching Procedure (TCLP) test per the method specified in both 40 Code of Federal Regulations (CFR) Part 261 and 40 CFR Part 268, or another method which receives the prior approval of the Texas Commission on Environmental Quality (TCEQ) for the contaminants listed in Table 1 of 40 CFR Section 261.24.
 3. Biosolids shall not be applied to the land if the concentration of any metal exceeds the ceiling concentration listed in Table 1 below. Additional information on the frequency of testing for metals is found in Section IX.

Table 1

Pollutant	Ceiling Concentration (milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500

* Dry weight basis

4. When the total aggregate amount of any metal in Table 2 below in all biosolids applied at the site during the entire use of this site) reaches the cumulative level listed in Table 2, only biosolids with metal levels at or below those shown in Table 3 below can be applied at the site. To compute this number, the total amount of each metal in all biosolids applied must be summed on a continuing basis as biosolids are applied.

Table 2

Pollutant	Cumulative Pollutant Loading Rate (pounds per acre)
Arsenic	36
Cadmium	35
Chromium	2677
Copper	1339
Lead	268
Mercury	15
Molybdenum	Report Only
Nickel	375
Selenium	89
Zinc	2500

Table 3

Pollutant	Concentration milligrams per kilogram)*
Arsenic	41
Cadmium	39
Chromium	1200
Copper	1500
Lead	300
Mercury	17
Molybdenum	Report Only
Nickel	420
Selenium	36
Zinc	2800

* Dry weight basis

5. Biosolids also cannot be applied in excess of the most restrictive of the following criteria:
 - a. The maximum application rate (MAR) based on crop nitrogen needs (also referred to as the agronomic rate), which is calculated based on the total amount of nitrogen in the biosolids and in the soils at the application site and on the nitrogen requirements of the vegetation in the application area.
 - b. The MAR for each metal pollutant in Table 1 above, which is calculated individually for each metal based on its concentration in the biosolids and in the soils in the application area.
6. All of the MARs above must be calculated using Appendix A of the “Application for Permit for Beneficial Land Use of Biosolids.” These calculations must cover both biosolids for areas where both are applied. If biosolids are received from multiple sources, the average concentration of each of the elements above must be determined using “Table 2 - Volume Weighted Average (Mean) of Nutrient and Pollutant Concentration” from the application form.
7. Anytime the permittee plans to accept Class B biosolids from any source other than those listed in the application and approved for this permit, the permittee must notify and receive authorization from the Water Quality Division (MC 150) of the TCEQ prior to receiving the new source. The notification must include information to demonstrate that the biosolids from the proposed new source meets the requirements of this permit. The permittee must provide a certification from each source that the biosolids meets the requirements for a Process to Significantly Reduce Pathogens (PSRP) or an alternative. The permittee must provide documentation that the biosolids does not exceed the limits for polychlorinated biphenyls (PCBs), vector attraction, and the metal pollutants in Table 1 above. No biosolids from sources other than the ones listed in the application can be land applied prior to receiving written authorization from the TCEQ.

V. OPERATIONAL REQUIREMENTS

The operation and maintenance of this land application unit must be in accordance with 30 TAC Chapter 312 and 40 CFR Part 503 as they relate to land application for beneficial use. All applicable local and county ordinances must also be followed.

VI. REQUIRED MANAGEMENT PRACTICES

- A. Biosolids applications must not cause or contribute to the harm of a threatened or endangered species of plant, fish, or wildlife or result in the destruction or adverse modification of the critical habitat of a threatened or endangered species.
- B. Biosolids must not be applied to land that is flooded, frozen, or snow-covered to prevent the entry of bulk biosolids into wetlands or other water in the state.
- C. Biosolids shall be land applied in a manner which complies with 30 TAC Section 312.44, Management Requirements, including maintaining the following buffer zones for each application area.

1. Established school, institution, business or residence	750 feet
2. Public water supply well, intake, spring, or similar source, public water treatment plant, or public water supply elevated or ground storage tank	500 feet
3. Solution channel, sinkhole, or other conduit to groundwater	200 feet
4. Water in the state - when biosolids are not incorporated	200 feet
5. Water in the state - when biosolids are incorporated within 48 hours of application and a vegetated cover is established	33 feet
6. Private water supply well	150 feet
7. Public right-of-way	50 feet
8. Property boundary	50 feet
9. Irrigation conveyance canal	10 feet
- D. Biosolids must be applied to the land at an annual application rate that is equal to or less than the agronomic rate for the vegetation in the area on which the biosolids are applied.
- E. The seasonally high water table, groundwater table, or depth to water-saturated soils must be at least three (3) feet below the treatment zone for soils with moderate to slow permeability (less than two inches per hour) or four (4) feet below the treatment zone for soils with rapid to moderately rapid permeability (between two and twenty inches per hour). Biosolids cannot be applied to soils with permeation rates greater than twenty inches per hour.
- F. Biosolids must be applied by a method and under conditions that prevent runoff beyond the active application area and protect the quality of the surface water and the soils in the unsaturated zone. In addition, the following conditions must be met:
 - 1. Biosolids must be applied uniformly over the surface of the land;
 - 2. Biosolids must not be applied to areas where permeable surface soils are less than 2 feet thick;
 - 3. Biosolids must not be applied during rainstorms or during periods in which surface soils are water-saturated;
 - 4. Biosolids must not be applied to any areas having a slope in excess of 8%;

5. where runoff from the active application area is evident, the operator must cease further biosolids application until the condition is corrected;
 6. the site operator must prevent public health nuisances. Biosolids debris must be prevented from blowing or running off site. To prevent nuisance conditions from occurring, the site operator shall minimize dust migration from the land application unit and access roadways and minimize offensive odor through incorporation of biosolids and domestic septage into the soil or by taking some other type of corrective action;
 7. Biosolids application practices must not allow uncontrolled public access, so as to protect the public from potential health and safety hazards at the site; and
 8. Biosolids can be applied only to the land application area shown on Attachment B. The buffer zones as listed on that map as well as the buffer zone distances listed in section VI.C. must not have any Biosolids applied on them.
 9. Biosolids may not be applied on land within a designated floodway.
 10. The permittee shall develop and implement best management practices (BMPs) to minimize off-site tracking of biosolids, and sediment during the transport of biosolids to and from the land application unit or storage area; and to include at a minimum, removing tracked material, to the extent practicable, by the end of each day of operation at the site and either returning it to the site or otherwise disposing of it properly. The documented BMPs shall be retained by the operator and made by readily available for review by a TCEQ representative.
- G. The permittee shall post a sign that is visible from a road or sidewalk that is adjacent to the premises where the land application unit is located stating that a beneficial land use application unit is located on the premises.
- The sign shall include the operator name, telephone number, the classification of and the TCEQ authorization number.
- H. Biosolids must be handled by a method that is consistent with the permittee's Adverse Weather and Alternative Plan. This plan shall detail procedures to address times when the biosolids cannot be applied to the land application unit due to adverse weather or other conditions such as wind, precipitation, field preparation delays, and access road limitations.

VII. PATHOGEN CONTROL

- A. All sewage sludge that is applied to agricultural land, a forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sewage sludge meets either the Class A, Class AB or Class B biosolids pathogen requirements.
1. For biosolids to be classified as Class A with respect to pathogens, the density of fecal coliform must be less than 1,000 most probable number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met.

Alternative 1 - The temperature of the biosolids must be maintained at a specific value for a specific period of time. See 30 TAC § 312.82(a)(3)(A) for specific information.

Alternative 5 (PFRP) - Biosolids must be treated in one of the Processes to Further Reduce Pathogens (PFRP) described in 40 CFR Part 503, Appendix B. PFRP include composting, heat drying, heat treatment, and thermophilic aerobic digestion.

Alternative 6 (PFRP Equivalent) – Biosolids must be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5.

2. For biosolids to be classified as Class AB with respect to pathogens, the density of fecal coliform must be less than 1,000 MPN per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the sewage sludge be less than three MPN per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. In addition, one of the alternatives listed below must be met.

Alternative 2 - The pH of the biosolids must be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

The temperature of the biosolids must be above 52° Celsius for 12 hours or longer during the period that the pH of the biosolids is above 12 std. units.

At the end of the 72-hour period during which the pH of the biosolids is above 12 std. units, the biosolids shall be air dried to achieve a percent solids in the biosolids greater than 50%.

Alternative 3 - The biosolids must be analyzed for enteric viruses prior to pathogen treatment. The limit for enteric viruses is less than one Plaque-forming Unit per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(B)(i-iii) for specific information. Biosolids shall be analyzed for viable helminth ova prior to pathogen treatment. The limit for viable helminth ova is less than one per four grams of total solids (dry weight basis) either before or following pathogen treatment. See 30 TAC §312.82(a)(2)(B)(iv-vi) for specific information.

Alternative 4 - The density of enteric viruses in the biosolids must be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the biosolids are used or disposed. The density of viable helminth ova in the biosolids must be less than one per four grams of total solids (dry weight basis). See 30 TAC §312.82(a)(2)(C) for specific information.

3. Sewage sludge that meets the requirements of Class AB biosolids may be classified a Class A biosolids if a variance request is submitted in writing that is supported by substantial documentation demonstrating equivalent methods for reducing odors and written approval is granted by the executive director. The executive director may deny the variance request or revoke that approved variance if it is determined that the variance may potentially endanger human health or the environment or create nuisance odor conditions.
4. Three alternatives are available to demonstrate compliance for Class B biosolids.

- Alternative 1
- i. A minimum of seven random samples of the biosolids must be collected within 48 hours of the time the biosolids are used or disposed of during each monitoring episode for the sewage sludge.
 - ii. The geometric mean of the density of fecal coliform in the samples collected must be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 colony forming units per gram of

total solids (dry weight basis).

Alternative 2 Biosolids that are used or disposed of must be treated in one of the PSRP described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the biosolids.

- i. Prior to use or disposal, all the biosolids must have been generated from a single location, except as provided in subparagraph v. below;
- ii. An independent Texas licensed professional engineer must provide a certification to the generator of biosolids that the wastewater treatment facility generating the biosolids is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification must include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;
- iii. Prior to any off-site transportation or on-site use or disposal of any biosolids generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the biosolids underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established EPA final guidance;
- iv. All certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and
- v. If the biosolids are generated from a mixture of sources, resulting from a person who prepares biosolids from more than one wastewater treatment facility, the resulting derived product must meet one of the PSRP, and must meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 Biosolids must be treated in an equivalent process that has been approved by the EPA so long as all of the following requirements are met by the generator of the sewage sludge:

- i. prior to use or disposal, all biosolids must have been generated from a single location, except as provided in subparagraph v. below;
- ii. prior to any off-site transportation or on-site use or disposal of any biosolids generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the biosolids underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements must be in

accordance with established EPA final guidance;

- iii. all certification records and operational records describing how the requirements of this paragraph were met must be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;
- iv. the executive director will accept from the EPA a finding of equivalency to the defined PSRP; and
- v. if the biosolids are generated from a mixture of sources resulting from a person who prepares biosolids from more than one wastewater treatment facility, the resulting derived product must meet one of the PSRP and must meet the certification, operation, and record keeping requirements of this paragraph.

B. In addition, the following site restrictions must be met when Class B biosolids are land applied:

- 1. food crops with harvested parts that touch the biosolids /soil mixture and are totally above the land surface must not be harvested for 14 months after the application of biosolids;
- 2. food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remains on the land surface for 4 months or longer prior to incorporation into the soil;
- 3. food crops with harvested parts below the surface of the land shall not be harvested for 38 months after the application of biosolids when the biosolids remains on the land surface for less than 4 months prior to incorporation into the soil;
- 4. food crops, feed crops, and fiber crops shall not be harvested for 30 days after the application of biosolids;
- 5. domestic livestock shall not be allowed to graze on the land for 30 days after the application of biosolids;
- 6. turf grown on land where biosolids are applied shall not be harvested for 1 year after the application of the biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn;
- 7. public access to land with a high potential for public exposure shall be restricted for 1 year after the application of biosolids;
- 8. public access to land with a low potential for public exposure shall be restricted for 30 days after the application of biosolids; and
- 9. land application of biosolids shall be in accordance with the buffer zone requirements found in 30 TAC §312.44.

VIII. VECTOR ATTRACTION REDUCTION REQUIREMENTS

- A. All bulk biosolids that are applied to agricultural land, a forest, a public contact site, or a reclamation site shall be treated in accordance with one of the following alternatives for vector attraction reduction.

- Alternative 1 The mass of volatile solids in the biosolids shall be reduced by a minimum of 38 percent [30 TAC §312.83(b)(1)].
- Alternative 2 If Alternative 1 cannot be met for an anaerobically digested biosolids, vector attraction reduction can be demonstrated by digesting a portion of the previously digested biosolids anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 degrees Celsius. Volatile solids must be reduced by less than 17 percent to demonstrate compliance [30 TAC §312.83(b)(2)].
- Alternative 3 If Alternative 1 cannot be met for an aerobically digested biosolids, vector attraction reduction can be demonstrated by digesting a portion of the previously digested biosolids with a percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 degrees Celsius. Volatile solids must be reduced by less than 15 percent to demonstrate compliance [30 TAC §312.83(b)(3)].
- Alternative 4 The specific oxygen uptake rate (SOUR) for biosolids treated in an aerobic process must be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius [30 TAC §312.83(b)(4)]. This test may only be run on sludge with a total percent solids of two percent or less.
- Alternative 5 Biosolids shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the biosolids shall be higher than 40 degrees Celsius and the average temperature of the biosolids shall be higher than 45 degrees Celsius [30 TAC §312.83(b)(5)].
- Alternative 6 The pH of biosolids shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours [30 TAC §312.83(b)(6)]. This must be done at the time the biosolids are prepared for sale or given away in a bag or other container.
- Alternative 7 The percent solids of biosolids that do not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials [30 TAC §312.83(b)(7)]. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.
- Alternative 8 The percent solids of biosolids that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials [30 TAC §312.83(b)(8)]. This shall be done at the time the biosolids are used. Unstabilized solids are defined as organic materials in biosolids that have not been treated in either an aerobic or anaerobic treatment process.
- Alternative 9 Biosolids shall be injected below the surface of the land. No significant amount of the biosolids shall be present on the land surface within one hour after the biosolids are injected. When biosolids that are injected below the surface of the land is Class A or Class AB with respect to pathogens, the biosolids shall be

injected below the land surface within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(9)].

Alternative 10 Biosolids applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land. When biosolids that are incorporated into the soil is Class A or Class AB with respect to pathogens, the biosolids shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process [30 TAC §312.83(b)(10)].

IX. MONITORING REQUIREMENTS

The biosolids must be monitored according to 30 TAC §312.46(a)(1) for the ten metals in Table 1 of Section IV.C.3, pathogen reduction, and vector attraction reduction.

- A. If the concentration of nitrogen or any of the metals in Table 1 in Section IV.C.3 exceeds the concentration used to calculate any of the MARs in Section IV.C.5 and 6, the MAR for that element must be recalculated. If the biosolids come from multiple sources, the permittee must use Table 2 in Section IV.C.4 to calculate a volume weighted average of all biosolids that will be applied during the current monitoring period.
- B. After the biosolids have been monitored according to 30 TAC §312.46(a)(1) for a period of two years, an application may be submitted to amend this permit to reduce the frequency of monitoring.
- C. The frequency of monitoring will be increased if recalculation of the agronomic rate increases the amount of biosolids that can be applied to a higher threshold, as shown in 30 TAC §312.46(a)(1). The frequency of monitoring may also be increased if the TCEQ determines that the level of pollutants or pathogens in the biosolids warrants such action.
- D. If WWTP biosolids is received at this site for land application, the permittee must ensure that the test data for TCLP and PCBs is provided from the generators.
- E. All metal constituents and fecal coliform or *Salmonella* sp. bacteria shall be monitored at the appropriate frequency pursuant to 30 TAC §312.46(a)(1).
- F. Representative samples of biosolids shall be collected and analyzed in accordance with the methods referenced in 30 TAC §312.7.
- G. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification.

X. RECORD KEEPING REQUIREMENTS

The permittee shall fulfill record keeping requirements per 30 TAC §312.47. The documents shall be retained at the site and shall be readily available for review by a TCEQ representative.

- A. Records of the following general information must be kept for land application permits:
 - 1. a certification statement that all applicable requirements (specifically listed) have been met and the permittee understands that there are significant penalties for false certification, including fines and imprisonment. See 30 TAC §312.47(a)(4)(A)(ii) or (a)(5)(A)(ii),

whichever is applicable;

2. the location, by street address, and specific latitude and longitude, of each site on which biosolids is applied;
 3. the number of acres;
 4. the dates, times, and quantities applied to each site;
 5. the cumulative amount of each pollutant in pounds per acre listed in Table 2 of Section IV.C.4 applied to each site;
 6. the total amount applied to each site in dry tons;
 7. the dates of harvesting activity;
 8. the amount harvested, excluding grazing and
 9. a description of how the management practices listed in Section IV.C., and 30 TAC §312.44 are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(viii).
- B. For biosolids with metal concentrations at or below levels in Table 3 of Section IV.C.4 that also meets the Class A or Class AB pathogen requirements in 30 TAC §312.82(a) and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of a description of how the vector attraction reduction requirements are met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).
- C. For biosolids with metal concentrations at or below levels in Table 3 of Section IV.C.4 that also meets the Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of:
1. a description of how site restrictions for Class B biosolids in 30 TAC §312.82(b)(3) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(x); and
 2. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).
- D. For biosolids with metal concentrations at or below levels in Table 1 of Section IV.C.3 that also meets the Class B pathogen requirements in 30 TAC §312.82(b), and the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10), the permittee shall keep a record of:
1. a description of how the requirements to obtain information from the biosolids generators in 30 TAC §312.42(e) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(vi);
 2. a description of how the site restrictions for Class B biosolids in 30 TAC §312.82(b)(3) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(x); and

3. a description of how the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) are being met. If these requirements are being met, the permittee shall prepare and keep a certification statement per 30 TAC §312.47(a)(5)(B)(xii).

XI. REPORTING REQUIREMENTS

- A. The permittee shall submit a separate annual report by September 30th of each year per 30 TAC §312.48 for each site. The annual report must include all the information required under 30 TAC §312.48 (including the items listed below) for a period covering September 1st of the previous year through August 31st of the current year. Additionally, the “Annual Biosolids Land Application Summary Report Form” (Attachment C) should be filled out and submitted with the annual report. The permittee shall submit the report to the Land Application Team of the Water Quality Assessment Section (MC 150) and the TCEQ Regional Office (MC Region 14). Record retention requirements must be followed in accordance with 30 TAC §312.47. The following information must be included in the report:
 1. Annual Land Application Summary Report Form (a blank form is provided as Attachment C) with the following information:
 - i. permit number;
 - ii. the site location (address or latitude and longitude);
 - iii. operator address, contact person’s name, telephone number, and fax number;
 - iv. amount of biosolids applied (dry metric tons) at each land application unit;
 - v. number of acres on which biosolids are land applied;
 - vi. vegetation grown and number of cuttings; and
 - vii. other items listed in the summary sheet.
 2. If the concentration for any metal listed in Table 3 of Section IV.C.4 is exceeded, the report must include the following information:
 - i. date and time of each application;
 - ii. all certification statements required under 30 TAC §312.47(a)(5)(B);
 - iii. a description of how the information from the generator was obtained, per 30 TAC §312.42(e);
 - iv. a description of how each of the management practices in 30 TAC §312.44 were met for this site;
 - v. a description of how the site restrictions in 30 TAC §312.82(b)(3) were met for this site;
 - vi. if the vector attraction reduction requirements in 30 TAC §312.83(b)(9) or (10) were met, a description of how this was done;
 - vii. soil and biosolids test reports, as required in Section XII of this permit; and

- viii. calculations of the current agronomic rate and the life of the site based on metal loadings (Appendix A of the application, or a similar form).
3. If none of the concentrations for the metals exceed the values listed in Table 3 in Section IV.C.4:
 - i. information per 30 TAC §312.47(a)(3)(B) for Class A biosolids; and
 - ii. information per 30 TAC §312.47(a)(4)(B) for Class B biosolids.
4. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2 in Section IV.C.4, the permittee shall provide the following additional information:
 - i. date and time of each application;
 - ii. the information in 30 TAC §312.47(a)(5)(A) must be obtained from the generator and included in the report; and
 - iii. the cumulative amount in pounds per acre of each pollutant listed in Table 2 in Section IV.C.4 applied to each application field of this site through bulk biosolids.
5. The permittee shall submit evidence it is complying with the nutrient management plan developed by a certified nutrient management specialist in accordance with the practice standards of the Natural Resources Conservation Service of the United States Department of Agriculture.
- B. The permittee shall submit a quarterly report by the 15th day of the month following each quarter during the reporting period (ie. quarterly reports will be due December 15th, March 15th, June 15th, and September 15th). Additionally, the "Quarterly Land Application Report Form" (Attachment D) should be filled out and submitted with the quarterly report. The permittee shall submit the report to the Land Application Team of the Water Quality Assessment Section (MC 150) and the TCEQ Regional Office (MC Region 14). Record retention requirements must be followed in accordance with 30 TAC §312.47. The Quarterly Land Application Report Form must include the following information:
 1. the source, quality, and quantity applied to the land application unit;
 2. the location of the land application unit, either in terms of longitude and latitude or by physical address, including the county;
 3. the dates of delivery of Class B biosolids;
 4. the dates of application of Class B biosolids;
 5. the cumulative amount of metals applied to the land application unit through the application of Class B biosolids;
 6. crops grown at the land application unit site; and
 7. the suggested agronomic application rate.

XII. SOIL SAMPLING AND ANALYSIS

The permittee is required to notify the local TCEQ Regional Office 48 hours prior to taking annual soil samples at the permitted site.

The permittee shall obtain representative soil samples from the root zones of the land application area. Composite sampling techniques shall be used. Each composite sample shall represent no more than 45.4 acres with no less than 10 to 15 subsamples representing each composite sample. Subsamples shall be composited by like sampling depth, type of crop and soil type for analysis and reporting. Soil types are soils that have like topsoil or plow layer textures. These soils shall be sampled individually from 0 to 6 inches and 6 to 24 inches below ground level per table below. Soil samples shall be analyzed within 30 days of sample collection.

The permittee shall submit the results of the annual soil sample analyses with copies of the laboratory reports and a map depicting the areas that have received biosolids within the permanent land application fields with the "Annual Land Application Report Form" (Attachment C) to the Land Application Team of the Water Quality Assessment Section (MC 150) and the TCEQ Regional Office (MC Region 14), no later than September 30th of each sampling year. If biosolids /domestic septage are not applied in a particular year, the permittee shall notify the same TCEQ offices and indicate that biosolids have not been applied on the approved land application unit(s) during that year.

The permittee must monitor the soil-biosolids mixture for the site for the parameters listed below using the soil sampling requirements described in 30 TAC §312.11(d)(2) and (3). Analytical results must be provided on a dry weight basis. The Soil Sampling and Analysis plan shall be provided to the analytical laboratory prior to sample analysis.

No.	PARAMETER ⁷	NOTE	FREQUENCY	SAMPLE DEPTH	
				0" - 6"	6" - 24"
1.	Nitrate Nitrogen (NO ₃ -N, mg/kg)	1	1 per year	X	X
2.	Ammonium Nitrogen (NH ₄ -N, mg/kg)	1	1 per year	X	X
3.	Total Nitrogen (TKN, mg/kg)	2	1 per year	X	X
4.	Phosphorus (plant available, mg/kg)	3	1 per year	X	X
5.	Potassium (plant available, mg/kg)	3	1 per year	X	X
6.	Sodium (plant available, mg/kg)	3	1 per year	X	X
7.	Magnesium (plant available, mg/kg)	3	1 per year	X	X
8.	Calcium (plant available, mg/kg)	3	1 per year	X	X
9.	Electrical Conductivity	4	1 per year	X	X
10.	Soil Water pH (S.U.)	5	1 per year	X	X
11.	Total Arsenic (mg/kg)	6	1 per 5 years	X	N/A
12.	Total Cadmium (mg/kg)	6	1 per 5 years	X	N/A
13.	Total Chromium (mg/kg)	6	1 per 5 years	X	N/A
14.	Total Copper (mg/kg)	6	1 per 5 years	X	N/A
15.	Total Lead (mg/kg)	6	1 per 5 years	X	N/A
16.	Total Mercury (mg/kg)	6	1 per 5 years	X	N/A
17.	Total Molybdenum (mg/kg)	6	1 per 5 years	X	N/A
18.	Total Nickel (mg/kg)	6	1 per 5 years	X	N/A
19.	Total Selenium (mg/kg)	6	1 per 5 years	X	N/A
20.	Total Zinc (mg/kg)	6	1 per 5 years	X	N/A

1. Determined in a 1 N KCl soil extract (<http://soiltesting.tamu.edu/webpages/swftlmethods1209.html>).
2. Determined by Kjeldahl digestion or an equivalent accepted procedure. Methods that rely on Mercury as a catalyst are not acceptable.
3. Mehlich III extraction (yields plant-available concentrations) with inductively coupled plasma.
4. Electrical Conductivity (EC) - determined from extract of 2:1 (volume/volume) water/soil mixture and expressed in dS/m (same as mmho/cm).
5. Soil pH must be analyzed by the electrometric method, Method 9045C, in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” EPA SW-846, as referenced in 40 CFR §260.11 - determined from extract of 2:1 (volume/volume) water/soil mixture.
6. Analysis for metals in soil must be performed according to methods outlined in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” EPA SW-846; method 3050B.
7. All parameters must be analyzed on a dry weight basis, except Soil Water pH and Electrical Conductivity.

XIII. STANDARD PROVISIONS

- A. This permit is granted in accordance with the Texas Water Code, Texas Health and Safety Code, the rules and other Orders of the Commission and other applicable laws of the State of Texas.
- B. Unless specified otherwise, any noncompliance which may endanger human health or safety, or the environment shall be reported to the TCEQ. A report of such information must be provided orally or by facsimile transmission (FAX) to the TCEQ Regional Office (MC Region 14) within 24 hours of becoming aware of the noncompliance. A written submission of such information must also be provided to the TCEQ Regional Office (MC Region 14) and to the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. The written submission must contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the anticipated amount of time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.
- C. Any noncompliance other than that specified in Standard Provision B, or any required information not submitted or submitted incorrectly, must be reported to the TCEQ Enforcement Division (MC 224) as promptly as possible.
- D. Acceptance of this permit constitutes an acknowledgment and agreement that the permittee shall comply with all the terms, provisions, conditions, limitations and restrictions embodied in this permit and with the rules and other Orders of the Commission and the laws of the State of Texas. Agreement is a condition precedent to the granting of this permit.
- E. Prior to any transfer of this permit, Commission approval must be obtained. The Commission must be notified, in writing, of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.
- F. The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit will control.
- G. The permittee is subject to the provisions of 30 TAC §305.125, Consolidated Permits-Standard Permit Conditions.
- H. The permittee shall remit to the Commission annual fees per 30 TAC §312.9. Failure to pay the fees on time may result in revocation of this permit.
- I. The permittee does not have a vested right in this permit.
- J. The permittee may not accept Class B biosolids unless it has been transported to the land application unit in a covered container with the covering firmly secured at the front and back.
- K. This permit does not authorize the land application of processed or unprocessed chemical toilet waste, grease trap waste, grit trap waste, milk solids, or similar non-hazardous municipal or industrial solid wastes, or any of the wastes listed in this provision combined with biosolids unless the grease trap waste is added at a fats, oil and grease (FOG) receiving facility as part of an anaerobic digestion process.

- L. This permit does not authorize the processing of biosolids or domestic septage at the land application site. Processing includes, but is not limited to, thickening, stabilization, initial alkali addition for pathogen or vector control, and dewatering of biosolids.

XIV. SPECIAL PROVISIONS

- A. For the first year of this permit, the maximum application rate shall not exceed 6.42 dry tons per acre on Fields A, B, and C2; and 1.05 dry tons per acre on Field C1. On an annual basis, the application rate shall be calculated and adjusted based on current soil monitoring results. This application rate that is submitted in each annual sludge report shall not exceed the overall maximum application rate of 6.42 dry tons per acre per year on Fields A, B, and C2; and 1.05 dry tons per acre per year on Field C1. A major amendment to this permit shall be required to increase the overall maximum sludge application rate.
- B. Land application of sludge must not occur where there is visible pooling of water on the surface. Regulatory support for this condition can be found at 30 TAC §312.44(i)(3).
- C. During times of land application, all buffer zones (including surface water buffers) and land application areas must be distinguished from each other by the use of flags, posting or fencing to ensure that buffer areas and land application areas are separated from each other.

The application areas (Fields A, B, C1, and C2) must be distinguished from each other by the use of flags, posting, or fencing to ensure that each field is separated from each other.

- D. The permittee shall comply with the requirements of 30 TAC Section §312 and any Best Management Practices (BMPs) proposed in the permit application, including buffer requirements of 30 TAC §312.44(c) (regarding surface water and water well buffers), and groundwater and surface water protection requirements of 30 TAC §312.44(g) and (h).
- E. The permittee shall consider nutrient management practices appropriate for the land application of biosolids and assess the potential risk for nitrogen and phosphorus to contribute to water quality impairments. Information and assistance on a certification program for Nutrient Management Specialists is available online at <https://nutrientmanagement.tamu.edu/about/>

Nutrient management shall be practiced within the context of the Natural Resources Conservation Service Code 590 Practice Standard, which addresses the kind, source, placement, form, amount, timing, and application method of nutrients and soil amendments. This is available online at:

https://nutrientmanagement.tamu.edu/wp-content/uploads/sites/25/legacy-files/content/tools/590_TX_CPS_Nutrient_Management_2021.pdf

The 590 Standard should be conducted using the Phosphorus Index, a simple screening tool used to rank vulnerability of fields as sources of phosphorus loss to surface runoff. Information on the Phosphorus Index is available online at:

https://nutrientmanagement.tamu.edu/wp-content/uploads/sites/25/legacy-files/content/tools/txtechnote15_rev.pdf

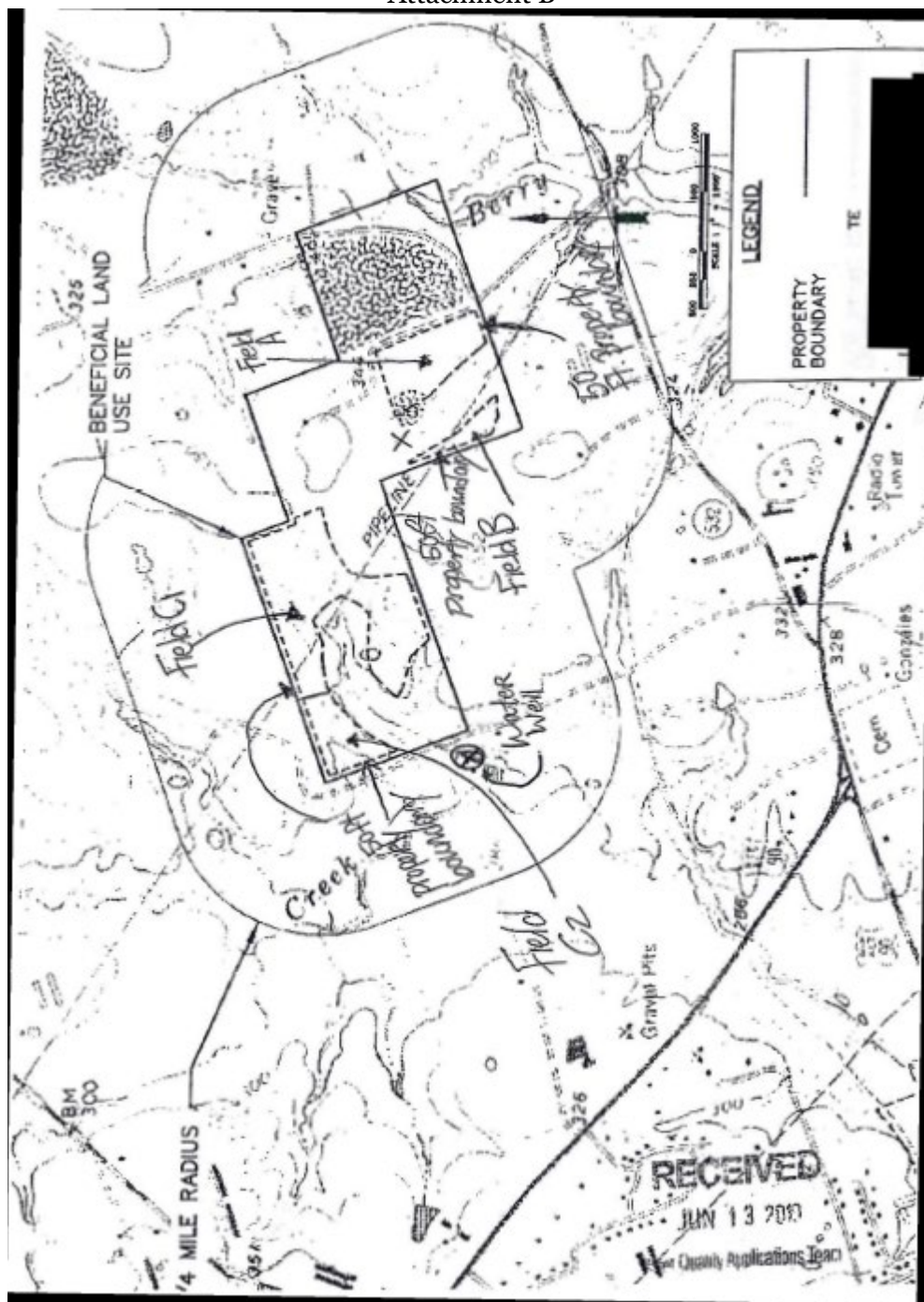
The annual analysis of extractable phosphorus in soil samples shall be conducted using the Mehlich III extraction with inductively coupled plasma.

- F. All biosolids staging areas shall be located outside the buffer zones required by 30 TAC §312.44(c).
- G. The permittee shall use cultural practices to promote and maintain the health and propagation of the Coastal Bermuda grass and ryegrass crops and avoid plant lodging. The permittee shall manage the established cover by cutting and removing the grass to ensure the health and long-

term permanency of the approved vegetative cover. Cutting and removing vegetation dates shall be recorded in a log book kept on-site to be made available to TCEQ personnel upon request.

- H. For soils with a permeability greater than 2 inches per hour and less than 20 inches per hour, the land application is prohibited if the soil is saturated or groundwater is present within a depth of 4 feet of the treatment zone as demonstrated through the determination of the presence or absence of the perched or apparent water table. Records of monitoring data shall be maintained per 30 TAC §312.47. In the absence of groundwater monitoring, land application is prohibited during months when the most recently published soil survey data indicates that a perched or apparent water table may be present within 4 feet of the treatment zone.
- I. For soils with a permeability less than 2 inches per hour, the land application is prohibited if the soil is saturated or groundwater is present within a depth of 3 feet of the treatment zone as demonstrated through the determination of the presence or absence of the perched or apparent water table. Records of monitoring data shall be maintained per 30 TAC §312.47. In the absence of groundwater monitoring, land application is prohibited during months when the most recently published soil survey data indicates that a perched or apparent water table may be present within 3 feet of the treatment zone.
- J. Sludge may not be applied to Meguin Silty Clay Loam.

Attachment B





Attachment C Annual Biosolids Land Application Summary Report

If you have questions on how to fill out this form or about the Biosolids program, please contact us at 512-239-4671. Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.

TCEQ Fiscal Year: FY 	Reporting period from September 1, to August 31,
Class B Permit No.: 	Today's Date:
Permittee Name: 	
Permittee Mailing Address: 	
Contact Name: 	Contact Telephone No.:

Field No. (if any): (Please submit a separate form for each field.)

Class B Biosolids:

1. Amount land applied: dry tons/year
2. Amount disposed of via monofill: dry tons/year
3. Amount disposed of via MSW landfill: dry tons/year

Treated Domestic Septage:

1. Amount land applied: gallons/year
2. Method used to treat domestic septage:

Water Treatment Plant Residuals:

1. Amount land applied: dry tons/year
2. Amount disposed of via dedicated land disposal: dry tons/year
3. Amount disposed of via monofill: dry tons/year

Amount of Class A or AB Biosolids land applied: dry tons/year

Total area used for land application/disposal at this site: acres

Site vegetation (e.g. grass type) and number of cuttings:

Biosolids only – Please provide information regarding the following three items (check yes or no):

1. Does any of the biosolids you have generated or received exceed the concentration limits for the metals listed in Table 3 of [30 TAC §312.43\(b\)](#)? Yes ☐ No ☐
2. Has your field/site reached or exceeded 90% of the cumulative metal loading rates for any metals as listed in Table 2 of [30 TAC §312.43\(b\)](#)? Yes ☐ No ☐
3. Have been applied to the field/site after 90% of cumulative metal loading rates for any of the metals per Table 2 of [30 TAC §312.43\(b\)](#) been reached? Yes ☐ No ☐

- If your site has multiple land application fields, please submit a separate form for each field.
- If you operate other land application sites, a form should be submitted for each site (regulated entity).
- In addition to this summary form, you need to submit all information as required by [30 TAC §312.48](#).
- Send one complete copy of your report and this form to the TCEQ regional office in your area.

PLEASE MAIL THE COMPLETED REPORT TO:

Texas Commission on Environmental Quality
Land Application Team (MC 150)
Water Quality Assessment Section
P.O. Box 13087
Austin, TX 78711-3087

OR VIA EMAIL TO:

biosolids@tceq.texas.gov



Attachment D Quarterly Biosolids Land Application Summary Report

If you have questions on how to fill out this form or about the Biosolids program, please contact us at 512-239-4671. Individuals are entitled to request and review their personal information that the agency gathers on its forms. They may also have any errors in their information corrected. To review such information, contact us at 512-239-3282.

TCEQ Fiscal Year: FY	Quarter:
Class B Permit No.:	Today's Date:
Permittee Name:	
Permittee Mailing Address:	
Contact Name:	Contact Telephone No.:

Field No. (if any): (Please submit a separate form for each field.)

Amount of Class B biosolids land applied: dry tons/quarter

Amount of treated domestic septage land applied: gallons/quarter

Method used to treat domestic septage:

Amount of water treatment plant residuals land applied: dry tons/quarter

Amount of Class A or AB Biosolids land applied: dry tons/quarter

Total area used for land application/disposal at this site: acres

Site vegetation (e.g. grass type) and number of cuttings:

Does any of the biosolids you have generated or received exceed the concentration limits for the metals listed in Table 3 of [30 TAC §312.43\(b\)](#)? Yes ☐ No ☐

Site location in decimal degrees: Latitude Longitude

Site physical address:

Please attach the following information as required by [30 TAC §312.48](#) (Biosolids only):

- Please note the following information shall be provided in computer generated report format.
- Please check mark before each item below to indicate you have attached that item with this report.
- ☐ 1. Metal concentration, pathogen analysis data, and vector attraction certifications of biosolids for each source.
- ☐ 2. Provide a list containing the name and permit number of each source of biosolids.
- ☐ 3. Date of delivery of each load of biosolids land applied.
- ☐ 4. Date of land application of each load of biosolids.
- ☐ 5. The cumulative metal loading rates for any metals as listed in Table 2 of [30 TAC §312.43\(b\)](#).
- ☐ 6. The suggested agronomic rate for the Class B biosolids.
- If your site has multiple land application fields, please submit a separate form for each field.
- If you operate other land application sites, a form should be submitted for each site (regulated entity).
- Send one complete copy of your report and this form to the TCEQ regional office in your area.

PLEASE MAIL THE COMPLETED REPORT TO:

Texas Commission on Environmental Quality
Land Application Team (MC 150)
Water Quality Assessment Section
P.O. Box 13087
Austin, TX 78711-3087

OR VIA EMAIL TO:

biosolids@tceq.texas.gov

TECHNICAL SUMMARY AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

DESCRIPTION OF APPLICATION

Applicant: City of Gonzales

TCEQ Permit No.: WQ0004467000

Regulated Activity: Beneficial Land Application of Wastewater Treatment Plant (WWTP) Biosolids

Type of Application: Renewal

Request: Renewal with no changes

Authority: Texas Water Code §26.027; 30 Texas Administrative Code (TAC) Chapters 281, 305, and 312; Texas Health and Safety Code (THSC) §361.121; and Commission policies.

EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit shall expire at midnight five years from the date of issuance in accordance with 30 TAC §312.10 and THSC §361.121.

REASON FOR PROJECT PROPOSED

City of Gonzales has applied to the Texas Commission on Environmental Quality (TCEQ or Commission) for a renewal of Permit No. WQ0004467000 to authorize the beneficial land application of Class B wastewater treatment plant (WWTP) biosolids.

PROJECT DESCRIPTION AND LOCATION

The land application unit is located on the north side of County Road 488, approximately 0.2 mile north of the intersection of County Road 488 and Farm-to-Market Road 532, and approximately 2.5 miles northeast of the City of Gonzales, in Gonzales County, Texas 78629.

The land application unit is located within the drainage basin of Guadalupe River Below San Marcos River in Segment No. 1803 of the Guadalupe River Basin. No discharge of pollutants into water in the state is authorized by this permit.

Site Location Coordinates (in decimal degrees)	Latitude 29.523058	Longitude -97.41287
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DRAFT PERMIT CONDITIONS

Sludge provisions are included in the draft permit according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal, and Transportation. The draft permit authorizes the land application of Class B WWTP biosolids for beneficial use on 45.4 acres.

For the first year of this permit, the maximum biosolids application rate shall not exceed 6.42 dry tons

«APPLNAME»

Permit No. WQ000«PERMITNO»000

Technical Summary and Executive Director's Preliminary Decision

per acre on Fields A, B, and C2; and 1.05 dry tons per acre on Field C1. On an annual basis, the application rate shall be calculated and adjusted based current biosolids and soil monitoring results. On an annual basis, the application rate shall be calculated and adjusted based on current soil monitoring results. This application rate that is submitted in each annual sludge report shall not exceed the overall maximum application rate of 6.42 dry tons per acre per year on Fields A, B and C2; and 1.05 dry tons per acre per year on Field C1. A major amendment to this permit shall be required to increase the overall maximum sludge application rate.

SUMMARY OF CHANGES FROM APPLICATION

None.

SUMMARY OF CHANGES FROM EXISTING PERMIT

The first year application rates for Fields A, B, and C2 have been increased from 6.26 dry tons per acre to 6.42 dry tons per acre.

The draft permit includes all updates based on the 30 TAC Chapter 312 rule change effective April 23, 2020.

The annual and quarterly Biosolids Land Application Summary Report forms in the draft permit (Attachments C and D, respectively) have been updated for accuracy and compliance with the requirements in 30 TAC Chapter 312.

BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application submitted on October 9, 2024 and additional information submitted on October 22, 2024, and December 6, 2024.
2. Existing TCEQ Permit No. WQ0004467000 issued on March 18, 2020.
3. Interoffice Memorandum from the Water Quality Assessment Team, Water Quality Division.

PROCEDURES FOR FINAL DECISION

When an application is declared administratively complete, the Chief Clerk sends a letter to the applicant advising the applicant to publish the Notice of Receipt of Application and Intent to Obtain Permit in the newspaper. In addition, the Chief Clerk instructs the applicant to place a copy of the application in a public place for review and copying in the county where the facility is or will be located. This application will be in a public place throughout the comment period. The Chief Clerk also mails this notice to any interested persons and, if required, to landowners identified in the permit application. This notice informs the public about the application and provides that an interested person may file comments on the application or request a contested case hearing or a public meeting.

Once a draft permit is completed, it is sent, along with the Executive Director's preliminary decision, as contained in the technical summary or fact sheet, to the Chief Clerk. At that time, the Notice of Application and Preliminary Decision will be mailed to the same people and published in the same newspaper as the prior notice. This notice sets a deadline for making public comments. The applicant

«APPLNAME»

Permit No. WQ000«PERMITNO»000

Technical Summary and Executive Director's Preliminary Decision

must place a copy of the Executive Director's preliminary decision and draft permit in the public place with the application.

Any interested person may request a public meeting on the application until the deadline for filing public comments. A public meeting is intended for the taking of public comment and is not a contested case proceeding.

After the public comment deadline, the Executive Director prepares a response to all significant public comments on the application or the draft permit raised during the public comment period. The Chief Clerk then mails the Executive Director's response to comments and final decision to people who have filed comments, requested a contested case hearing, or requested to be on the mailing list. This notice provides that if a person is not satisfied with the Executive Director's response and decision, they can request a contested case hearing or file a request to reconsider the Executive Director's decision within 30 days after the notice is mailed.

The Executive Director will issue the permit unless a written hearing request or request for reconsideration is filed within 30 days after the Executive Director's response to comments and final decision is mailed. If a hearing request or request for reconsideration is filed, the Executive Director will not issue the permit and will forward the application and request to the TCEQ Commissioners for their consideration at a scheduled Commission meeting. If a contested case hearing is held, it will be a legal proceeding similar to a civil trial in state district court.

If the Executive Director calls a public meeting or the Commission grants a contested case hearing as described above, the Commission will give notice of the date, time, and place of the meeting or hearing. If a hearing request or request for reconsideration is made, the Commission will consider all public comments in making its decision and shall either adopt the Executive Director's response to public comments or prepare its own response.

For additional information about this application, contact Bijaya Chalise at (512) 239-4545.

Bijaya Chalise

Bijaya Chalise, Biosolids Coordinator
Land Application Team
Water Quality Assessment Section (MC 150)

2/13/2025

Date

Abesha Michael

From: Victor Ostiguin <VOstiguin@kleinfelder.com>
Sent: Thursday, October 24, 2024 9:02 AM
To: Abesha Michael
Cc: Keith Schauer; Ryan Wilkerson; citymanager@gonzales.texas.gov
Subject: RE: Application to Renew Permit No. WQ0004467000 - Notice of Deficiency Letter
Attachments: WQ Sludge NORI beneficial use (Spanish).docx; Landowner List.docx; Landowner List.xlsx

Abesha,

Below is our response to your comments and attached are the requested documents. Please let me know if you need anything else.

1. Unfortunately the check was submitted on October 18th without making a copy. We can provide a copy of it once it clears if it is still required.
2. The landowner mailing list is attached.
3. The Notice is correct. I have also attached the one in Spanish.

Thanks,

Victor Ostiguin, P.E.
Project Engineer



829 St. Joseph St.
Gonzales, Texas 78629
D: 512.566.4076
vostiguin@kleinfelder.com
www.doucetengineers.com
TBPLS Firm No. 10194551
TBPE Firm No. F-3937

****PLEASE NOTE NEW EMAIL ADDRESS****

From: Ryan Wilkerson <RWilkerson@gonzales.texas.gov>
Sent: Saturday, October 19, 2024 5:19 AM
To: Keith Schauer <KSchauer@kleinfelder.com>
Subject: Fwd: Application to Renew Permit No. WQ0004467000 - Notice of Deficiency Letter

External Email

: Abesha Michael <Abesha.Michael@tceq.texas.gov>
Date: October 18, 2024 at 12:50:42 PM CDT
To: Ryan Wilkerson <RWilkerson@gonzales.texas.gov>
Cc: City Manager <citymanager@gonzales.texas.gov>
Subject: FW: Application to Renew Permit No. WQ0004467000 - Notice of Deficiency Letter

Dear Mr. Wilkerson:

The attached Notice of Deficiency letter sent on October 18, 2024, requests additional information needed to declare the application administratively complete. Please send the complete response to my attention by November 1, 2024..

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; c: 346-802-8446
Email: abesha.michael@tceq.texas.gov

How is our customer service? Fill out our online customer satisfaction survey at
www.tceq.texas.gov/customersurvey

COMISIÓN DE CALIDAD AMBIENTAL DE TEXAS



AVISO DE RECIBIMIENTO DE LA SOLICITUD E INTENCIÓN DE OBTENER UN PERMISO DE USO BENÉFICO DEL SUELO (RENOVACIÓN)

PROPUESTA DE PERMISO N.º WQ0004467000

SOLICITUD. *La Ciudad de Gonzales, P.O. Box 547, Gonzales, TX 78629* ha solicitado a la Comisión de Calidad Ambiental de Texas *para renovar el* permiso de uso benéfico del suelo N.º WQ000446700 para autorizar la solicitud de tierra de *residuos de plantas de tratamiento de aguas residuales* para uso benéfico en aproximadamente *45.5* acres. El sitio de uso benéfico del suelo se encuentra *[aproximadamente 0.2 millas al norte de la intersección de County Road 488, y Farm-to-Market Road 532 y 2.5 millas al noroeste de la Ciudad de Gonzales en el condado de Gonzales, Texas 78629]*. La TCEQ recibió esta solicitud el *9 de Octubre*. La solicitud de permiso estará disponible para ver y copiar en *la alcaldía dirección 820 North St. Joseph Street, Gonzales, TX* antes de la fecha de publicación de este aviso en el periódico. Este enlace a un mapa electrónico de la ubicación general del sitio o instalación se proporciona como cortesía pública y no como parte de la solicitud o aviso. Para conocer la ubicación exacta, consulte la solicitud.

<https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.41287,29.523058&level=18>

Incluya lo siguiente si está sujeto a requisitos de aviso de idioma alternativo: **AVISO DE IDIOMA ALTERNATIVO.** Aviso de idioma alternativo en **español** está disponible en [\[https://www.....\]](https://www.....) **Repita la oración en idioma alt.**

AVISO ADICIONAL. El Director Ejecutivo de la TCEQ ha determinado que la solicitud está administrativamente completa y llevará a cabo una revisión técnica de la solicitud. Una vez completada la revisión técnica de la solicitud, el Director Ejecutivo puede preparar un bosquejo del permiso y emitirá una decisión preliminar sobre la solicitud. **El aviso de la solicitud y la decisión preliminar se publicarán y enviarán por correo a aquellos que están en la lista de correo de todo el condado y a aquellos que están en la lista de correo para esta solicitud. Ese aviso contendrá la fecha límite para enviar comentarios públicos.**

COMENTARIO PÚBLICO / REUNIÓN PÚBLICA. Puede enviar comentarios públicos o solicitar una reunión pública sobre esta solicitud. El propósito de una reunión pública es para brindar la oportunidad de enviar comentarios o hacer preguntas sobre la solicitud. La TCEQ convocará una reunión pública si el Director Ejecutivo determina que existe un grado significativo de interés público en la solicitud o si lo solicita un legislador local. Una reunión pública no es una audiencia de caso impugnado.

OPORTUNIDAD PARA UNA AUDIENCIA DE CASO IMPUGNADO. Después de la fecha

límite para presentar comentarios públicos, el Director Ejecutivo considerará todos los comentarios oportunos y preparará una respuesta a todos los comentarios públicos relevantes y materiales, o significativos. **A menos que la solicitud se remita directamente para una audiencia de caso impugnado, la respuesta a los comentarios y la decisión del Director Ejecutivo sobre la solicitud se enviarán por correo a todos los que hayan presentado comentarios públicos y a las personas que estén en la lista de correo para esta solicitud. Si se reciben comentarios, el correo también proporcionará instrucciones para solicitar la reconsideración de la decisión del Director Ejecutivo y para solicitar una audiencia de caso impugnado. Una persona que pueda verse afectada por la solicitud puede solicitar una audiencia.** Una audiencia de caso impugnado es un procedimiento legal similar a un juicio civil en un tribunal de distrito estatal.

PARA SOLICITAR UNA AUDIENCIA DE CASO IMPUGNADO, DEBE INCLUIR LOS SIGUIENTES ELEMENTOS EN SU SOLICITUD: su nombre, dirección, número de teléfono; nombre del solicitante y número de permiso propuesto; la ubicación y distancia de su propiedad/actividades en relación con la instalación propuesta; una descripción específica de cómo se vería afectado negativamente por la instalación de una manera que no es común para el público en general; una lista de todas las cuestiones de hecho controvertidas que presente durante el periodo de comentarios y la declaración "[Yo/nosotros] solicito/amos una audiencia de caso impugnado". Si la solicitud de audiencia de caso impugnado se presenta en nombre de un grupo o asociación, la solicitud debe designar al representante del grupo para recibir correspondencia futura; identificar por nombre y dirección física a un miembro individual del grupo que se vería afectado negativamente por la instalación o actividad propuesta; proporcionar la información discutida anteriormente con respecto a la ubicación y distancia del miembro afectado de la instalación o actividad; explicar cómo y por qué el miembro se vería afectado; y explicar cómo los intereses que el grupo busca proteger están relacionados con el propósito del grupo.

Tras el cierre de todos los periodos de comentarios y solicitudes aplicables, el Director Ejecutivo remitirá la solicitud y cualquier solicitud de reconsideración o de una audiencia de caso impugnado a los Comisionados de la TCEQ para su consideración en una reunión programada de la Comisión.

La Comisión sólo podrá conceder una solicitud de audiencia de un asunto impugnado sobre cuestiones que el solicitante haya presentado en sus observaciones oportunas que no hayan sido retiradas posteriormente. **Si se concede una audiencia, el tema de una audiencia se limitará a cuestiones de hecho en disputa o cuestiones mixtas de hecho y de derecho relacionadas con preocupaciones relevantes y materiales sobre la calidad del agua presentadas durante el periodo de comentarios.** [Para las solicitudes de renovación que no incluyen una enmienda importante, incluya:](#) La TCEQ puede actuar sobre una solicitud para renovar un permiso sin brindar la oportunidad de una audiencia de caso impugnado si se cumplen ciertos criterios.

LISTA DE CORREO. Si envían comentarios públicos, una solicitud de una audiencia de caso impugnado o una reconsideración de la decisión del Director Ejecutivo, se le agregará a la lista de correo de esta solicitud específica para recibir futuros avisos públicos enviados por correo por la Oficina del Secretario Oficial. Además, puede solicitar ser colocado en: (1) la lista de correo

permanente para un nombre de solicitante específico y número de permiso; y/o (2) la lista de correo para un condado específico. Si desea ser colocado en la lista de correo permanente y/o del condado, especifique claramente qué lista(s) y envíe su solicitud a la Oficina del Secretario Oficial de la TCEQ a la dirección a continuación.

INFORMACIÓN DISPONIBLE EN LÍNEA. Para obtener detalles sobre el estado de la solicitud, visite la Base de Datos Integrada de los Comisionados en www.tceq.texas.gov/goto/cid. Busque en la base de datos utilizando el número de permiso para esta aplicación, que se proporciona en la parte superior de este aviso.

CONTACTOS E INFORMACIÓN DE LA AGENCIA. Todos los comentarios y solicitudes públicas deben enviarse electrónicamente a <http://www14.tceq.texas.gov/epic/eComment/>, o por escrito a Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Tenga en cuenta que cualquier información de contacto que proporcione, incluido su nombre, número de teléfono, dirección de correo electrónico y dirección física, se convertirá en parte del registro público de la agencia. Para obtener más información sobre esta solicitud de permiso o el proceso de permisos, llame al Programa de Educación Pública de la TCEQ, sin cargo, al 1-800-687-4040 o visite su sitio web en www.tceq.texas.gov/goto/pep. Si desea información en español, puede llamar al 1-800-687-4040.

También se puede obtener más información de *la Ciudad de Gonzales* en la dirección indicada anteriormente o llamando a *Ryan Wilkerson gerente de planta* al (830) 672-2815.

Fecha de emisión: *fecha de emisión*

List of Adjacent Land Owners

1. Sarah Hernandez Espinosa
8346 Coppergate
Converse, TX 78109
2. Julian Zuniga
1408 Holmes St.
Gonzales, TX 78629
3. David and Robert Howell
8514 New Hampshire Dr.
Austin, TX 78758
4. John G. Stefinsky
496 FM 532 E
Gonzales, TX 78629
5. John Edgar Mallory Jr and Stephanie A Werth
423 Mallow Dr.
New Braunfels, TX 78130
6. Willie R. Simper Jr.
472 FM 532 E
Gonzales, TX 78629
7. Calvin G. and W.F. Buesing
526 CR 341
Gonzales, TX 78629
8. Martha B and Mosely Moseley
582 PR 3811
Gonzales, TX 78629
9. Kathleen Sample Borrer
P.O. Box L
Gonzales, TX 78629
10. John W Thomas
928 CR 488
Gonzales, TX 78629
11. Jordon Bryant C/O Edna Brooks

P.O. Box 299
Gonzales, TX 78629

12. Heather Q and Samuel E Dement
1579 Settlement Way
Luling, TX 78648

13. Anthony C and Dana Lynn Roehr
577 CR 488
Gonzales, TX 78629

14. Pauline Espinosa Life Estate
6 Park Place Dr.
Gonzales, TX 78629

15. James Conrad Floyd
1628 FM 532 E
Gonzales, TX 78629

16. Pauline Espinosa Life Estate
6 Park Place Dr.
Gonzales, TX 78629

17. Larry and Priscilla Finch Estate
125 S Patrick St.
Gonzales, TX 78629

18. John Mark Zavadil
730 FM 532 E
Gonzales, TX 78629

19. Fernando F and Jennifer Casares
638 FM 532 E
Gonzales, TX 78629

20. Phillip & Donna Koehler
686 FM 532 E
Gonzales, TX 78629

21. Jason Wade and Alyssa Joan Dyson
461 Midway Rd S
Inez, TX 77968

22. Larry E Polzin

9007 Autauga
Houston, TX 77080

23. John W Thomas
928 CR 488
Gonzales, TX 78629

24. Day P and Marilyn Mixson McNeel
949 CR 488
Gonzales, TX 78629

25. James Molnoskey
805 CR 488
Gonzales, TX 78629

26. Mary G Shenault
12210 Wallingstone Lane
Austin, TX 78750

27. Willie R. Simper Jr.
472 FM 532 E
Gonzales, TX 78629

28. Tuch Michael & Kara D
P.O. Box 1740
Gonzales, TX 78629

29. Randal and Cynthia Williams
236 FM 532 E
Gonzales, TX 78629

30. M & A Farms
425 St. James St.
Gonzales, TX 78629

31. Gonzales Healthcare Systems
P.O. Box 587
Gonzales, TX 78629

32. M & A Farms
425 St. James St.
Gonzales, TX 78629

33. Martha B Mosely
582 PR 3811
Gonzales, TX 78629

SARAH HERNANDEZ ESPINOSA
8346 COPPERGATE
CONVERSE TX 78109

JULIAN ZUNIGA
1408 HOLMES ST
GONZALES TX 78629

DAVID AND ROBERT HOWELL
8514 NEW HAMPSHIRE DR
AUSTIN TX 78758

JOHN G STEFINSKY
496 FM 532 E
GONZALES TX 78629

JOHN EDGAR MALLORY JR AND
STEPHANIE A WERTH
423 MALLOW DR
NEW BRAUNFELS TX 78130

WILLIE R SIMPER JR
472 FM 532 E
GONZALES TX 78629

CALVIN G AND WF BUESING
526 CR 341
GONZALES TX 78629

MARTHA B AND MOSELY MOSELEY
582 PR 3811
GONZALES TX 78629

KATHLEEN SAMPLE BORRER
PO BOX L
GONZALES TX 78629

JOHN W THOMAS
928 CR 488
GONZALES TX 78629

JORDON BRYANT C/O EDNA
BROOKS
PO BOX 299
GONZALES TX 78629

HEATHER Q AND SAMUEL E
DEMENT
1579 SETTLEMENT WAY
LULING TX 78648

ANTHONY C AND DANA LYNN
ROEHR
577 CR 488
GONZALES TX 78629

JAMES CONRAD FLOYD
1628 FM 532 E
GONZALES TX 78629

PAULINE ESPINOSA LIFE ESTATE
6 PARK PLACE DR
GONZALES TX 78629

LARRY AND PRISCILLA FINCH
ESTATE
125 S PATRICK ST
GONZALES TX 78629

JOHN MARK ZAVADIL
730 FM 532 E
GONZALES TX 78629

FERNANDO F AND JENNIFER
CASARES
638 FM 532 E
GONZALES TX 78629

PHILLIP & DONNA KOEHLER
686 FM 532 E
GONZALES TX 78629

JASON WADE AND ALYSSA JOAN DYSON
461 MIDWAY RD S
INEZ TX 77968

LARRY E POLZIN
9007 AUTAUGA
HOUSTON TX 77080

JOHN W THOMAS
928 CR 488
GONZALES TX 78629

DAY P AND MARILYN MIXSON
MCNEEL
949 CR 488
GONZALES TX 78629

JAMES MOLNOSKEY
805 CR 488
GONZALES TX 78629

MARY G SHENAULT
12210 WALLINGSTONE LANE
AUSTIN TX 78750

WILLIE R SIMPER JR.
472 FM 532 E
GONZALES TX 78629

TUCH MICHAEL & KARA D
PO BOX 1740
GONZALES TX 78629

RANDAL AND CYNTHIA WILLIAMS
236 FM 532 E
GONZALES TX 78629

GONZALES HEALTHCARE SYSTEMS
PO BOX 587
GONZALES TX 78629

M & A FARMS
425 ST JAMES ST
GONZALES TX 78629



7401B Highway 71 West, Suite 160
Austin, TX 78735
Office: 512.583.2600
Fax: 800.587.2817
DoucetEngineers.com

September 30, 2024

To: Texas Commission on Environmental Quality
Water Quality Division
Customer Information and Application Processing Section (MC 148)
Application Review and Processing Team
P.O. Box 13087
Austin, TX 78711-3087

From: Keith Schauer, P.E. – Consulting Engineer
Victor Ostiguin, P.E. – Consulting Engineer
Doucet & Associates, Inc.

Re: **Application to Renew Beneficial Use Permit No. 0004467**

To Whom it May Concern:

Enclosed please find one original and three copies of a municipal wastewater treatment permit renewal application for the City of Gonzales

Thank you for your review of this material; please contact me if you have any questions. My direct phone number is (512) 566-4076.

Sincerely,

Victor Ostiguin, P.E.
Doucet & Associates, Inc.





REPORT FOR APPLICATION RENEWABLE PERMIT FOR BENEFICIAL USE

Prepared For:

City of Gonzales
820 St. Joseph Street
Gonzales, Texas 78629
Phone: 830.672.2815

Prepared By:



Doucet & Associates, Inc.

TBPE Firm #3937

Victor Ostiguin, P.E.

7401-B Highway 71 W., Ste. 160

Austin, TX 78735

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY



APPLICATION FOR A PERMIT FOR BENEFICIAL LAND USE OF BIOSOLIDS

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

SECTION 1. TYPE OF APPLICATION

- ☐ New (original, site not permitted)
- ☐ New (previously permitted but allowed to expire or canceled)
- ☐ Major Amendment (including renewals with changes to substantive provisions of the permit)
- ☐ Minor Amendment (including non-substantive provisions of the registration, expiration date remains the same)
- ☒ Renewal
- ☐ Renewal with Minor Amendment

For amendments, describe the proposed changes:

[Click here to enter text.](#)

For existing permits:

What is the permit number? WQ0004467



SECTION 2. APPLICATION FEE

The application fee varies from \$1,000 to \$5,000 based on the quantity of biosolids to be applied annually. See instructions to determine the appropriate fee.

Provide your payment information below, for verification of payment

Check/Money Order Number: 131634

Check/Money Order Amount: \$1,000

Name Printed on Check: City of Gonzales

SECTION 3. APPLICANT INFORMATION

- A. The **site operator** must apply for the permit. What is the legal name of the site operator (applicant)? The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.

City of Gonzales

- B. If the applicant is an existing TCEQ customer, provide the Customer Number (CN) issued to this entity. CN 600249353

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

Contact Name: Tim Crow

Mailing Address: 820 St. Joseph Street

City, State, and Zip Code: Gonzales, TX 78629

Phone Number: (830)672-2815 Fax Number: Click here to enter text.

E-mail Address: citymanager@gonzales.texas.gov

SECTION 4. CO-APPLICANT INFORMATION

Complete this section only if more than one person or entity is a site operator.

- A. What is the legal name of the co-applicant? The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal document forming the entity.

Click here to enter text.

- B. If the co-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 this applicant?

Contact 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 5. APPLICATION CONTACT INFORMATION

These are the individuals that TCEQ will contact if additional information is needed about this application.

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

Application Contact First and Last Name: Ryan Wilkerson

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

Organization Name: City of Gonzales

Mailing Address: 820 St. Joseph Street

City, State, and Zip Code: Gonzales, TX 78629

Phone Number: (830) 672-2815 Fax Number: Click here to enter text.

E-mail Address: rwilkerson@gonzales.texas.gov

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

Application Contact First and Last Name: Tim Crow

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

Organization Name: City of Gonzales

Mailing Address: 820 St. Joseph Street

City, State, and Zip Code: Gonzales, TX 78629

Phone Number: (830) 672-2815 Fax Number: Click here to enter text.

E-mail Address: citymanager@gonzales.texas.gov

SECTION 6. PERMIT CONTACT INFORMATION

These are the individuals that TCEQ can contact during the term of the permit.

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

Permit Contact First and Last Name: S.H. Sucher

Title: Mayor Credentials: Click here to enter text.

Organization Name: City of Gonzales

Mailing Address: 820 St. Joseph Street

City, State, and Zip Code: Gonzales, TX 78629

Phone Number: (830) 672-2815 Fax Number: Click here to enter text.

E-mail Address: ssucher@gonzales.texas.gov

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

Permit Contact First and Last Name: Click here to enter text.

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

Organization 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 7. BILLING CONTACT INFORMATION

This is the person that TCEQ will contact if additional information is needed about the annual fee invoices.

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

Billing Contact First and Last Name: Laura Zella

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

Organization Name: City of Gonzales

Mailing Address: 820 St. Joseph Street

City, State, and Zip Code: Gonzales, TX 78629

Phone Number: (830) 672-2815 Fax Number: Click here to enter text.

E-mail Address: lzella@gonzales.texas.gov

SECTION 8. REPORTING CONTACT INFORMATION

This is the person that TCEQ will contact if additional information is needed about the annual biosolids land application reports.

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

Reporting Contact First and Last Name: Ryan Wilkerson

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

Organization Name: City of Gonzales

Mailing Address: 820 St. Joseph Street

City, State, and Zip Code: Gonzales, TX 78629

Phone Number: (830) 672-2815 Fax Number: Click here to enter text.

E-mail Address: rwilkerson@gonzales.texas.gov

SECTION 9. NOTICE INFORMATION

A. Individual responsible for publishing the notices in the newspaper

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

First and Last Name: Kristina Vega

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

Company Name: City of Gonzales

Mailing Address: 820 St. Joseph Street

City, State, and Zip Code: Gonzales, TX 78629

Phone Number: (830) 672-2815 Fax Number: Click here to enter text.

E-mail Address: citysecretary@gonzales.texas.gov

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

☐ E-mail: Click here to enter text.

☐ Fax Number: Click here to enter text.

☒ Regular Mail:

Mailing Address: 820 St. Joseph Street

City, State, and Zip Code: Gonzales, TX 78629

C. Contact person to be listed in the notice

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

First and Last Name: Ryan Wilkerson

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

Company Name: City of Gonzales

Phone Number: (830) 672-2815

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: City Hall

Physical Address of Building: 820 St. Joseph Street

City: Gonzales County: Gonzales

Phone Number: (830) 672-2815

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

F. Public Involvement Plan

Complete the Public Involvement Plan (PIP) Form (TCEQ-20960) for each application for a **new permit** or **major amendment to a permit** and include as an attachment.

Attachment Number: NA

SECTION 10. REGULATED ENTITY (SITE) INFORMATION

A. Site Name: City of Gonzales Beneficial Land Use Site

B. If this is an existing permitted site, provide the Regulated Entity Number (RN) issued to this site. RN 103153680

C. Site Address/Location:

Is the location of the application site used in the existing permit accurate?

☒ Yes ☐ No

If YES, skip to D. If NO, or if this application is for a new site, provide the physical address of the site such as: 12100 Park 35 Circle, Austin, TX 78753. If the site does not have a physical address, provide a location description such as: located on the north side of FM 123, 2 miles west of the intersection of FM 123 and Highway 1.

N SIDE OF CR 488, APPX 0.2 MI N OF INTXN CR 488 & FM 532 & APPX 2.5 MI NE OF CITY OF GONZALES

D. County where the site is located: Gonzales

E. Latitude: 29 deg 31 min 22 sec Longitude: -97 deg 24 min 44 sec

F. Landowner Information:

Attach an additional sheet if more than one landowner.

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

First and Last Name: Click here to enter text.

Organization Name: City of Gonzales

Mailing Address: 820 St. Joseph Street

City, State, and Zip Code: Gonzales, TX 78629

Phone Number: (830) 672-2815

G. County Judge

Provide the name of the county judge in each county where the site is located. Attach an additional sheet if more than one county.

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

First and Last Name: Patrick Davis

Mailing Address: 414 St. Joseph Street, Suite 200

City, State, and Zip Code: Gonzales, TX 78629

Phone Number: (830) 672-2327

Name of County: Gonzales

SECTION 11. LAND APPLICATION INFORMATION

A. Provide the anticipated date (MM/DD/YY) of the first application of biosolids after issuance or re-issuance of the permit. NOTE: This date must be at least 330 days after the date TCEQ receives this application. 12/28/25

B. The application area is:

☐ within the city limit of: Click here to enter text.

☒ within the extraterritorial jurisdiction of: City of Gonzales

☐ outside the extraterritorial jurisdiction of: Click here to enter text.

C. Types of Waste

Identify the types of waste that will be land applied at this site.

☒ Wastewater Treatment Plant Class B Biosolids

☐ Water Treatment Plant Residuals

☐ Domestic Septage

D. Sources of Biosolids or Residuals

Provide the sources of generation, any water quality or public water supply permit number issued by TCEQ, and the location of the sources. Complete Table 1 for each

source identified below.

Facility Name	Permit Number	Location
Gonzales Wastewater Treatment Plant	WQ0010488-001	1002 Darst St. (end of Remschel St.)

E. Property Acreage

Total acreage of the entire property, including the application area and buffer zones: 158.8

F. Application Area Acreage

Total acreage where the biosolids may be applied, excluding the buffer zones: 45.4

SECTION 12. 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 site located on Indian Lands?

Yes ☐ No ☒

C. Is any permanent school fund land affected by this application?

Yes ☐ No ☒

If yes, provide the location, foreseeable impacts, and effects this application has on the land(s). Click here to enter text.

D. 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 13. AFFECTED LANDOWNER INFORMATION

A. Landowner map. Attach a landowner map or drawing. See instructions for

information that must be displayed on the map.

Attachment Number: A

- B. Landowner list.** Attach a list of the landowners' names and mailing addresses. The list must be cross-referenced to the letter or number identified on the landowner map.

Attachment Number: B

- 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. Gonzales County

SECTION 14. INSURANCE INFORMATION

This information is not required for an applicant that is a political subdivision (e.g. city, county, state agency, water district, etc.).

A. Commercial Liability Insurance

Attach a copy of the certificate of insurance in regard to commercial liability.

Attachment Number: NA

B. Environmental Impairment Insurance

Attach a copy of the certificate of insurance in regard to environmental impairment.

Attachment Number: NA

SECTION 15. MAPS AND ATTACHMENTS

A. TCEQ Core Data Form

Complete and submit a TCEQ Core Data Form (TCEQ-10400).

Attachment Number: C

B. TCEQ Public Involvement Plan Form

Complete and submit a TCEQ Public Involvement Plan Form (TCEQ-20960) for new and major amendment applications.

Attachment Number: NA

C. General Highway (County) Map

Submit an ORIGINAL General Highway (County) Map. See instructions for information that must be displayed on the map.

Attachment Number: D

D. United States Geological Survey (USGS) Topographic Map

Submit an ORIGINAL United States Geological Survey (USGS) Topographic Map (1:24,000 scale). See instructions for information that must be displayed on the map.

Attachment Number: E

E. USDA-NRCS Soil Map

Submit a legible copy of a USDA-NRCS Soil Map. See instructions for information that must be displayed on the map.

Attachment Number: F

F. Federal Emergency Management Agency (FEMA) Map

Submit a copy of the FEMA map that shows the approximate application area boundaries, the surrounding area within one-quarter mile of the application area, and the appropriate legend.

Attachment Number: G

G. Nutrient Management Plan

Attach a copy of the nutrient management plan that has been prepared by a certified nutrient management specialist, in accordance with the NRCS.

Attachment Number: H

H. TCEQ Transporters Registration Approval Documents

Attach a copy of the TCEQ Transporters Registration approval documents.

Attachment Number: I

I. Soil Analysis

Attach a copy of the soil laboratory analysis for the application area.

Attachment Number: J

H. Biosolids or Residuals Analyses

Attach a laboratory analysis for each source.

Attachment Number: K

I. Metal and Nutrient Concentrations (Table 1)

Use the laboratory analyses to complete Table 1 for each source.

J. Volume Weighted Averages of Metal and Nutrient Concentrations (Table 2)

If more than one source of biosolids or residuals are land applied, complete Table 2.

K. Agronomic Rate Calculations (Appendix A)

Determine the agronomic application rate by completing and attaching Appendix A.

L. Pathogen Reduction Options (Appendix B)

Identify the pathogen reduction options by completing and attaching Appendix B.

M. Vector Attraction Reduction Options (Appendix C)

Identify the vector attraction reduction options by completing and attaching Appendix C.

N. On-Site Storage (Appendix D)

If on-site storage will occur at this site, complete and attach Appendix D.

LABORATORY ACCREDITATION

All laboratory tests performed must meet the requirements of 30 TAC Chapter 25, *Environmental Testing Laboratory Accreditation and Certification*, unless the laboratory meets the following general exemptions from National Environmental Laboratory Accreditation Program (NELAP) certification requirements.

- The laboratory is an in-house laboratory and is:
 - periodically inspected by the TCEQ;
 - located in another state and is accredited or inspected by that state;
 - performing work for another company with a unit located in the same site; or
 - performing pro bono work for a governmental agency or charitable organization.
- The laboratory is accredited under federal law.
- The data are needed for emergency-response activities, and a laboratory accredited under the Texas Laboratory Accreditation Program is not available.
- The laboratory supplies data for which the TCEQ does not offer accreditation.

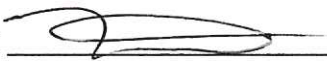
The applicant should review 30 TAC Chapter 25 for specific requirements. The following certification statement shall be signed and submitted with every application.

CERTIFICATION

I certify that all laboratory tests submitted with this application meet the requirements of 30 TAC Chapter 25, *Environmental Testing Laboratory Accreditation and Certification*.

Printed Name: Tim Crow

Title: City Manager

Signature:  Date: 9-27-2024

SITE OPERATOR SIGNATURE PAGE

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

Permit Number: WQ-0004467

Applicant: City of Gonzales

I understand that I am responsible for operating the site described in this permit application in accordance with the requirements in 30 TAC Chapter 312, the conditions set forth in this application, and any additional conditions as required by the Texas Commission on Environmental Quality.

I certify, under penalty of law, that all 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, imprisonment for violations, and revocation of this permit.

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: Tim Crow

Title: City Manager

Signature (use blue ink): [Signature] Date: 9-27-2024

SUBSCRIBED AND SWORN to before me by the said Timothy L. Crow on this 27 day of September, 2024

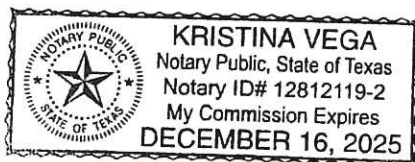
My commission expires on the 16 day of December, 2024

(Seal)

[Signature]
Notary Public

Gonzales

County, Texas



LANDOWNER SIGNATURE PAGE

Required if the landowner is not the applicant or co-applicant. Each landowner must submit an original, separate signature page.

Permit Number: Click here to enter text.

Applicant: Click here to enter text.

I certify, as the owner of the land described in this permit application, that I have all rights and covenants to authorize the applicant to use this site for the land application of _____ (*identify the type(s) of waste*). I understand that 30 TAC Chapter 312 requires me to make a reasonable effort to see that the applicant complies with the requirements in 30 TAC Chapter 312, the conditions set forth in this application, and any additional conditions as required by the TCEQ. I also certify, under penalty of law, that all 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, imprisonment for violations, and revocation of the permit.

Signatory Name: Click here to enter text.

Title: Click here to enter text.

Signature (use blue ink): _____ Date: _____

SUBSCRIBED AND SWORN to before me by the said _____ on

this _____ day of _____, 20_____

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

(Seal)

Notary Public

County, Texas

Attachment 1 Individual Information

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

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

Full Legal Name, including middle name: [Click here to enter text.](#)

Driver's License or State Identification Number: [Click here to enter text.](#)

State that Issued the License or Identification Number: [Click here to enter text.](#)

Date of Birth: [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.](#)

For TCEQ Use Only

Customer Number _____

Regulated Entity Number _____

Permit Number _____

TECHNICAL REPORT FOR BENEFICIAL LAND USE OF CLASS B BIOSOLIDS

Note: The term “biosolids” also includes the combination of water treatment plant residuals with Class B Biosolids material.

SECTION 1. SITE HISTORY

Have biosolids or septage been previously land applied at this site?

☒ Yes ☐ No

If Yes, provide a short narrative on the agricultural practices previously used at the site. The narrative must discuss the following elements:

- crops grown;
- tillage practices;
- previous biosolids application amount (dry tons) and rates (dry tons per acre); and
- previous septage application amount (gallons) and rates (gallons per acre).

Coastal Bermuda has been and continues to be the planned crop. The sludge will be evenly distributed by a Knight Pro Twin Sludge Slinger mounted on the back of a slow-moving truck. The total application rates for the coming year are expected to be 6.6 dry tons per acre per year for Area A, 6.6 dry tons per acre per year for Area B, 2.9 tons per acre per year for Area C1, and 6.6 dry tons per acre per year for Area C2 during the warm season when warm season grasses are actively growing. Additionally application of 2.9 dry tons per acre per year is planned for Areas, A, B, C1, and C2 during the winter months when the fields are overseeded with ryegrass. This will allow the application of a total of 349.6 dry tons per year which is more than the estimated annual production of 150 tons.

SECTION 2. PROPOSED LAND APPLICATION ACTIVITIES

Provide a short narrative on the proposed land application activities at the site. The narrative must discuss the following elements:

- crops grown;
- planting dates;
- times per year applied;
- frequency of application; and
- tillage practices.

Coastal Bermuda has been and continues to be the planned crop. The sludge will be evenly distributed by a Knight Pro Twin Sludge Slinger mounted on the back of a slow-moving truck. The sludge will be applied throughout the year. The Coastal Bermuda will be cut approximately once every three to four months, allowed to dry, raked into rows, bailed, and hauled off.

SECTION 3. SOIL INFORMATION

A. Soil Properties

Complete the table below using the Physical and Chemical Properties and the Engineering Tables found in the USDA Natural Resources Conservation Service (NRCS) soils descriptions.

Map Symbol	Soil Type	Slope	pH	Depth to Bedrock* (inches)	Depth to Groundwater (feet)	Permeability (inches/hour)	Soil Depth** (inches)
BnB	Benchley Clay Loam	1-3%	6.7	74	>6	0.06-0.20	74
EdB	Edge Fine Sandy Loam	1-3%	6.3	80	>6	0.00-0.06	80
EdC2	Edge Fine Sandy Loam	2-5%	6.4	80	>6	0.06-0.20	80
EdD3	Edge Fine Sandy Loam	3-8%	6.3	80	>6	0.00-0.06	80
KuB	Kurten Fine Sandy Loam	2-5%	6.1	80	>6	0.00-0.06	80
MfA	Meguin Silty Clay Loam	0-1%	8.2	80	>6	0.57-1.98	80
NmB	Normangee Sandy Clay Loam	1-3%	7.1	80	>6	0.00-0.06	80

* If depth to bedrock is not specified in the soil survey, use the maximum depth shown.

** If soil depth is less than two feet, provide rationale for using these shallow soils. The rationale should include site specific investigation results.

B. Restrictive Soil Characteristics

In the table below, identify all soils that have the following restrictive characteristics and the management practices to be used.

- Soils with at least an "occasional flooding" classification may flood between 5 to 50 times in 100 years;
- Soil permeability of >6 inches per hour; and
- Seasonal groundwater or groundwater table below the treatment zone at least:
 - 3 feet for soil with permeability of <2 inches per hour
 - 4 feet for soil with permeability of 2-6 inches per hour.

Soil Type	Restrictive Characteristic	Best Management Practices
Meguin Silty Clay	Frequent Flooding	Area of property not used for land applicaiton

Soil Type	Restrictive Characteristic	Best Management Practices
Loam		

SECTION 4. WELL INFORMATION

In the table below, provide information about each well located on-site and within 500 feet of the application area. Water well information is available from the Texas Water Development Board, 512-936-0837. Oil and gas well information is available from the Texas Railroad Commission, 512-463-6851.

Well Type (Water Well, Oil Well, Injection Well)	Producing or Non-Producing	Open, Cased, or Capped*	Protective Measures**
Water Well	Non-Producing	Open	Plugged
Water Well	Producing	Cased	

* Casing, capping, and plugging rules are located in 16 TAC Chapter 76.

** The following protective measures are required prior to initial biosolids/septage application:

- If the well is producing and cased, no action is needed.
- If the well is producing and not cased, the well must be cased or describe other protective measures.
- If the well is non-producing and cased, the well must be plugged or capped.
- If the well is non-producing and not cased, the well must be plugged.

SECTION 5. HYDROLOGIC CHARACTERISTICS

Submit information listed below, or equivalent documentation, regarding the hydrologic characteristics of the surface and groundwater at the application site and within one-quarter mile of the site.

- Aquifer identification per Texas Water Development Board Report 345
- Location of the area according to the Geologic Atlas of Texas, published by the University of Texas, Bureau of Economic Geology.
- Any feature that exhibits a direct hydrologic connection between surface and subsurface water.
- List periods of seasonal perched and/or high water table, if any.

Attachment Number: L

Table 1
Pollutant and Nutrient Concentrations in
Biosolids and Water Treatment Residuals (if applicable)

Complete this table for each source of biosolids and residuals.

Facility Name: City of Gonzales Beneficial Land Use Site

TCEQ Authorization Number: WQ0004467

POLLUTANT/METAL ANALYSIS

Pollutant	Maximum Concentration, mg/kg dry weight	Test Results, mg/kg dry weight	Sample Date	Detection Level for Analysis	Sample Method
Arsenic (As)	75	5.39	6/29/23	0.793	EPA6020A
Cadmium (Cd)	85	0.807	6/29/23	0.193	EPA6020A
Chromium (Cr)	3000	15.6	6/29/23	0.354	EPA6020A
Copper (Cu)	4300	150	6/29/23	0.210	EPA6020A
Lead (Pb)	840	27.3	6/29/23	0.227	EPA6020A
Mercury (Hg)	57	0.336	6/29/23	0.136	EPA7471A
Molybdenum (Mo)	75	7.78	6/29/23	0.748	EPA6020A
Nickel (Ni)	420	15.9	6/29/23	0.248	EPA6020A
Selenium (Se)	100	5.94	6/29/23	0.305	EPA6020A
Zinc (Zn)	7500	498	6/29/23	0.374	EPA6020A
PCB (ppm)	50.0 ppm	ND	6/29/23	315	EPA8082

NUTRIENT ANALYSIS

Nutrient	Concentration (%)	Sample Date	Detection Level for Analysis	Sample Method
Total Kjeldahl Nitrogen (TKN)	3.18	6/29/23	2170	SM4500NH3
Ammonium Nitrogen (NH ₄ -N)	0.172	6/29/23	17.5	EPA350.12
Nitrate Nitrogen (NO ₃ -N)	0.00162	6/29/23	9.48	EPA9056
Total Phosphorus (P)	2.89	6/29/23	63.5	EPA6010C
Total Potassium (K)	0.281	6/29/23	96.3	EPA6010C

TABLE 2
Volume Weighted Average (Mean) of Nutrient and Pollutant Concentration

Complete this table if more than one source is land applied at the site.

Directions:

1. For each pollutant, multiply the Pollutant Concentrations from Table 1 by the estimated number of dry tons you expect to apply from each facility.
2. Sum the individual columns. Enter results in last row of the table.
3. Divide the sum of each column by the dry tons sum (bottom of second column). Enter number in the appropriate Volume Weighted Average Box (row below table).
4. Use these final results to complete Appendix A, Step 1.

[illegible]

*Total estimated dry tons to be land applied from the source facility.

APPENDIX A AGRONOMIC RATE CALCULATIONS

Note: The maximum allowable agronomic rate for land application of Class B Biosolids is 12 tons/acre/year.

APPENDIX A, PART 1. APPLICATION RATE

STEP 1. CALCULATE QUANTITY OF NUTRIENTS AND METALS IN BIOSOLIDS AND RESIDUALS IN LBS/TON

Nutrient	Concentration (%)**	Conversion Factor	Pounds per Ton
Total Kjeldahl Nitrogen (TKN)	3.18	x 20	63.6
Ammonium Nitrogen (NH ₄ -N)	0.172	x 20	3.44
Nitrate Nitrogen (NO ₃ -N)	0.00162	x 20	0.324
Total Phosphorus (P)	2.89	x 20	57.8
Total Potassium (K)	0.281	x 20	5.62

Pollutant	Test Results, mg/kg dry weight	Conversion Factor	Pounds per Ton
Total Arsenic (As)	5.39	x 0.002	0.01078
Total Cadmium (Cd)	0.807	x 0.002	0.001614
Total Chromium (Cr)	15.6	x 0.002	0.0312
Total Copper (Cu)	150	x 0.002	0.3
Total Lead (Pb)	27.3	x 0.002	0.0546
Total Mercury (Hg)	0.336	x 0.002	0.000672
Total Molybdenum (Mo)	7.78	x 0.002	0.01556
Total Nickel (Ni)	15.9	x 0.002	0.0318
Total Selenium (Se)	5.94	x 0.002	0.01188
Total Zinc (Zn)	498	x 0.002	0.996

**Values from laboratory analysis (dry weight only).

Conversions:

$$\text{mg/kg} \div 10,000 = \%$$

$$\text{ppm} = \text{mg/kg}$$

STEP 2. CROPPING PLAN AND NUTRIENT NEEDS

Warm Season Intended Crop(s): Coastal Bermuda (Fields A, B, C1 & C2)

Yield Goal: 3 Cuttings per year Nitrogen Requirement, in lb/yr: 705

Cool Season Intended Crop(s): Ryegrass

Yield Goal: 1-2 Cuttings per year Nitrogen Requirement, in lb/yr: 345

Provide the data source for the nitrogen requirements above.

[Click here to enter text.](#)

Nitrogen needed by crop:

2A. Total Nitrogen Requirement* 1050 lbs/acre

2B. Nitrogen available in soil** 222 lbs/acre

2C. Nitrogen amount still needed

Line 2A - Line 2B 828 lbs/acre

*Line 2A = Sum of the nitrogen requirement for the specified yield goals for the warm season crop and cool season crop

**Line 2B = $2 * \text{NO}_3\text{-N (ppm)(in the 0-6" soil depth)} + 6 * \text{NO}_3\text{-N (ppm)(in the 6-24" soil depth)}$

STEP 3. CALCULATE THE PLANT AVAILABLE NITROGEN (PAN) PROVIDED BY THE BIOSOLIDS AND RESIDUALS

Use the TKN, $\text{NH}_4\text{-N}$, and $\text{NO}_3\text{-N}$ from Step 1.

$$\text{Organic Nitrogen} = \text{TKN} - (\text{NH}_4\text{-N}) - (\text{NO}_3\text{-N}) \quad \underline{60.1}$$

$$\text{Mineralization Rate (\%)} * \quad \underline{30}$$

$$\text{3A. Organic Nitrogen} \times \text{Mineralization Rate} \quad \underline{18}$$

$$\text{3B. Ammonium Nitrogen} = (\text{NH}_4\text{-N}) \times V \quad \underline{1.72}$$

$V = 0.5$ if biosolids are left on soil surface

$V = 1.0$ if biosolids are worked into the soil

$$\text{3C. Nitrate Nitrogen (NO}_3\text{-N)} \quad \underline{0.03}$$

$$\text{3D. Total PAN} = (\text{Line 3A} + \text{Line 3B} + \text{Line 3C}) = \quad \underline{19.79}$$

*Mineralization Rates:

Treatment Method	Mineralization Rates
Unstabilized Primary and Waste Activated Biosolids	40 %
Aerobically Digested Biosolids	30 %
Anaerobically Digested Biosolids	20 %
Composted Biosolids	10 %

STEP 4. CALCULATE MAXIMUM BIOSOLIDS APPLICATION RATES BASED ON CROP NITROGEN NEEDS (SAR_N)

$$\text{4A. Nitrogen amount still needed (lbs/acre/year)}$$

$$\text{Enter amount from Step 2C.} \quad \underline{828}$$

$$\text{4B. Total PAN (lbs/ton)}$$

$$\text{Enter amount from Step 3D.} \quad \underline{19.79}$$

$$\text{4C. Biosolids Application Rate (BAR}_N\text{) (tons/acre/year)}$$

$$\text{Line 4A} \div \text{Line 4B} \quad \underline{12 \text{ (Default to max of 12.0)}}$$

STEP 5. CALCULATE MAXIMUM APPLICATION RATE BASED ON METALS (SAR_M)

METAL	A Cumulative Metal Limits (lbs/ac)	B Max Loading Rate (lbs/ac/yr)	C Metals In Biosolids (lbs/ton) (Step 1)	D Metals Applied Yearly at $\overline{BAR}_N$ (lbs/acre/yr) (C x SAR _N)	E Biosolids Applied Yearly at $\overline{BAR}_M$ (tons/acre/yr) (B ÷ C)	F Max Loading Rate (tons/acre) (A ÷ C)
Arsenic	36	1.8	0.01078	0.095	N/A	3340
Cadmium	35	1.7	0.001614	0.014	N/A	21685
Chromium	2677	134	0.0312	0.274	N/A	85801
Copper	1339	67	0.3	2.638	N/A	4463
Lead	268	13	0.0546	0.480	N/A	4908
Mercury	15	0.76	0.000672	0.006	N/A	22321
Molybdenum	Monitor	Monitor	0.01556	0.137	N/A	
Nickel	375	18.7	0.0318	0.280	N/A	11792
Selenium	89	4.5	0.01188	0.104	N/A	7492
Zinc	2500	125	0.996	8.757	N/A	2510
Other						

Note: For each metal, if the value in column B is greater than the value in column D ($B > D$), the $\overline{BAR}_N$ dictates the maximum biosolids application rate. Enter N/A in column E. If the value in column B is less than the value in column D ($B < D$), then the $\overline{BAR}_M$ dictates the maximum biosolids application rate and the value of $E = B \div C$.

STEP 6. CALCULATE THE CUMULATIVE LOADING RATE

6A. Maximum allowable cumulative biosolids loading rate

Lowest value in Step 5, Column F (tons/acre) 2510

6B. Previous applications of biosolids (tons/acre) 34.3

6C. Remaining biosolids application rate to reach metal limits

Line 6A - Line 6B (tons/acre) 2475.7

6D. Maximum allowable biosolids application rate

Lowest value of Step 4C and Step 5, Column E (tons/acre/year)

41.84

6E. Years remaining to reach the maximum cumulative loading

Line 6C ÷ Line 6D (years) 59

APPENDIX A, PART 2: SEPTAGE APPLICATION RATE

Complete Part 2 and 3 if sewage and septage are both applied at the site.

STEP 1. CROPPING PLAN AND NUTRIENT NEEDS

Warm Season Intended Crop(s): [Click here to enter text.](#)

Yield Goal: [Click here to enter text.](#) Nitrogen Requirement, in lb/yr: [Click here to enter text.](#)

Cool Season Intended Crop(s): [Click here to enter text.](#)

Yield Goal: [Click here to enter text.](#) Nitrogen Requirement, in lb/yr: [Click here to enter text.](#)

Provide the data source for the nitrogen requirements.

[Click here to enter text.](#)

Nitrogen needed by crop:

1A. Total Nitrogen Requirement* [Click here to enter text.](#)

1B. Nitrogen available in soil** [Click here to enter text.](#)

1C. Nitrogen amount still needed

Line A - Line B [Click here to enter text.](#)

*Line 1A = Sum of the nitrogen requirement for the specified yield goals for the warm season crop and cool season crop

**Line 1B = $2 \times \text{NO}_3\text{-N (ppm)}(\text{in the 0-6" soil depth}) + 6 \times \text{NO}_3\text{-N (ppm)}(\text{in the 6-24" soil depth})$

STEP 2. CALCULATE ANNUAL APPLICATION RATE

The annual application rate is based on the nitrogen needs of the crop. It is calculated using the following equation:

$$\text{AAR} = \text{N} \div 0.0026$$

AAR = Annual application rate, in gallons per acre per 365 day period.

N = Nitrogen amount still needed for the crop, in pounds per acre per 365 day period.

2A. Enter amount from Step 1C [Click here to enter text.](#)

2B. Conversion Factor 0.0026

2C. Annual Application Rate (gal/acre/yr)

Line 2A $\div$ Line 2B [Click here to enter text.](#)

APPENDIX A, PART 3: PROPORTIONATE AGRONOMIC RATE

Complete if both sewage and septage are applied in the same year.

Biosolids:

A. Biosolids Application Rate (tons/acre/year) [Click here to enter text.](#)

B. Percentage of plant nutrient supplied by the biosolids
= [Click here to enter text.](#) ÷ 100 [Click here to enter text.](#)

C. Multiple Line A by Line B (tons/acre/year) [Click here to enter text.](#)

Domestic Septage:

A. Biosolids Application Rate (tons/acre/year) [Click here to enter text.](#)

B. Percentage of plant nutrient supplied by the biosolids
= [Click here to enter text.](#) ÷ 100 [Click here to enter text.](#)

C. Multiple Line A by Line B (tons/acre/year) [Click here to enter text.](#)

APPENDIX B PATHOGEN REDUCTION REQUIREMENTS

For each source, select the pathogen reduction alternative that will be used prior to land application of biosolids septage. Requirements for each alternative can be found in 30 TAC §312.82.

TCEQ Permit Number	Pathogen Reduction Alternative Used	Fecal Coliform Geometric Mean (cfu/gram total solids)*	Fecal Test Date*	Is PSRP Certification Attached?**(Yes/No/NA)
Example WQ11280-001	Option 1: Density of Fecal Coliform	300,000 cfu/g	12/2/98	NA
WQ0010488-001	Option 2a: PSRP Aerobic Digestion	127000 cfu/g	6/29/23	NA
	Choose an item.			
	Choose an item.			
	Choose an item.			
	Choose an item.			
	Choose an item.			
	Choose an item.			
	Choose an item.			
	Choose an item.			
	Choose an item.			
	Choose an item.			

*Applicable to Option 1 only.

**Applicable to Option 2a - f.

If Other is selected as the Alternative Used, please explain: [Click here to enter text.](#)

APPENDIX C

VECTOR ATTRACTION REDUCTION REQUIREMENTS

For each source, provide the vector attraction reduction option that will be used prior to or after land application of biosolids/septage. Requirements for each alternative can be found in 30 TAC §312.83.

TCEQ Permit Number	Vector Attraction Reduction Alternative Used*	Monitoring Criteria and results needed for alternative
Example WQ11280-001	Option 10: Incorporate within 6 hrs	Visual inspection of area after tilling
Example WQ13450-003	Option 4: SOUR ≤1.5 mg O ₂ /hr/g total solids at 20C (<2% solids)	Aerobically digested, 2.0% solids, SOUR=1.3 mg/g
WQ0010488-001	Option 5: Aerobic process for 14 days at >40C	Waste consists of treated sludge from aerobic digestion chamber
	Choose an item.	
	Choose an item.	
	Choose an item.	
	Choose an item.	
	Choose an item.	
	Choose an item.	
	Choose an item.	
	Choose an item.	

*Options 1-8 are Class B biosolids treatment alternatives. Options 9-10 are onsite alternatives. Option 12 is for domestic septage only.

APPENDIX D ON-SITE STORAGE

If on-site storage will occur at the site, this Appendix must be completed in its entirety. On-site storage does not include staging of biosolids or septage for up to seven (7) days prior to applying it. On-site storage cannot exceed the 90-day maximum per 30 TAC §312.50 unless properly authorized for each instance. Construction of the storage area cannot begin until written authorization for this action is received from the TCEQ. Materials cannot be treated without proper authorization from the TCEQ.

- A. Provide a complete description of operational plans for the temporary storage, including all steps to be taken to control odors, vectors and other nuisance conditions.

[Click here to enter text.](#)

- B. The location of the temporary storage area(s) must be accurately shown on the USGS topographic map submitted with the application, including all main features of the storage area(s) (e.g. berms, tanks, pads, liners, storm water retention, etc.).

- C. Provide a copy of the liner and storage tank certification as per 30 TAC §312.50(a)(4) or 312.50(a)(8).

Attachment Number: [Click here to enter text.](#)

- D. Describe the proposed spill prevention and cleanup methods.

[Click here to enter text.](#)

- E. Provide a certification that the berm(s) will hold the required volume(s) without discharging as per 30 TAC §312.50 (a)(7).

Attachment Number: [Click here to enter text.](#)

- F. Describe the method for stormwater runoff collection and disposal.

[Click here to enter text.](#)

- G. Describe methods to be used to ensure no loads of biosolids remain at the temporary storage site for longer than 90 days, including how exceptions to this restriction will be requested (as provided by 30 TAC §312.50), when needed.

[Click here to enter text.](#)



DOUCET

List of Attachments

Attachment A.....	Landowner Map
Attachment B.....	Landowner List
Attachment C.....	TCEQ Core Data Form (10400)
Attachment D.....	General Highway County Map
Attachment E.....	USGS Topo Map
Attachment F.....	USDA-NRCS Soil Map
Attachment G.....	FEMA Map
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Attachment I.....	TCEQ Transporters Registration Approval Document
Attachment J.....	Soil Analysis
Attachment K.....	Sludge Analysis
Attachment L.....	Hydrologic Characteristics
Attachment M.....	Well Plug Report



Attachment B

Landowner List

List of Adjacent Land Owners

1. Sarah Hernandez Espinosa
8346 Coppergate
Converse, TX 78109
2. Julian Zuniga
1408 Holmes St.
Gonzales, TX 78629
3. David and Robert Howell
8514 New Hampshire Dr.
Austin, TX 78758
4. John G. Stefinsky
496 FM 532 E
Gonzales, TX 78629
5. John Edgar Mallory Jr and Stephanie A Werth
423 Mallow Dr.
New Braunfels, TX 78130
6. Willie R. Simper Jr.
472 FM 532 E
Gonzales, TX 78629
7. Calvin G. and W.F. Buesing
526 CR 341
Gonzales, TX 78629
8. Martha B and Mosely Moseley
582 PR 3811
Gonzales, TX 78629
9. Kathleen Sample Borrer
P.O. Box L
Gonzales, TX 78629
10. John W Thomas
928 CR 488
Gonzales, TX 78629
11. Jordon Bryant C/O Edna Brooks

P.O. Box 299
Gonzales, TX 78629

12. Heather Q and Samuel E Dement
1579 Settlement Way
Luling, TX 78648
13. Anthony C and Dana Lynn Roehr
577 CR 488
Gonzales, TX 78629
14. Pauline Espinosa Life Estate
6 Park Place Dr.
Gonzales, TX 78629
15. James Conrad Floyd
1628 FM 532 E
Gonzales, TX 78629
16. Pauline Espinosa Life Estate
6 Park Place Dr.
Gonzales, TX 78629
17. Larry and Priscilla Finch Estate
125 S Patrick St.
Gonzales, TX 78629
18. John Mark Zavadil
730 FM 532 E
Gonzales, TX 78629
19. Fernando F and Jennifer Casares
638 FM 532 E
Gonzales, TX 78629
20. Phillip & Donna Koehler
686 FM 532 E
Gonzales, TX 78629
21. Jason Wade and Alyssa Joan Dyson
461 Midway Rd S
Inez, TX 77968
22. Larry E Polzin

9007 Autauga
Houston, TX 77080

23. John W Thomas
928 CR 488
Gonzales, TX 78629

24. Day P and Marilyn Mixson McNeel
949 CR 488
Gonzales, TX 78629

25. James Molnoskey
805 CR 488
Gonzales, TX 78629

26. Mary G Shenault
12210 Wallingstone Lane
Austin, TX 78750

27. Willie R. Simper Jr.
472 FM 532 E
Gonzales, TX 78629

28. Tuch Michael & Kara D
P.O. Box 1740
Gonzales, TX 78629

29. Randal and Cynthia Williams
236 FM 532 E
Gonzales, TX 78629

30. M & A Farms
425 St. James St.
Gonzales, TX 78629

31. Gonzales Healthcare Systems
P.O. Box 587
Gonzales, TX 78629

32. M & A Farms
425 St. James St.
Gonzales, TX 78629

33. Martha B Mosely
582 PR 3811
Gonzales, TX 78629



DOUCET

Attachment C

TCEQ Core Data Form (10400)



TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

SECTION I: General Information

1. Reason for Submission (If other is checked please describe in space provided.)		
☐ New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
☒ Renewal (Core Data Form should be submitted with the renewal form)		☐ Other
2. Customer Reference Number (if issued)	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number (if issued)
CN 600249353		RN 103153680

SECTION II: Customer Information

4. General Customer Information		5. Effective Date for Customer Information Updates (mm/dd/yyyy)			
☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership					
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>					
6. Customer Legal Name (If an individual, print last name first: eg: Doe, John)				<i>If new Customer, enter previous Customer below:</i>	
City of Gonzales					
7. TX SOS/CPA Filing Number		8. TX State Tax ID (11 digits) 17460010014		9. Federal Tax ID (9 digits) 746001001	
				10. DUNS Number (if applicable) 093738540	
11. Type of Customer:		☐ Corporation		☐ Individual	
Government: ☒ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other		☐ Sole Proprietorship		Partnership: ☐ General ☐ Limited	
12. Number of Employees ☐ 0-20 ☐ 21-100 ☒ 101-250 ☐ 251-500 ☐ 501 and higher				13. Independently Owned and Operated? ☒ Yes ☐ No	
14. Customer Role (Proposed or Actual) -- as it relates to the Regulated Entity listed on this form. Please check one of the following					
☐ Owner ☐ Operator ☒ Owner & Operator ☐ Other:					
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant					
15. Mailing P.O. Box 547					
Address:					
City		Gonzales		State	TX
ZIP		78629		ZIP + 4	
16. Country Mailing Information (if outside USA)				17. E-Mail Address (if applicable)	
18. Telephone Number		19. Extension or Code		20. Fax Number (if applicable)	

SECTION III: Regulated Entity Information**21. General Regulated Entity Information** (If 'New Regulated Entity' is selected, a new permit application is also required.)
☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).

22. Regulated Entity Name (Enter name of the site where the regulated action is taking place.)

City of Gonzales Beneficial Land Use Site

23. Street Address of the Regulated Entity:

CR 488

(No PO Boxes)

City

Gonzales

State

TX

ZIP

78629

ZIP + 4

24. County

Gonzales

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

25. Description to

N side of CR 488, approximately 0.2 miles of intersection CR 488 & FM 532 &

Physical Location:

approximately 2.5 miles NE of City of Gonzales

26. Nearest City**State****Nearest ZIP Code**

Gonzales

TX

78629

Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).

27. Latitude (N) In Decimal:

29.523058°

28. Longitude (W) In Decimal:

-97.412870°

Degrees

Minutes

Seconds

Degrees

Minutes

Seconds

29. Primary SIC Code**30. Secondary SIC Code****31. Primary NAICS Code****32. Secondary NAICS Code**

(4 digits)

(4 digits)

(5 or 6 digits)

(5 or 6 digits)

4952

111998

33. What is the Primary Business of this entity? (Do not repeat the SIC or NAICS description.)**34. Mailing**

P.O. Box 547

Address:

City

Gonzales

State

TX

ZIP

78629

ZIP + 4

35. E-Mail Address:**36. Telephone Number****37. Extension or Code****38. Fax Number** (if applicable)

(830) 672-2815

() -

39. TCEQ Programs and ID Numbers Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.

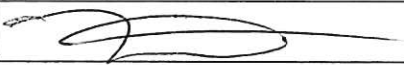
☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☒ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
WQ0004467				
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Victor Ostiguin, P.E.	41. Title:	Consultant
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 566-4076		() -	vostiguin@kleinfelder.com

SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

Company:	City of Gonzales	Job Title:	City Manager
Name (In Print):	Tim Crow	Phone:	(830) 672- 2815
Signature:		Date:	9-27-2024

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



Texas Commission on Environmental Quality

Protecting Texas by Reducing and Preventing Pollution

July 06, 2022

RYAN WILKERSON
CITY OF GONZALES
PO BOX 547
GONZALES, TX 78629-0547

Re: **Renewal of Sludge Transportation Registration**
CITY OF GONZALES
Registration Number: 22153

CN600249353

RN103160354

Dear Ryan Wilkerson:

The Section Manager of the Registration and Reporting Section has issued the enclosed registration in accordance with Title 30 of the Texas Administrative Code (30 TAC) Chapter 312 Subsection (§) 312.147 (b). This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality.

Issuance of this authorization is not an acknowledgment that your operation is in full compliance with state and federal rules and regulations. Failure to comply with all rules and regulations may result in enforcement action and/or the revocation of your registration.

Your registration number is required to appear on all tanks and containers used for the collection and transportation of sewage sludge and similar waste. It should also be used on all correspondence regarding your sludge registration.

A copy of your sludge transporter registration, a copy of your application for registration and copies of all amendments to this registration must be available at all times and at all locations where business is being transacted under this registration, including all motorized vehicles operated under this registration.

If you have any questions or comments, please contact the Sludge Transporter Registration Program at (512) 239-6413.

Sincerely,

A handwritten signature in black ink, appearing to read "Shannon W. Frazier".

Shannon W. Frazier, Manager
Registration & Reporting Section

Enclosures

CC: TCEQ Region 14, CORPUS CHRISTI

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Toby Baker, *Executive Director*



Texas Commission on Environmental Quality

Protecting Texas by Reducing and Preventing Pollution

September 27, 2019

RYAN WILKERSON
CITY OF GONZALES
PO BOX 547
GONZALES, TX 78629-0547

Re: Amendment to Sludge Transportation Registration
CITY OF GONZALES

Registration Number: 22153

CN600249353

RN103160354

Dear Ryan Wilkerson:

The Section Manager of the Registration and Reporting Section has issued the enclosed amended registration in accordance with Title 30 of the Texas Administrative Code (30 TAC) Chapter 312 Subchapter G. This action is taken under authority delegated by the Executive Director of the Texas Commission on Environmental Quality.

Issuance of this registration is not an acknowledgment regarding compliance of your operation with state and federal rules and regulations. Failure to comply with all rules and regulations may result in enforcement action and/or revocation of your registration.

Please review the enclosed copy of your amended registration. It should replace any previous sludge registrations and reflect your current operation.

A copy of your sludge transporter registration, a copy of your application for registration and copies of all amendments to this registration must be available at all times and at all locations where business is being transacted under this registration, including all motorized vehicles operated under this registration.

If you have any questions or comments, please contact the Sludge Transporter Registration Program at (512) 239-3695.

Sincerely,

A handwritten signature in black ink, appearing to read "Anne Marie Callery".

Anne Marie Callery, Section Manager
Registration and Reporting Section
Permitting and Registration Support Division

AC/nf

Enclosures

CC: TCEQ Region 14, CORPUS CHRISTI



DOUCET

Attachment J

Soil Analysis



Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Gonzales County
Laboratory Number: 639100
Customer Sample ID: A 1 of 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)
Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 9/6/2023

Printed on: 9/14/2023

Area Represented: 9.9 acres

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	6.0	(5.8)	-	Mod. Acid								
Conductivity	101	(-)	umho/cm	None							CL*	Fertilizer Recommended
Nitrate-N	4	(-)	ppm**									90 lbs N/acre
Phosphorus	13	(50)	ppm									90 lbs P2O5/acre
Potassium	115	(150)	ppm									55 lbs K2O/acre
Calcium	1,534	(180)	ppm									0 lbs Ca/acre
Magnesium	144	(50)	ppm									0 lbs Mg/acre
Sulfur	15	(13)	ppm									0 lbs S/acre
Sodium	20	(-)	ppm									
Iron	13.56	(4.25)	ppm									
Zinc	1.60	(0.27)	ppm									0 lbs Zn/acre
Manganese	2.86	(1.00)	ppm									0 lbs Mn/acre
Copper	0.23	(0.16)	ppm									0 lbs Cu/acre
Boron												
Limestone Requirement											0.00 tons 100ECCE/acre	
TKN	703		ppm									
TN	906		ppm									
Ammonium-N	6.0		ppm									

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>

Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Gonzales County
Laboratory Number: 639101
Customer Sample ID: A 2 of 2

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478

979-845-4816 (phone)

979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 9/6/2023

Printed on: 9/14/2023

Area Represented: 9.9 acres

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.
pH	5.1	(5.8)	-	Strongly Acid						
Conductivity	105	(-)	umho/cm	None						
Nitrate-N	12	(-)	ppm**	CL*						
Phosphorus	13	(50)	ppm	Fertilizer Recommended						
Potassium	98	(150)	ppm	75 lbs N/acre						
Calcium	1,331	(180)	ppm	90 lbs P2O5/acre						
Magnesium	223	(50)	ppm	85 lbs K2O/acre						
Sulfur	18	(13)	ppm	0 lbs Ca/acre						
Sodium	50	(-)	ppm	0 lbs Mg/acre						
Iron	19.90	(4.25)	ppm	0 lbs S/acre						
Zinc	3.36	(0.27)	ppm	0 lbs Zn/acre						
Manganese	6.04	(1.00)	ppm	0 lbs Mn/acre						
Copper	0.34	(0.16)	ppm	0 lbs Cu/acre						
Boron										
Limestone Requirement				1.00 tons 100ECCE/acre						
TKN	1101		ppm							
TN	1476		ppm							
Ammonium-N	7.4		ppm							

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>

Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Gonzales County
Laboratory Number: 639102
Customer Sample ID: B 1 of 2

Crop Grown: **IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)**

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 9/6/2023

Printed on: 9/14/2023

Area Represented: 2.4 acres

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	5.1	(5.8)	-	Strongly Acid							
Conductivity	108	(-)	umho/cm	None							Fertilizer Recommended
Nitrate-N	2	(-)	ppm**								95 lbs N/acre
Phosphorus	6	(50)	ppm								110 lbs P2O5/acre
Potassium	138	(150)	ppm								15 lbs K2O/acre
Calcium	1,545	(180)	ppm								0 lbs Ca/acre
Magnesium	466	(50)	ppm								0 lbs Mg/acre
Sulfur	18	(13)	ppm								0 lbs S/acre
Sodium	134	(-)	ppm								
Iron	34.84	(4.25)	ppm								
Zinc	1.49	(0.27)	ppm								0 lbs Zn/acre
Manganese	8.35	(1.00)	ppm								0 lbs Mn/acre
Copper	0.33	(0.16)	ppm								0 lbs Cu/acre
Boron											
Limestone Requirement											1.00 tons 100ECCE/acre
TKN	1539		ppm								
TN	1567		ppm								
Ammonium-N	9.0		ppm								

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>

Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Gonzales County
Laboratory Number: 639103
Customer Sample ID: B 2 of 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 9/6/2023

Printed on: 9/14/2023

Area Represented: 2.4 acres

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	5.2	(5.8)	-	Strongly Acid							
Conductivity	107	(-)	umho/cm	None							Fertilizer Recommended
Nitrate-N	1	(-)	ppm**								95 lbs N/acre
Phosphorus	3	(50)	ppm								115 lbs P2O5/acre
Potassium	155	(150)	ppm								0 lbs K2O/acre
Calcium	1,624	(180)	ppm								0 lbs Ca/acre
Magnesium	460	(50)	ppm								0 lbs Mg/acre
Sulfur	18	(13)	ppm								0 lbs S/acre
Sodium	186	(-)	ppm								
Iron	42.44	(4.25)	ppm								
Zinc	0.63	(0.27)	ppm								0 lbs Zn/acre
Manganese	4.15	(1.00)	ppm								0 lbs Mn/acre
Copper	0.28	(0.16)	ppm								0 lbs Cu/acre
Boron											
Limestone Requirement											1.00 tons 100ECCE/acre
TKN	1196		ppm								
TN	1683		ppm								
Ammonium-N	6.6		ppm								

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Gonzales County
Laboratory Number: 639104
Customer Sample ID: C1 1 of 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 9/6/2023

Printed on: 9/14/2023

Area Represented: 22.2 acres

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	4.3	(5.8)	-	Strongly Acid								
Conductivity	91	(-)	umho/cm	None							CL*	Fertilizer Recommended
Nitrate-N	5	(-)	ppm**								90 lbs N/acre	
Phosphorus	40	(50)	ppm								20 lbs P2O5/acre	
Potassium	44	(150)	ppm								175 lbs K2O/acre	
Calcium	598	(180)	ppm								0 lbs Ca/acre	
Magnesium	127	(50)	ppm								0 lbs Mg/acre	
Sulfur	10	(13)	ppm								5 lbs S/acre	
Sodium	15	(-)	ppm									
Iron	35.91	(4.25)	ppm									
Zinc	1.38	(0.27)	ppm								0 lbs Zn/acre	
Manganese	4.71	(1.00)	ppm								0 lbs Mn/acre	
Copper	0.50	(0.16)	ppm								0 lbs Cu/acre	
Boron												
Limestone Requirement											1.00 tons 100ECCE/acre	
TKN	615		ppm									
TN	643		ppm									
Ammonium-N	7.7		ppm									

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>

Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Gonzales County
Laboratory Number: 639105
Customer Sample ID: C1 2 of 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 9/6/2023

Printed on: 9/14/2023

Area Represented: 22.2 acres

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	4.2	(5.8)	-	Strongly Acid								
Conductivity	80	(-)	umho/cm	None							CL*	Fertilizer Recommended
Nitrate-N	6	(-)	ppm**								85 lbs N/acre	
Phosphorus	36	(50)	ppm								35 lbs P2O5/acre	
Potassium	64	(150)	ppm								140 lbs K2O/acre	
Calcium	667	(180)	ppm								0 lbs Ca/acre	
Magnesium	245	(50)	ppm								0 lbs Mg/acre	
Sulfur	14	(13)	ppm								0 lbs S/acre	
Sodium	24	(-)	ppm									
Iron	42.01	(4.25)	ppm									
Zinc	1.80	(0.27)	ppm								0 lbs Zn/acre	
Manganese	5.43	(1.00)	ppm								0 lbs Mn/acre	
Copper	0.56	(0.16)	ppm								0 lbs Cu/acre	
Boron												
Limestone Requirement											1.60 tons 100ECCE/acre	
TKN	971		ppm									
TN	933		ppm									
Ammonium-N	10.1		ppm									

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Gonzales County
Laboratory Number: 639106
Customer Sample ID: C2 1 of 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 9/6/2023

Printed on: 9/14/2023

Area Represented: 11 acres

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.		
pH	5.3	(5.8)	-	Strongly Acid								
Conductivity	101	(-)	umho/cm	None							CL*	Fertilizer Recommended
Nitrate-N	3	(-)	ppm**									90 lbs N/acre
Phosphorus	9	(50)	ppm									100 lbs P2O5/acre
Potassium	86	(150)	ppm									105 lbs K2O/acre
Calcium	1,744	(180)	ppm									0 lbs Ca/acre
Magnesium	300	(50)	ppm									0 lbs Mg/acre
Sulfur	17	(13)	ppm									0 lbs S/acre
Sodium	61	(-)	ppm									
Iron	30.75	(4.25)	ppm									
Zinc	0.92	(0.27)	ppm									0 lbs Zn/acre
Manganese	4.01	(1.00)	ppm									0 lbs Mn/acre
Copper	0.29	(0.16)	ppm									0 lbs Cu/acre
Boron												
Limestone Requirement											1.00 tons 100ECCE/acre	

Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Gonzales County
Laboratory Number: 639107
Customer Sample ID: C2 2 of 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU

College Station, TX 77843-2478
979-845-4816 (phone)
979-845-5958 (FAX)

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 9/6/2023

Printed on: 9/14/2023

Area Represented: 11 acres

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	5.5	(5.8)	-	Mod. Acid							
Conductivity	102	(-)	umho/cm	None							Fertilizer Recommended
Nitrate-N	2	(-)	ppm**								95 lbs N/acre
Phosphorus	9	(50)	ppm								100 lbs P2O5/acre
Potassium	73	(150)	ppm								125 lbs K2O/acre
Calcium	1,514	(180)	ppm								0 lbs Ca/acre
Magnesium	296	(50)	ppm								0 lbs Mg/acre
Sulfur	15	(13)	ppm								0 lbs S/acre
Sodium	93	(-)	ppm								
Iron	25.30	(4.25)	ppm								
Zinc	0.70	(0.27)	ppm								0 lbs Zn/acre
Manganese	2.64	(1.00)	ppm								0 lbs Mn/acre
Copper	0.25	(0.16)	ppm								0 lbs Cu/acre
Boron											
Limestone Requirement											1.00 tons 100ECCE/acre
TKN	878		ppm								
TN	887		ppm								
Ammonium-N	6.4		ppm								

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

New online fertilizer calculators have been placed on the laboratory's website to determine appropriate fertilizers to purchase and determine their application rates.
<http://soiltesting.tamu.edu/webpages/calculator.html>



DOUCET

Attachment K

Sludge Analysis

email information for report date:
8/8/23 17:48
G019382

GONZALES, CITY OF

Attn: Ryan Wilkerson
waterplant@cityofgonzales.org

PO BOX 547
GONZALES, TX 78629

August 2023 price increase.

Due to the increase in operational costs, Aqua-Tech Laboratories will be implementing a slight price increase. The new price list will be effective August 1, 2023.

Aqua-Tech values you as a customer and encourages you to reach out to our accounting staff at accounting@aquatechlabs.com if you have questions.

Thank you for your business,
June M. Brien
Executive Technical Director

BRYAN FACILITY
635 Phil Gramm Boulevard
Bryan, TX 77807
Phone: (979) 778-3707
Fax: (979) 778-3193



AUSTIN FACILITY
3512 Montopolis Dr. Suite A
Austin, TX 78744
Phone: (512) 301-9559
Fax: (512) 301-9552

The analyses summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with TNI and/or through the TCEQ Drinking Water Commercial Laboratory Approval Program.

The following abbreviations indicate certification status:

NEL TNI accredited parameter.
ANR Accreditation not offered by the State of Texas.
DWP Approval through the TCEQ Drinking Water Commercial Laboratory Approval Program.
INF Aqua-Tech Laboratories, Inc. is not accredited for this parameter. It is reported on an informational basis only.

Subcontracted data summarized in this report is indicated by "Sub" in the Lab column.

General Definitions:

NR	Not Reported.
RPD	Relative Percent Difference.
% R	Percent Recovery.
dry	Results with the "dry" unit designation are reported on a "dry weight" basis.
SQL	The Sample Quantitation Limit is the value below which the parameter cannot reliably be detected. The SQL includes all sample preparations, dilutions and / or concentrations.
Adj MDL	The Adjusted Method Detection Limit is the MDL value adjusted for any sample dilutions or concentrations.
MDL	The Method Detection Limit is the lowest theoretical value that is statistically different from zero for a specific method, taking into account all preparation steps and instrument settings.

All samples are reported on an "as received" basis unless the designation "dry" is added to the reported unit.

Copies of Aqua-Tech Laboratories, Inc. procedures and individual sampling plans are available upon request. Note that samples are collected by Aqua-Tech Laboratories, Inc. personnel unless otherwise noted in the "Sample Collected" field of this report as "Client" or "CLT".

Samples included in this report were received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II. - Required containers, preservation techniques, and holding times, unless otherwise noted in this report.

Record Retention:

All reports, raw data, and associated quality control data are kept on file for 10 years before being destroyed. Any client that would like copies of records must contact Aqua-Tech Laboratories, Inc. no later than six months prior to the scheduled disposal. An administrative fee for retrieval and distribution will apply.

This report was approved by:

June M. Brien

June M. Brien, Technical Director

corp@aquatechlabs.com

www.aquatechlabs.com

Certificate: T104704371-22-26



TCEQ Lab ID T104704371

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Analytical Report
GONZALES, CITY OF
Report Printed: 8/8/23 17:48
G019382

Gonzales WWTP Sludge									
Lab ID#	G019382-01	Result	Units	Notes	Collected: 06/29/23 10:00 by CLIENT Received: 06/29/23 14:10 by Mitchell Mindieta	MDL	Adj MDL	Type	C-O-C #
General Chemistry									
Total Kjeldahl Nitrogen as N	31800		mg/kg dry		0.13	1410	2170	Bryan	SM4500-NH3 G 2011
Microbiological Analyses									
Fecal Coliform Geometric Mean (7 prt)	127000		CFU/g			6480	6480	Calc	SM9222 D 2015
Metals (Total)									
Mercury	0.336		mg/kg dry		0.0001	0.026	0.136	Bryan	EPA 7471A 1994
Please see the attached subcontract report for subcontracted data.									

Gonzales WWTP Sludge Part 1									
Lab ID#	G019382-02	Result	Units	Notes	Collected: 06/29/23 10:04 by CLIENT Received: 06/29/23 14:10 by Mitchell Mindieta	MDL	Adj MDL	Type	C-O-C #
General Chemistry									
% Solids	13.7		g/100g (%)		0.10	0.10	0.10	Austin	SM2540 G 2015
Microbiological Analyses									
Fecal Coliform	122000		CFU/g dry	M5	1	7150	7150	Austin	SM9222 D 2015

Gonzales WWTP Sludge Part 2									
Lab ID#	G019382-03	Result	Units	Notes	Collected: 06/29/23 10:05 by CLIENT Received: 06/29/23 14:10 by Mitchell Mindieta	MDL	Adj MDL	Type	C-O-C #
General Chemistry									
% Solids	13.4		g/100g (%)	C-02	0.10	0.10	0.10	Austin	SM2540 G 2015
Microbiological Analyses									
Fecal Coliform	102000		CFU/g dry	M5	1	6770	6770	Austin	SM9222 D 2015

Gonzales WWTP Sludge Part 3									
Lab ID#	G019382-04	Result	Units	Notes	Collected: 06/29/23 10:08 by CLIENT Received: 06/29/23 14:10 by Mitchell Mindieta	MDL	Adj MDL	Type	C-O-C #
General Chemistry									
% Solids	13.5		g/100g (%)		0.10	0.10	0.10	Austin	SM2540 G 2015
Microbiological Analyses									
Fecal Coliform	153000		CFU/g dry		1	6650	6650	Austin	SM9222 D 2015

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Analytical Report
GONZALES, CITY OF
8/8/23 17:48
Report Printed:
G019382

Gonzales WWTP Sludge Part 4

Gonzales WWTP Sludge Part 4														
Collected: 06/29/23 10:12 by CLIENT Received: 06/29/23 14:10 by Mitchell Mindieta														
Lab ID#	G019382-05	Result	Units	Notes	MDL	Adj MDL	SQL	Type	Matrix	C-O-C #	Batch			
General Chemistry														
% Solids		17.0	g/100g (%)		0.10	0.10	0.10	Grab	Solid	G019382	Batch			
Microbiological Analyses														
Fecal Coliform		66700	CFU/g dry	M5	1	5130	5130	Grab	AOG	G019382	Batch			

Gonzales WWTP Sludge Part 5

Gonzales WWTP Sludge Part 5																									
Collected: 06/29/23 10:14 by CLIENT Received: 06/29/23 14:10 by Mitchell Mindieta																									
Lab ID#	G019382-06	Result	Units	Notes	MDL	Adj MDL	SQL	Type	Matrix	C-O-C #	Method	Batch													
General Chemistry																									
% Solids		13.5	g/100g (%)		0.10	0.10	0.10	Grab	Solid	G019382	SM2540 G 2015	M163220													
Microbiological Analyses													NEL												
Fecal Coliform		150000	CFU/g dry		1	6540	6540	Grab	Solid	G019382	SM9222 D 2015	M163135													
													NEL												

Gonzales WWTP Sludge Part 6

Gonzales WWTP Sludge Part 6																									
Collected: 06/29/23 10:16 by CLIENT													Type												
Received: 06/29/23 14:10 by Mitchell Mindieta													Grab												
Units													Notes												
Result													MDL												
Adj MDL													SQL												
Lab													Analyzed												
Method													Batch												
General Chemistry																									
% Solids																									
14.9													g/100g (%)												
Microbiological Analyses																									
Fecal Coliform																									
157000													CFU/g dry												
1													5800												
5800													Austin												
06/29/23 15:50 AOG													SM9222 D 2015												
SM2540 G 2015													M163220												
NEL													NEL												
M163135													NEL												

Gonzales WWTP Sludge Part 7

Gonzales WWTP Sludge Part 7																									
Collected: 06/29/23 10:18 by CLIENT													Received: 06/29/23 14:10 by Mitchell Mindieta												
Lab ID#	G019382-08	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch														
General Chemistry																									
% Solids		11.2	g/100g (%)		0.10	0.10	0.10	Austin	07/03/23 09:58 MAM	SM2540 G 2015	M163220	NEL													
Microbiological Analyses																									
Fecal Coliform		175000	CFU/g dry		1	7620	7620	Austin	06/29/23 15:50 AOG	SM9222 D 2015	M163135	NEL													



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Analytical Report
GONZALES, CITY OF
Report Printed: 8/8/23 17:48
G019382

Gonzales WWTP WAS

Lab ID# G019382-09

Collected: 06/29/23 10:20 by CLIENT
Received: 06/29/23 14:10 by Mitchell Mindieta

Result	Units	Notes	MDL	Adj MDL	Type	Lab	Analyzed	Matrix	C-O-C #	Batch
14.8	g/100g (%)		0.10	0.10	0.10	Austin	07/03/23 10:17 MAM	Solid	G019382	M163218
57	%		0.1	0.1	0.1	Austin	07/03/23 10:17 MAM			M163218

General Chemistry

% Solids

Total Volatile Solids

Explanation of Notes

C-02 Result confirmed by re-analysis.

J Analyte detected below the SQL but above the MDL.

M5 This result is estimated as no plates contained colony counts within the method-specified range.



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Analytical Report
GONZALES, CITY OF
8/8/23 17:48
Report Printed:
G019382

General Chemistry - Quality Control

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
% Solids - SM2540 G 2015												
Blank	<0.10		0.10	0.10	07/03/23 09:58 MAM							M163220
Duplicate	14.3		0.10	0.10	07/03/23 09:58 MAM		13.4			6.36	10	M163220
Duplicate	14.3		0.100	0.100	07/03/23 09:58 SAR		13.4			6.36	10	M163220
Blank	<0.10		0.10	0.10	07/03/23 10:17 MAM							M163218
Duplicate	15.4		0.10	0.10	07/03/23 10:17 MAM		15.3			0.715	10	M163218

Total Kjeldahl Nitrogen as N - SM4500-NH3 G 2011

Bryan												
Initial Cal Check	8.90	mg/L			07/19/23 13:05 KMA	9.12		97.6	90 - 110			2307195
Low Cal Check	0.20	mg/L			07/19/23 13:05 KMA	0.200		102	70 - 130			2307195
Blank	<0.20	mg/kg wet	0.13	0.20	07/19/23 13:05 KMA							M163904
LCS	8.52	mg/kg wet	0.13	0.20	07/19/23 13:05 KMA	8.00		107	85 - 115			M163904
LCS Dup	8.59	mg/kg wet	0.13	0.20	07/19/23 13:05 KMA	8.00		107	85 - 115	0.771	10	M163904
Matrix Spike	263000	mg/kg dry	8110	12500	07/19/23 13:05 KMA	166000	87200	106	70 - 130			M163904
Matrix Spike Dup	270000	mg/kg dry	8110	12500	07/19/23 13:05 KMA	166000	87200	110	70 - 130	4.00	20	M163904

Total Volatile Solids - SM2540 G 2015

Austin												
Blank	<0.1	%	0.1	0.1	07/03/23 10:17 MAM							M163218
Duplicate	72	%	0.1	0.1	07/03/23 10:17 MAM		72			1.13	10	M163218

Metals (Total) - Quality Control

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
Bryan												
Mercury - EPA 7471A 1994												
Initial Cal Check	6.80	ug/L			07/12/23 11:23 ABM	6.51		104	80 - 120			2307086
Blank	<0.0005	mg/kg wet	0.0001	0.0005	07/12/23 11:23 ABM							M163554
Duplicate	0.370	mg/kg dry	0.026	0.136	07/12/23 11:23 ABM					9.46	20	M163554
LCS	0.003	mg/kg wet	0.0001	0.0005	07/12/23 11:23 ABM	0.00250	0.336	104	80 - 120			M163554
LCS Dup	0.003	mg/kg wet	0.0001	0.0005	07/12/23 11:23 ABM	0.00250		102	80 - 120	2.68	15.4	M163554
Matrix Spike	0.995	mg/kg dry	0.026	0.136	07/12/23 11:23 ABM	0.681	0.336	96.7	80 - 120			M163554
Matrix Spike Dup	0.994	mg/kg dry	0.027	0.137	07/12/23 11:23 ABM	0.683	0.336	96.2	80 - 120	0.490	20	M163554
MRL Check	0.0005	mg/kg wet	0.0001	0.0005	07/12/23 11:23 ABM	0.000500		109	50 - 150			M163554

Microbiological Analyses - Quality Control

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	Log10 Comparison	Control Limit	Batch
Austin												

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Analytical Report
GONZALES, CITY OF
 Report Printed: 8/8/23 17:48
 G019382

Microbiological Analyses - Quality Control									
Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits
Fecal Coliform - SM9222 D 2015									
Blank	<1	CFU/g wet	1	1	06/29/23 15:26 AOG				
Dup Log10 Range		CFU/g wet	1	1	06/29/23 15:26 AOG				
Duplicate	190000	CFU/g dry	7620	7620	06/29/23 15:26 AOG		175000	0.036	
Blank	<1	CFU/g wet	1	1	06/29/23 15:50 AOG			0.616	
Austin									
									M163135
									M163135
									M163135
									M163135

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Analytical Report
GONZALES, CITY OF
8/8/23 17:48
G019382

Report Printed:

Sample Preparation Summary

Sample	Method	Prepared	Lab	Bottle	Initial	Units	Final	Units	External Dilution Factor	Batch
G019382-01										
Fecal Coliform Geometric Mean (7 prt)	SM9222 D 2015	7/12/23 13:54 SR	Austin	-	-	-	-	-	-	M163668
Mercury	EPA 7471A 1994	7/11/23 8:32 HDH	Bryan	C	0.272	g	10.0	mL	1	M163554
Subcontract	Sub Contract Data Entry	8/2/23 16:01 PMY	Bryan	-	-	-	-	-	-	M164649
Total Kjeldahl Nitrogen as N	SM4500-NH3 G 2011	7/18/23 12:09 KMA	Bryan	C	0.102	g	25.0	mL	6	M163904
G019382-02										
% Solids	SM2540 G 2015	7/3/23 9:58 SAR	Austin	B	10.0	g	10.0	mL	1	M163220
Fecal Coliform	SM9222 D 2015	6/29/23 14:57 AOG	Austin	A	0.00102	g	1.00	mL	1	M163135
G019382-03										
% Solids	SM2540 G 2015	7/3/23 9:58 SAR	Austin	B	10.0	g	10.0	mL	1	M163220
Fecal Coliform	SM9222 D 2015	6/29/23 14:57 AOG	Austin	A	0.00110	g	1.00	mL	1	M163135
G019382-04										
% Solids	SM2540 G 2015	7/3/23 9:58 SAR	Austin	B	10.0	g	10.0	mL	1	M163220
Fecal Coliform	SM9222 D 2015	6/29/23 14:57 AOG	Austin	A	0.00112	g	1.00	mL	1	M163135
G019382-05										
% Solids	SM2540 G 2015	7/3/23 9:58 SAR	Austin	B	10.0	g	10.0	mL	1	M163220
Fecal Coliform	SM9222 D 2015	6/29/23 14:57 AOG	Austin	A	0.00114	g	1.00	mL	1	M163135
G019382-06										
% Solids	SM2540 G 2015	7/3/23 9:58 SAR	Austin	B	10.0	g	10.0	mL	1	M163220
Fecal Coliform	SM9222 D 2015	6/29/23 15:25 AOG	Austin	A	0.00113	g	1.00	mL	1	M163135
G019382-07										
% Solids	SM2540 G 2015	7/3/23 9:58 SAR	Austin	B	10.0	g	10.0	mL	1	M163220
Fecal Coliform	SM9222 D 2015	6/29/23 15:25 AOG	Austin	A	0.00116	g	1.00	mL	1	M163135
G019382-08										
% Solids	SM2540 G 2015	7/3/23 9:58 SAR	Austin	B	10.0	g	10.0	mL	1	M163220
Fecal Coliform	SM9222 D 2015	6/29/23 15:25 AOG	Austin	A	0.00117	g	1.00	mL	1	M163135
G019382-09										
% Solids	SM2540 G 2015	7/3/23 10:17 SAR	Austin	A	10.0	g	10.0	mL	1	M163218
Total Volatile Solids	SM2540 G 2015	7/3/23 10:17 SAR	Austin	A	10.0	g	10.0	mL	1	M163218

Chain-of-Custody and Analysis Request

Client / Project Name: GONZALES, CITY OF
Land App Full with PCBs

Contact Information:
Name: Ryan Wilkerson
Address: PO BOX 547
City: GONZALES
State: TX Zip: 78629
Phone: (830) 672-3525
email:

Definitions:
DW Drinking Water
NP Non-Potable Water
S Solid
CM Custody Maintained
CTU Custody Transfer Unbroken
CT Corrected Temperature

Reagent tracking is available upon request.

Analyses Requested: "A" prefix indicates Austin, all others Bryan or Subcontracted, indicated by [SUB].

Name format: Analysis-Matrix-Technology-Method.

[NEL] = NELAP accredited parameter
[SUB] = NELAP accredited subcontracted parameter
[CNR] = No NELAP accreditation required or available
[INF] = Informational only (not NELAC certified)

By relinquishing the samples listed below to Aqua-Tech Laboratories, Inc. (ATL), the client agrees to the following terms. Samples will be analyzed by a method that is within ATL's NELAP fields of accreditation (FoA). Analytes requiring an accredited method that is not within ATL's FoA will be subcontracted to a NELAP lab that is accredited for that method. Clients will be notified of the subcontract lab's details. Other analytes not requiring accreditation will be analyzed by a compendial method. If a specific method is required, the client will note the method in the "Analysis Requested" column. The client approves all method modifications documented by ATL or the subcontract lab.

A current list of ATL's NELAC fields of accreditation and other methods are available on request.

Comments:

G019382 LAB RECEIPT - Y001
Temperature - CT (C): 2.4
Preservation Correct: Yes
Post-Preservatives: N/A
Thermometer ID: 0715672
pH Paper ID: 0802385
rntlwko_A COC 042120.rpt

Field Sample ID	Date	Start Time	End Time	Composite Type	Sample Matrix	Container (Volume - Type - Preservative)	Lab ID
Gonzales WWTP Sludge	6-29-23	1000	- N/A -	Grab	S	[SUB] ANA PCB 0.33LG Sludge Nutrients 1LP Sludge Metals & Hg 1LP PCB 0.33LG	G019382-01
A Fecal SL 7pt Geo Mean Calc SM 9222 D [NEL]							
Cd SL ICP SW846 6020 A [SUB]							
Hg SL CVAA SW846 7471 A [NEL]							
NH3N NP SL TH EPA 350.1 [SUB] [NEL]							
P SL ICP SW846 6010 B [SUB]							
Se SL ICP SW846 6020 A [SUB]							
TVS SL Grav SM2540 G [SUB]							
Zn SL ICP SW846 6020 A [SUB]							
Gonzales WWTP Sludge Part 1	6-29-23	1004	- N/A -	Grab	S	Fecal 0.15L SIP Na2S2O3 TS 0.1LP	G019382-02
A Fecal SL Membrane SM 9222 D [NEL]							
Gonzales WWTP Sludge Part 2	6-29-23	1005	- N/A -	Grab	S	Fecal 0.15L SIP Na2S2O3 TS 0.1LP	G019382-03
A Fecal SL Membrane SM 9222 D [NEL]							
Gonzales WWTP Sludge Part 3	6-29-23	1008	- N/A -	Grab	S	Fecal 0.15L SIP Na2S2O3 TS 0.1LP	G019382-04
A Fecal SL Membrane SM 9222 D [NEL]							
Gonzales WWTP Sludge Part 4	6-29-23	1012	- N/A -	Grab	S	Fecal 0.15L SIP Na2S2O3 TS 0.1LP	G019382-05
A Fecal SL Membrane SM 9222 D [NEL]							



TCEQ LAB ID:
T104704371

Aqua-Tech Laboratories, Inc.
Austin
3512 Montopolis Dr.
Austin, TX 78744
512.301.9559
Bryan
635 Phil Gramm Blvd.
Bryan, TX 77807
979.778.3707

Test results meet all accreditation/certification requirements unless stated otherwise.

Sample Custody

Relinquished (print & sign) ☒ [Signature] Date: 6-29-23 Time: 1030
Received (print & sign) ☒ [Signature] Date: 6-29-23 Time: 1110
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Received (print & sign) ☐ [Signature] Date: [] Time: []

Client: GONZALES, CITY OF

Field Sample ID	Date	Start Time	Date	End Time	Composite Type	Sample Matrix	Container (Checked box indicates bottle arrived in lab) (Volume - Type - Preservative)	Lab ID
Gonzales WWTP Sludge Part 5 A Fecal SL Membrane SM 9222 D [NEL]	6-29-23	1014	- N/A -	- N/A -	Grab	S	☒ A Fecal 0.15L SIP Na2S2O3 ☒ B TS 0.1LP	G019382-06
Gonzales WWTP Sludge Part 6 A Fecal SL Membrane SM 9222 D [NEL]	6-29-23	1016	- N/A -	- N/A -	Grab	S	☒ A Fecal 0.15L SIP Na2S2O3 ☒ B TS 0.1LP	G019382-07
Gonzales WWTP Sludge Part 7 A Fecal SL Membrane SM 9222 D [NEL]	6-29-23	1018	- N/A -	- N/A -	Grab	S	☒ A Fecal 0.15L SIP Na2S2O3 ☒ B TS 0.1LP	G019382-08
Gonzales WWTP WAS A TS SL Grav SM2540 G [NEL]	6-29-23	1020	- N/A -	- N/A -	Grab	S	☒ A TS VS 0.5LP	G019382-09

Project
1064098

AQU1-G

Aqua-Tech Laboratories
John Brien
635 Phil Gramm Blvd.
Bryan, TX 77807-9104

Printed 08/02/2023 8:12

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515-G019382

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1064098_r03_03_ProjectResults	SPL Kilgore Project P:1064098 C:AQU1 Project Results t:304	4
1064098_r03_06_D_ProjectTRRP	SPL Kilgore Project P:1064098 C:AQU1 Project TRRP Results Report for Class D	1
1064098_r03_06_G_ProjectTRRP	SPL Kilgore Project P:1064098 C:AQU1 Project TRRP Results Report for Class G	2
1064098_r03_06_I_ProjectTRRP	SPL Kilgore Project P:1064098 C:AQU1 Project TRRP Results Report for Class I	1
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Total Pages:		25

Email: Kilgore.projectmanager@spl-inc.com



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SAMPLE CROSS REFERENCE

Project

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Sample	Sample ID	Taken	Time	Received
2209731	G019382-01	06/29/2023	10:00:00	06/30/2023

Bottle 01 Client supplied plastic
 Bottle 02 Client Supplied Amber Glass
 Bottle 03 Prepared Bottle: NH3N TRAACS Autosampler Vial (Batch 1070503) Volume: 6.00000 mL <== Derived from 01 (0.5 grams)
 Bottle 04 Prepared Bottle: 2 mL Glass vial (Batch 1071019) Volume: 50.00000 mL <== Derived from 02 (5.0 grams)
 Bottle 05 Prepared Bottle: PCBS 2 mL Autosampler Vial (Batch 1071183) Volume: 10.00000 mL <== Derived from 02 (2.0 grams)
 Bottle 06 Prepared Bottle: ICP Preparation for Metals (Batch 1071176) Volume: 50.00000 mL <== Derived from 01 (2.1 grams)

Method	Bottle	PrepSet	Preparation	QcGroup	Analytical
EPA 8082	05	1071183	07/10/2023	1071406	07/10/2023
EPA 9056	04	1071019	07/07/2023	1071223	07/07/2023
EPA 6020A	06	1071176	07/10/2023	1073213	07/21/2023
EPA 6020A	06	1071176	07/10/2023	1072093	07/13/2023
EPA 6020A	06	1071176	07/10/2023	1072897	07/20/2023
EPA 6010C	06	1071176	07/10/2023	1071418	07/11/2023
EPA 6010C	06	1071176	07/10/2023	1071437	07/11/2023
EPA 350.1 2	03	1070503	07/05/2023	1070601	07/05/2023
SM 2540 G-1997	01	1070841	07/05/2023	1070841	07/05/2023
SM 2540 G-1997	01	1070840	07/05/2023	1070840	07/05/2023

Email: Kilgore.projectmanager@spl-inc.com



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Project
1064098

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515-G019382

RESULTS

Sample Results

2209731 G019382-01

Received: 06/30/2023

Solid & Chemical Materials

Collected by: Client
 Taken: 06/29/2023

Aqua-Tech Laboratori
 10:00:00

PO:

EPA 350.1 2 Prepared: 1070503 07/05/2023 09:29:02 Analyzed 1070601 07/05/2023 12:54:00 AMB

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC Ammonia Nitrogen	1720 *	mg/kg	34.4			03
* Dry Weight Basis						

EPA 6010C Prepared: 1071176 07/10/2023 12:30:00 Analyzed 1071418 07/11/2023 09:05:00 CAS

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC Potassium	2810 *	mg/kg	433		7440-09-7	06

EPA 6010C Prepared: 1071176 07/10/2023 12:30:00 Analyzed 1071437 07/11/2023 10:22:00 CAS

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC Phosphorus	28900 *	mg/kg	867		7723-14-0	06
* Dry Weight Basis						

EPA 6020A Prepared: 1071176 07/10/2023 12:30:00 Analyzed 1072093 07/13/2023 20:38:00 JC2

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC Cadmium, Total	0.807 *	mg/kg	0.867	J	7440-43-9	06
LAC Zinc, Total	498 *	mg/kg	4.33		7440-66-6	06

EPA 6020A Prepared: 1071176 07/10/2023 12:30:00 Analyzed 1072897 07/20/2023 01:48:00 HLT

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC Chromium, Total	15.6 *	mg/kg	0.867		7440-47-3	06
LAC Copper, Total	150 *	mg/kg	0.867		7440-50-8	06
LAC Lead, Total	27.3 *	mg/kg	0.867		7439-92-1	06
LAC Nickel, Total	15.9 *	mg/kg	0.867		7440-02-0	06

EPA 6020A Prepared: 1071176 07/10/2023 12:30:00 Analyzed 1073213 07/21/2023 07:12:00 JC2

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC Arsenic, Total	5.39 *	mg/kg	4.33		7440-38-2	06



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Project
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2209731 G019382-01

Received: 06/30/2023

Solid & Chemical Materials

Collected by: Client
 Taken: 06/29/2023

Aqua-Tech Laboratori
 10:00:00

PO:

EPA 6020A Prepared: 1071176 07/10/2023 12:30:00 Analyzed 1073213 07/21/2023 07:12:00 JC2

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC Molybdenum, Total	7.78 *	mg/kg	2.59		7439-98-7	06
LAC Selenium, Total	5.94 *	mg/kg	0.867		7782-49-2	06

* Dry Weight Basis

EPA 8082 Prepared: 1071183 07/10/2023 10:50:35 Analyzed 1071406 07/10/2023 17:38:00 BLF

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC PCB-1016	<1000 *	ug/kg	1000		12674-11-2	05
LAC PCB-1221	<1000 *	ug/kg	1000		11104-28-2	05
LAC PCB-1232	<1000 *	ug/kg	1000		11141-16-5	05
LAC PCB-1242	<1000 *	ug/kg	1000		53469-21-9	05
LAC PCB-1248	<1000 *	ug/kg	1000		12672-29-6	05
LAC PCB-1254	<1000 *	ug/kg	1000		11097-69-1	05
LAC PCB-1260	<1000 *	ug/kg	1000		11096-82-5	05

* Dry Weight Basis

EPA 9056 Prepared: 1071019 07/07/2023 11:48:12 Analyzed 1071223 07/07/2023 22:54:00 KAP

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC Nitrate-Nitrogen	16.2 *	mg/kg	9.48		14797-55-8	04

* Dry Weight Basis

SM 2540 G-1997 Prepared: 1070840 07/05/2023 14:15:00 Analyzed 1070840 07/05/2023 14:15:00 RC1

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC Volatile Solids	53.5	%	0.100			01

SM 2540 G-1997 Prepared: 1070841 07/05/2023 14:15:00 Analyzed 1070841 07/05/2023 14:15:00 RC1

Parameter	Results	Units	RL	Flags	CAS	Bottle
LAC Total Solids	13.5	%	0.100			01

Sample Preparation



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Aqua-Tech Laboratories
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Project
1064098

Printed: 08/02/2023

2209731 G019382-01

Received: 06/30/2023

06/29/2023

Calculation	Prepared:	08/01/2023	20:11:32	Calculated	08/01/2023	20:11:32	CAL
As Received to Dry Weight Basis	Calculated						
Cooler Return	Prepared:	07/07/2023	16:30:00	Analyzed	07/07/2023	16:30:00	DRS
Return Cooler/No bottles Require	returned						
EPA 3050B	Prepared:	1071176 07/10/2023	12:30:00	Analyzed	1071176 07/10/2023	12:30:00	YES
LAC Solid/Sludge/Soil/Sediment Metal	50/2.14	grams					01
EPA 350.1 2	Prepared:	1070503 07/05/2023	09:29:02	Analyzed	1070503 07/05/2023	09:29:02	REI
LAC Ammonia Distillation	6/0.5173	grams					01
EPA 3550B	Prepared:	1071183 07/10/2023	10:50:35	Analyzed	1071183 07/10/2023	10:50:35	NAZ
LAC PCB Total Sonic Extr. W/Hex Exch	10/2.02	grams					02
EPA 8082	Prepared:	1071183 07/10/2023	10:50:35	Analyzed	1071406 07/10/2023	17:38:00	BLF
LAC Polychlorinated Biphenyls	Entered						05
EPA 9056	Prepared:	1071019 07/07/2023	11:48:12	Analyzed	1071019 07/07/2023	11:48:12	NAZ
Water Extract-Ion Chromatography	50/5.01	grams					02



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Project
1064098

Printed: 08/02/2023

2209731 G019382-01

Received: 06/30/2023

06/29/2023

SM 2540 G-1997

Prepared: 1070578 07/05/2023 14:15:00 Analyzed 1070578 07/05/2023 14:15:00 RCI

ELAC Total Solids Start

Started

Qualifiers:

J - Analyte detected below quantitation limit

We report results on an As Received (or Wet) basis unless marked Dry Weight.

Unless otherwise noted, testing was performed at SPL, Inc. - Kilgore laboratory which holds International, Federal, and state accreditations. Please see our Websites for details.

These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of SPL Kilgore. Unless otherwise specified, these test results meet the requirements of NELAC.

RL is the Reporting Limit (sample specific quantitation limit) and is at or above the Method Detection Limit (MDL). CAS is Chemical Abstract Service number. RL is our Reporting Limit, or Minimum Quantitation Level. The RL takes into account the Instrument Detection Limit (IDL), Method Detection Limit (MDL), and Practical Quantitation Limit (POL), and any dilutions and/or concentrations performed during sample preparation (EQL). Our analytical result must be above this RL before we report a value in the 'Results' column of our report (without a 'J' flag). Otherwise, we report ND (Not Detected above RL), because the result is "<" (less than) the number in the RL column. MAL is Minimum Analytical Level and is typically from regulatory agencies. Unless we report a result in the result column, or interferences prevent it, we work to have our RL at or below the MAL.



Bill Peery, MS, VP Technical Services



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RESULTS

AQUA

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515-G019382

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SP
The Science of Sure

Project

1064098

CAS	Parameter	Results	MDL	SDL	MCL	MCLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials											
2209731	G019382-01	Distillations									
EPA 350.1.2											

Prepared:

1070503

Collection:

06/29/2023

10:00:00

Client

Received:

06/30/2023

Ammonia Nitrogen	1720 *	0.509	17.5	1.00	34.4	mg/kg	03	4.64
* Dry Weight Basis								

MDL is Method Detection Limit (40 CFR 136 Appendix B)

MOL is the Method Quantitation Limit and corresponds to a low standard

Qualifiers:

J - Analyte detected below quantitation limit

We report results on an As Received (or Wet) basis unless marked Dry Weight.

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These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of SRL Kigorie. Unless otherwise specified, these test results meet the requirements of NELAP.

Rodney



Bill Peery, MS, VP Technical Services

Email: Kilgore.projectmanager@spl-inc.com



RESULTS

AQU1

Project
1064098

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515-G019382

Aqua-Tech Laboratories
John Brien
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CAS	Parameter	Results	MDL	SDL	MQL	MQLAdj	Flag	Units	Target	Bottle	Dilute
2209731	Solid & Chemical Materials	Gravimetrics									
	G019382-01								SM 2540 G-1997		

Collection: 06/29/2023 10:00:00 Client Received: 06/30/2023

Prepared:	1070840	Analyzed:	1070840	7/5/23	14:15:00	01	1.00		
Volatile Solids	53.5	0.100	0.100	0.100	0.100	7/5/23	14:15:00	01	1.00
Prepared:	1070841	Analyzed:	1070841	7/5/23	14:15:00	01	1.00		
Total Solids	13.5	0.100	0.100	0.100	0.100	7/5/23	14:15:00	01	1.00

MDL is Method Detection Limit (40 CFR 136 Appendix B)

MQL is the Method Quantitation Limit and corresponds to a low standard

Qualifiers:

SDL is Sample Detection Limit and is the adjusted MDL (sample specific dilutions, dry weight)

MQLAdj is the Adjusted Method Quantitation Limit (dilutions, dry weight)

J - Analyte detected below quantitation limit

We report results on an As Received (or Wet) basis unless marked Dry Weight.

Unless otherwise noted, testing was performed at SPL, Inc. - Kilgore laboratory which holds International, Federal, and state accreditations. Please see our Websites for details.

These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of SPL Kilgore. Unless otherwise specified, these test results meet the requirements of NELAP.

Email: Kilgore.projectmanager@spl-inc.com

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24 Waterway Avenue, Suite 375 The Woodlands, TX 77380
Office: 903-984-0551 * Fax: 903-984-5914

RESULTS

AQU1

Aqua-Tech Laboratories
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Bryan, TX 77807-9104

Bill Peery

Bill Peery, MS, VP Technical Services



SPL
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RESULTS

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AQU1

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515-G019382

Project
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CAS	Parameter	Results	MDL	SDL	MOL	MOLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials											
2209731	G019382-01	Ion Chromatography									
EPA 9056											

Collection: 06/29/2023 10:00:00 Client Received: 06/30/2023

Prepared: 1071019

14797-55-8	Nitrate-Nitrogen	16.2 *	0.0256	9.48	0.0256	9.48	7/7/23	22:54:00	04	49.90
* Dry Weight Basis										

MDL is Method Detection Limit (40 CFR 336 Appendix B)

MOL is the Method Quantitation Limit and corresponds to a low standard
Qualifiers:

J - Analyte detected below quantitation limit

We report results on an As Received (or Wet) basis unless marked Dry Weight.

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Bill Peery



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RESULTS

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AQU1

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Project
1064098

CAS	Parameter	Results	MDL	SDL	MOL	MOLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials											
2209731	G019382-01	EPA 6010C									

Prepared: 1071176

Collection: 06/29/2023 10:00:00 Client Received: 06/30/2023

7440-09-7	Potassium	2810 *	0.111	Analyzed: 96.3	0.500	1071418	433	7/11/23	09:05:00	06	117.00
7723-14-0	Phosphorus	28900 *	0.00734	Analyzed: 63.5	0.100	1071437	867	7/11/23	10:22:00	06	1170.00
* Dry Weight Basis											

Solid & Chemical Materials											
2209731	G019382-01	EPA 6020A									

Prepared: 1071176

Collection: 06/29/2023 10:00:00 Client Received: 06/30/2023

7440-43-9	Cadmium, Total	0.807 *	0.000223	Analyzed: 0.193	0.001	1072093	0.867	7/13/23	20:38:00	06	117.00
7440-66-6	Zinc, Total	498 *	0.000432	0.374	0.005	433	J	mg/kg	2400	06	117.00
7440-47-3	Chromium, Total	15.6 *	0.000409	0.354	0.001	1072897	0.867	7/20/23	01:48:00	06	117.00
7440-50-8	Copper, Total	150 *	0.000242	0.210	0.001	0.867	0.867	mg/kg	2400	06	117.00
7439-92-1	Lead, Total	27.3 *	0.000262	0.227	0.001	0.867	0.867	mg/kg	1000	06	117.00
7440-02-0	Nickel, Total	15.9 *	0.000287	0.248	0.001	0.867	0.867	mg/kg	630	06	117.00
7440-38-2	Arsenic, Total	5.39 *	0.000917	Analyzed: 0.793	0.005	1073213	433	7/21/23	07:12:00	06	117.00

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RESULTS

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AQU1

Project
1064098

Printed 08/02/2023
SIS-G019382

Aqua-Tech Laboratories
John Brien
635 Phil Gramm Blvd.
Bryan, TX 77807-9104

CAS	Parameter	Results	MDL	SDL	MOL	MOLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials											
7439-98-7	Molybdenum, Total	7.78 *	0.000865	0.748	0.003	2.59		mg/Kg	155	06	117.00
7782-49-2	Selenium, Total	5.94 *	0.000353	0.305	0.001	0.867		mg/Kg	2.30	06	117.00
* Dry Weight Basis											

MDL is Method Detection Limit (40 CFR 136 Appendix B)

MOL is the Method Quantitation Limit and corresponds to a low standard

Qualifiers:

J - Analyte detected below quantitation limit

We report results on an As Received (or Wet) basis unless marked Dry Weight.

Unless otherwise noted, testing was performed at SPL, Inc. - Kilgore laboratory which holds International, Federal, and state accreditations. Please see our Websites for details.
These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of SPL Kilgore. Unless otherwise specified, these test results meet the requirements of NELAP.

Bill Peery



Bill Peery, MS, VP Technical Services

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515-G019382

Project
1064098

CAS	Parameter	Results	MDL	SDL	MOL	MOLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials		Organics									
2209731	G019382-01	EPA 8082									

Collection: 06/29/2023 10:00:00 Client Received: 06/30/2023

Prepared: 1071183

		Analyzed:	1071406	7/10/23	17:38:00						
12674-11-2	PCB-1016	ND *	43.0	315	250	1000	ug/kg	1140	05	0.99	
11104-28-2	PCB-1221	ND *	43.0	315	250	1000	ug/kg	1140	05	0.99	
11141-16-5	PCB-1232	ND *	43.0	315	250	1000	ug/kg	1140	05	0.99	
53469-21-9	PCB-1242	ND *	43.0	315	250	1000	ug/kg	1140	05	0.99	
12672-29-6	PCB-1248	ND *	43.0	315	250	1000	ug/kg	1140	05	0.99	
11097-69-1	PCB-1254	ND *	43.0	315	250	1000	ug/kg	1140	05	0.99	
11096-82-5	PCB-1260	ND *	43.0	315	250	1000	ug/kg	1140	05	0.99	

* Dry Weight Basis

MDL is Method Detection Limit (40 CFR 136 Appendix B)

MOL is the Method Quantitation Limit and corresponds to a low standard

Qualifiers:

J - Analyte detected below quantitation limit

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Unless otherwise noted, testing was performed at SPL, Inc. - Kilgore laboratory which holds International, Federal, and state accreditations. Please see our Websites for details.
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RESULTS

AQU1

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QUALITY CONTROL



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AQU1-G

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Project

1064098

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Analytical Set 1070601

EPA 350.1 2

Blank

<u>Parameter</u>	<u>PrepSet</u>	<u>Reading</u>	<u>MDL</u>	<u>MQL</u>	<u>Units</u>	<u>File</u>
Ammonia Nitrogen	1070503	ND	0.509	1.00	mg/kg	125157932

CCV

<u>Parameter</u>	<u>Reading</u>	<u>Known</u>	<u>Units</u>	<u>Recover%</u>	<u>Limits%</u>	<u>File</u>
Ammonia Nitrogen	2.17	2.00	mg/kg	108	90.0 - 110	125157931
Ammonia Nitrogen	2.18	2.00	mg/kg	109	90.0 - 110	125157936
Ammonia Nitrogen	2.18	2.00	mg/kg	109	90.0 - 110	125157942
Ammonia Nitrogen	2.19	2.00	mg/kg	110	90.0 - 110	125157944

Duplicate

<u>Parameter</u>	<u>Sample</u>	<u>Result</u>	<u>Unknown</u>	<u>Unit</u>	<u>RPD</u>	<u>Limit%</u>
Ammonia Nitrogen	2209589	365	381	mg/kg	4.29	20.0

ICV

<u>Parameter</u>	<u>Reading</u>	<u>Known</u>	<u>Units</u>	<u>Recover%</u>	<u>Limits%</u>	<u>File</u>
Ammonia Nitrogen	2.19	2.00	mg/kg	110	90.0 - 110	125157930

LCS Dup

<u>Parameter</u>	<u>PrepSet</u>	<u>LCS</u>	<u>LCSD</u>	<u>Known</u>	<u>Limits%</u>	<u>LCS%</u>	<u>LCSD%</u>	<u>Units</u>	<u>RPD</u>	<u>Limit%</u>
Ammonia Nitrogen	1070503	103	105	100	90.0 - 110	103	105	mg/kg	1.92	20.0

Mat. Spike

<u>Parameter</u>	<u>Sample</u>	<u>Spike</u>	<u>Unknown</u>	<u>Known</u>	<u>Units</u>	<u>Recovery %</u>	<u>Limits %</u>	<u>File</u>	
Ammonia Nitrogen	2209589	405	381	99.9	mg/kg	24.0	80.0 - 120	125157940	*

Unknown

<u>Parameter</u>
Ammonia Nitrogen

Analytical Set 1070840

SM 2540 G-1997

ControlBk

<u>Parameter</u>	<u>PrepSet</u>	<u>Reading</u>	<u>MDL</u>	<u>MQL</u>	<u>Units</u>	<u>File</u>
Volatile Solids	1070840	0.0001			grams	125162288

Duplicate

<u>Parameter</u>	<u>Sample</u>	<u>Result</u>	<u>Unknown</u>	<u>Unit</u>	<u>RPD</u>	<u>Limit%</u>
Volatile Solids	2209366	63.7	63.9	%	0.313	20.0

Analytical Set 1070841

SM 2540 G-1997

ControlBk

<u>Parameter</u>	<u>PrepSet</u>	<u>Reading</u>	<u>MDL</u>	<u>MQL</u>	<u>Units</u>	<u>File</u>
Total Solids	1070841	0.0001			grams	125162295

Duplicate

<u>Parameter</u>	<u>Sample</u>	<u>Result</u>	<u>Unknown</u>	<u>Unit</u>	<u>RPD</u>	<u>Limit%</u>
Total Solids	2209366	0.532	0.532	%	0	20.0



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Analytical Set 1071223

EPA 9056

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Nitrate-Nitrogen	1071019	ND	0.0256	0.00256	mg/kg	125175022

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Nitrate-Nitrogen	2.04	2.26	mg/kg	90.3	90.0 - 110	125175021
Nitrate-Nitrogen	2.06	2.26	mg/kg	91.2	90.0 - 110	125175037
Nitrate-Nitrogen	2.05	2.26	mg/kg	90.7	90.0 - 110	125175045

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Nitrate-Nitrogen	1071019	0.987	0.974	1.13	75.0 - 120	87.3	86.2	mg/kg	1.33	20.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Nitrate-Nitrogen	2208015	2.62	2.72	0.535	2.26	80.0 - 120	92.7	97.1	mg/kg	4.68	20.0

Analytical Set 1071418

EPA 6010C

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Potassium	1071176	ND	0.111	0.500	mg/kg	125181405

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Potassium	25.2	25.0	mg/kg	101	90.0 - 110	125181404
Potassium	23.5	25.0	mg/kg	94.0	90.0 - 110	125181413
Potassium	23.1	25.0	mg/kg	92.4	90.0 - 110	125181420
Potassium	23.3	25.0	mg/kg	93.2	90.0 - 110	125181429

ICL

Parameter	Reading	Known	Units	Recover%	Limits%	File
Potassium	49.7	50.0	mg/kg	99.4	95.0 - 105	125181398

ICV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Potassium	24.5	25.0	mg/kg	98.0	90.0 - 110	125181402

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Potassium	1071176	24.3	24.4	25.0	78.0 - 116	97.2	97.6	mg/kg	0.411	25.0

LDR

Parameter	Reading	Known	Units	Recover%	Limits%	File
Potassium	102	100	mg/kg	102	90.0 - 110	125181399

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
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MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Potassium	2209357	1300	1280	367	576	33.6 - 179	166	163	mg/kg	2.17	25.0
Potassium	2209589	1050	1160	430	590	33.6 - 179	106	124	mg/kg	16.3	25.0

Analytical Set

1071437

EPA 6010C

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Phosphorus	1071176	ND	0.00734	0.100	mg/kg	125181769

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Phosphorus	0.998	1.00	mg/kg	99.8	90.0 - 110	125181757
Phosphorus	1.03	1.00	mg/kg	103	90.0 - 110	125181768
Phosphorus	1.02	1.00	mg/kg	102	90.0 - 110	125181777
Phosphorus	1.03	1.00	mg/kg	103	90.0 - 110	125181783

ICL

Parameter	Reading	Known	Units	Recover%	Limits%	File
Phosphorus	25.1	25.0	mg/kg	100	95.0 - 105	125181755

ICV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Phosphorus	1.03	1.00	mg/kg	103	90.0 - 110	125181756

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Phosphorus	1071176	19.6	19.6	20.0	80.0 - 120	98.0	98.0	mg/kg	0	25.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Phosphorus	2209357	4490	4540	3860	461	23.3 - 179	141	152	mg/kg	7.63	25.0
Phosphorus	2209589	2980	3000	2460	472	23.3 - 179	111	115	mg/kg	3.77	25.0

Analytical Set

1072093

EPA 6020A

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Arsenic, Total	1071176	0.00152	0.000492	0.002	mg/kg	125199096
Cadmium, Total	1071176	ND	0.000223	0.001	mg/kg	125199096
Copper, Total	1071176	0.00234	0.000618	0.001	mg/kg	125199096
Selenium, Total	1071176	0.0018	0.000835	0.003	mg/kg	125199096
Zinc, Total	1071176	0.00248	0.000432	0.005	mg/kg	125199096

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Cadmium, Total	0.0488	0.05	mg/kg	97.6	90.0 - 110	125199067
Cadmium, Total	0.0473	0.05	mg/kg	94.6	90.0 - 110	125199074
Cadmium, Total	0.046	0.05	mg/kg	92.0	90.0 - 110	125199081
Cadmium, Total	0.0475	0.05	mg/kg	95.0	90.0 - 110	125199087



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CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Cadmium, Total	0.0475	0.05	mg/kg	95.0	90.0 - 110	125199093
Cadmium, Total	0.0477	0.05	mg/kg	95.4	90.0 - 110	125199099
Cadmium, Total	0.0495	0.05	mg/kg	99.0	90.0 - 110	125199103
Cadmium, Total	0.0468	0.05	mg/kg	93.6	90.0 - 110	125199109
Cadmium, Total	0.0456	0.05	mg/kg	91.2	90.0 - 110	125199116
Cadmium, Total	0.0484	0.05	mg/kg	96.8	90.0 - 110	125199123
Cadmium, Total	0.051	0.05	mg/kg	102	90.0 - 110	125199129
Cadmium, Total	0.0485	0.05	mg/kg	97.0	90.0 - 110	125199133
Cadmium, Total	0.0463	0.05	mg/kg	92.6	90.0 - 110	125199140
Zinc, Total	0.0481	0.05	mg/kg	96.2	90.0 - 110	125199093
Zinc, Total	0.0508	0.05	mg/kg	102	90.0 - 110	125199099
Zinc, Total	0.0501	0.05	mg/kg	100	90.0 - 110	125199103
Zinc, Total	0.0473	0.05	mg/kg	94.6	90.0 - 110	125199109
Zinc, Total	0.0477	0.05	mg/kg	95.4	90.0 - 110	125199123
Zinc, Total	0.052	0.05	mg/kg	104	90.0 - 110	125199129
Zinc, Total	0.0473	0.05	mg/kg	94.6	90.0 - 110	125199133
Zinc, Total	0.047	0.05	mg/kg	94.0	90.0 - 110	125199140

ICV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Cadmium, Total	0.0502	0.05	mg/kg	100	90.0 - 110	125199059
Zinc, Total	0.0512	0.05	mg/kg	102	90.0 - 110	125199059

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Arsenic, Total	1071176	2.28	2.31	2.50	80.0 - 120	91.2	92.4	mg/kg	1.31	20.0
Cadmium, Total	1071176	1.30	1.46	1.25	80.0 - 120	104	117	mg/kg	11.6	20.0
Copper, Total	1071176	2.57	2.62	2.50	80.0 - 120	103	105	mg/kg	1.93	20.0
Selenium, Total	1071176	2.10	2.13	2.50	80.0 - 120	84.0	85.2	mg/kg	1.42	20.0
Zinc, Total	1071176	2.62	2.86	2.50	80.0 - 120	105	114	mg/kg	8.76	20.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Arsenic, Total	2209357	10.3	11.3	ND	57.6	67.5 - 123	18.4 *	20.1 *	mg/kg	9.26	20.0
Cadmium, Total	2209357	5.95	5.51	ND	28.8	86.3 - 114	21.2 *	19.7 *	mg/kg	7.68	20.0
Copper, Total	2209357	24.3	25.9	ND	57.6	40.4 - 145	43.3	46.2	mg/kg	6.37	20.0
Selenium, Total	2209357	10.0	11.0	ND	57.6	63.9 - 122	17.8 *	19.6 *	mg/kg	9.52	20.0
Zinc, Total	2209357	33.0	29.4	ND	57.6	28.6 - 157	58.8	52.4	mg/kg	11.5	20.0
Arsenic, Total	2209589	10.1	10.3	ND	59.0	67.5 - 123	17.2 *	17.5 *	mg/kg	1.96	20.0
Cadmium, Total	2209589	5.82	5.83	ND	29.5	86.3 - 114	19.9 *	19.9 *	mg/kg	0.172	20.0
Copper, Total	2209589	27.1	28.1	ND	59.0	40.4 - 145	46.2	47.9	mg/kg	3.62	20.0

Analytical Set 1072897

EPA 6020A

Blank

Parameter	PrepSet	Reading	MDL	MDL	Units	File
Chromium, Total	1071176	0.000435	0.000409	0.001	mg/kg	125223127



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QUALITY CONTROL



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Parameter	PrepSet	Reading	MDL	MQL	Units	File
Copper, Total	1071176	ND	0.000242	0.001	mg/kg	125223127
Lead, Total	1071176	ND	0.000262	0.001	mg/kg	125223127
Nickel, Total	1071176	ND	0.000287	0.001	mg/kg	125223127

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Chromium, Total	0.0541	0.05	mg/kg	108	90.0 - 110	125223123
Chromium, Total	0.054	0.05	mg/kg	108	90.0 - 110	125223128
Chromium, Total	0.0533	0.05	mg/kg	107	90.0 - 110	125223137
Chromium, Total	0.054	0.05	mg/kg	108	90.0 - 110	125223150
Chromium, Total	0.0541	0.05	mg/kg	108	90.0 - 110	125223161
Copper, Total	0.055	0.05	mg/kg	110	90.0 - 110	125223123
Copper, Total	0.0543	0.05	mg/kg	109	90.0 - 110	125223128
Copper, Total	0.0547	0.05	mg/kg	109	90.0 - 110	125223137
Copper, Total	0.0545	0.05	mg/kg	109	90.0 - 110	125223150
Lead, Total	0.0527	0.05	mg/kg	105	90.0 - 110	125223128
Lead, Total	0.0544	0.05	mg/kg	109	90.0 - 110	125223137
Lead, Total	0.0531	0.05	mg/kg	106	90.0 - 110	125223150
Lead, Total	0.0538	0.05	mg/kg	108	90.0 - 110	125223161
Lead, Total	0.0533	0.05	mg/kg	107	90.0 - 110	125223171
Lead, Total	0.0535	0.05	mg/kg	107	90.0 - 110	125223176
Nickel, Total	0.0548	0.05	mg/kg	110	90.0 - 110	125223128
Nickel, Total	0.0545	0.05	mg/kg	109	90.0 - 110	125223137
Nickel, Total	0.0546	0.05	mg/kg	109	90.0 - 110	125223150
Nickel, Total	0.0546	0.05	mg/kg	109	90.0 - 110	125223161
Nickel, Total	0.0551	0.05	mg/kg	110	90.0 - 110	125223171
Nickel, Total	0.055	0.05	mg/kg	110	90.0 - 110	125223176

ICV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Chromium, Total	0.0508	0.05	mg/kg	102	90.0 - 110	125222985
Copper, Total	0.0531	0.05	mg/kg	106	90.0 - 110	125222985
Lead, Total	0.0538	0.05	mg/kg	108	90.0 - 110	125222985
Nickel, Total	0.0539	0.05	mg/kg	108	90.0 - 110	125222985

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Chromium, Total	1071176	2.49	2.50	2.50	80.0 - 120	99.6	100	mg/kg	0.401	20.0
Copper, Total	1071176	2.52	2.54	2.50	80.0 - 120	101	102	mg/kg	0.791	20.0
Lead, Total	1071176	2.48	2.47	2.50	80.0 - 120	99.2	98.8	mg/kg	0.404	20.0
Nickel, Total	1071176	2.56	2.57	2.50	80.0 - 120	102	103	mg/kg	0.390	20.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Chromium, Total	2209357	60.6	61.8	ND	57.6	80.1 - 122	108	110	mg/kg	1.96	20.0
Copper, Total	2209357	118	117	ND	57.6	40.4 - 145	210 *	209 *	mg/kg	0.851	20.0



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QUALITY CONTROL



SPL
The Science of Sure

Page 6 of 8

AQU1-G

Aqua-Tech Laboratories
John Brien
635 Phil Gramm Blvd.
Bryan, TX 77807-9104

Project

1064098

Printed 08/02/2023

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Lead, Total	2209357	56.7	58.2	ND	57.6	78.8 - 123	101	104	mg/kg	2.61	20.0
Nickel, Total	2209357	59.3	60.5	ND	57.6	76.5 - 121	106	108	mg/kg	2.00	20.0
Chromium, Total	2209589	64.0	63.7	ND	59.0	80.1 - 122	109	109	mg/kg	0.470	20.0
Copper, Total	2209589	144	146	ND	59.0	40.4 - 145	245 *	249 *	mg/kg	1.38	20.0
Lead, Total	2209589	62.9	62.8	ND	59.0	78.8 - 123	107	107	mg/kg	0.159	20.0
Nickel, Total	2209589	64.7	65.5	ND	59.0	76.5 - 121	110	112	mg/kg	1.23	20.0

Analytical Set

1073213

EPA 6020A

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Arsenic, Total	1071176	ND	0.000917	0.005	mg/kg	125231398
Copper, Total	1071176	0.000468	0.000242	0.001	mg/kg	125231398
Lead, Total	1071176	ND	0.000262	0.001	mg/kg	125231398
Molybdenum, Total	1071176	ND	0.000865	0.003	mg/kg	125231398
Nickel, Total	1071176	ND	0.000287	0.001	mg/kg	125231398
Selenium, Total	1071176	ND	0.000353	0.001	mg/kg	125231398

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Arsenic, Total	0.054	0.05	mg/kg	108	90.0 - 110	125231390
Arsenic, Total	0.0549	0.05	mg/kg	110	90.0 - 110	125231400
Arsenic, Total	0.0527	0.05	mg/kg	105	90.0 - 110	125231406
Molybdenum, Total	0.0534	0.05	mg/kg	107	90.0 - 110	125231400
Molybdenum, Total	0.0508	0.05	mg/kg	102	90.0 - 110	125231406
Selenium, Total	0.0549	0.05	mg/kg	110	90.0 - 110	125231400
Selenium, Total	0.0516	0.05	mg/kg	103	90.0 - 110	125231406

ICV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Arsenic, Total	0.0532	0.05	mg/kg	106	90.0 - 110	125231382
Molybdenum, Total	0.0519	0.05	mg/kg	104	90.0 - 110	125231382
Selenium, Total	0.0521	0.05	mg/kg	104	90.0 - 110	125231382

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Arsenic, Total	1071176	2.24	2.29	2.50	80.0 - 120	89.6	91.6	mg/kg	2.21	20.0
Copper, Total	1071176	2.30	2.35	2.50	80.0 - 120	92.0	94.0	mg/kg	2.15	20.0
Lead, Total	1071176	2.22	2.28	2.50	80.0 - 120	88.8	91.2	mg/kg	2.67	20.0
Molybdenum, Total	1071176	2.31	2.36	2.50	80.0 - 120	92.4	94.4	mg/kg	2.14	20.0
Nickel, Total	1071176	2.29	2.38	2.50	80.0 - 120	91.6	95.2	mg/kg	3.85	20.0
Selenium, Total	1071176	2.15	2.19	2.50	80.0 - 120	86.0	87.6	mg/kg	1.84	20.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Arsenic, Total	2209357	51.3	52.3	ND	57.6	67.5 - 123	91.4	93.2	mg/kg	1.93	20.0
Copper, Total	2209357	112	111	ND	57.6	40.4 - 145	200 *	198 *	mg/kg	0.897	20.0



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QUALITY CONTROL

AQU1-G

Aqua-Tech Laboratories
John Brien
635 Phil Gramm Blvd.
Bryan, TX 77807-9104

Project

1064098

Printed 08/02/2023

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Lead, Total	2209357	52.1	53.6	ND	57.6	78.8 - 123	92.9	95.5	mg/kg	2.84	20.0
Molybdenum, Total	2209357	53.7	55.0	ND	57.6	62.9 - 137	95.7	98.0	mg/kg	2.39	20.0
Nickel, Total	2209357	55.5	56.6	ND	57.6	76.5 - 121	98.9	101	mg/kg	1.96	20.0
Selenium, Total	2209357	49.5	50.5	ND	57.6	63.9 - 122	88.2	90.0	mg/kg	2.00	20.0

Analytical Set

1071406

EPA 8082

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
PCB-1016	1071183	ND	43.0	250	ug/kg	125181179
PCB-1221	1071183	ND	43.0	250	ug/kg	125181179
PCB-1232	1071183	ND	43.0	250	ug/kg	125181179
PCB-1242	1071183	ND	43.0	250	ug/kg	125181179
PCB-1248	1071183	ND	43.0	250	ug/kg	125181179
PCB-1254	1071183	ND	43.0	250	ug/kg	125181179
PCB-1260	1071183	ND	43.0	250	ug/kg	125181179

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
PCB-1016	1190	1000	ug/kg	119	80.0 - 120	125181178
PCB-1016	1180	1000	ug/kg	118	80.0 - 120	125181192
PCB-1260	1070	1000	ug/kg	107	80.0 - 120	125181178
PCB-1260	1090	1000	ug/kg	109	80.0 - 120	125181192

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
PCB-1016	1071183	7360	7350	5000	28.4 - 187	147	147	ug/kg	0	30.0
PCB-1260	1071183	7800	7990	5000	22.3 - 183	156	160	ug/kg	2.53	30.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
PCB-1016	2210038	6390	6510	ND	10000	0.100 - 427	63.9	65.1	ug/kg	1.86	30.0
PCB-1260	2210038	6460	6480	ND	10000	0.100 - 470	64.6	64.8	ug/kg	0.309	30.0

Surrogate

Parameter	Sample	Type	Reading	Known	Units	Recover%	Limits%	File
Decachlorobiphenyl	1071183	Blank	216	100	ug/kg	216 *	10.0 - 200	125181179
Tetrachloro-m-Xylene (Surr)	1071183	Blank	212	100	ug/kg	212 *	10.0 - 160	125181179
Decachlorobiphenyl	2209731	Unknown	473	495	ug/kg	95.6	10.0 - 200	125181184
Tetrachloro-m-Xylene (Surr)	2209731	Unknown	512	495	ug/kg	103	10.0 - 160	125181184

* Out RPD is Relative Percent Difference: $\frac{\text{abs}(r1-r2)}{\text{mean}(r1,r2)} * 100\%$

Recover% is Recovery Percent: $\frac{\text{result}}{\text{known}} * 100\%$



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QUALITY CONTROL



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AQU1-G

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Project

1064098

Printed 08/02/2023

Blank - Method Blank (reagent water or other blank matrices that contains all reagents except standard(s) and is processed simultaneously with and under the same conditions as samples; carried through preparation and analytical procedures exactly like a sample; monitors); CCV - Continuing Calibration Verification (same standard used to prepare the curve; typically a mid-range concentration; verifies the continued validity of the calibration curve); ICV - Initial Calibration Verification; LCS Dup - Laboratory Control Sample Duplicate (replicate LCS; analyzed when there is insufficient sample for duplicate or MSD; quantifies accuracy and precision.); MSD - Matrix Spike Duplicate (replicate of the matrix spike; same solution and amount of target analyte added to the MS is added to a third aliquot of sample; quantifies matrix bias and precision.); Surrogate - Surrogate (mimics the analyte of interest but is unlikely to be found in environmental samples; added to analytical samples for QC purposes).

**ANSI/ASQC E4 1994 Ref #4 TRADE QA Resources Guide.); LDR - Linear Dynamic Range Standard



Report Page 22 of 26



ATL - Bryan Facility:
635 Phil Gramm Blvd
Bryan, TX 77807
(979) 778-3707
Fax (979) 778-3193

ATL - Austin Facility:
3512 Montopolis Drive
Austin, TX 78744
(512) 301-9559
Fax (512) 301-9552

Chain-of-Custody & Analysis Request

SHIPPED TO:

Ana-Lab Corp. (NELAP Cert. T104704201)
2600 Dudley Road
Kilgore, TX 75662
Phone: (903) 984-0551
Fax: (903) 984-5914

C-O-C #

515 - G019382

T104704571

All analyses must be performed by a TNI approved method certified by the TCEQ. Contact ATL's sample custodian via voice and email if your methods do not meet this criteria.

Page 1 of 3

Analysis Request for:

Sample ID: G019382-01

Sampled: 06/29/23 10:00

Matrix: Solid

Laboratory ID >>

NH3N SL SUB - EPA 350.1 R2.0
As SL - EPA 6020A
Ni SL - EPA 6020A
TS - SM2540 G 2015

K - EPA 6010B 1996
Cd SL - EPA 6020A
Pb SL - EPA 6020A
TVS - SM2540 G 2015

Mo SL - EPA 6010B 1996
Cr SL - EPA 6020A
Se SL - EPA 6020A
PCB - SW846 8082

P - EPA 6010B 1996
Cu SL - EPA 6020A
Zn SL - EPA 6020A
NO3N - SW-846 9056

CONTAINERS SUPPLIED:

() G019382-01 [A] - (SUB) ANA PGB 0.33LG

() G019382-01 [B] - Sludge Nutrients 1LP

See next page(s) for list of analytes requested.

Requested by: (print & sign) ☒ ATL-Austin ☐ ATL-Bryan ☐ Sampler		Date	Time	Received	Abbreviations:
Kaitlyn Johnson		6/29/23	10:30	☒ Received	DW - Drinking Water
Carrier & Tracking Number: Fed Ex				☐ Not Chilled	NP - Non-Potable Water
Cooler 1: AQUA-901 FedEx 7724 9473 7385				☐ Sample Info	SIP - Sterile Plastic
Received by (print & sign) ☒ Received in Lab		Date	Time	☐ Received	LP - Litter Plastic
Jennifer Garrett SPC, Inc.		6/30/23	10:00	☐ CTU	LG - Litter Glass
Line below documents conditions of receipt in lab (shipped to) listed above.		Please email reports to: reporting@aquatechlabs.com			
Cooler Temperature (°C)	Temp Read (°F)	Corrected Temp (°C)	Thermometer ID	Please return cooler(s) to:	
				Austin Facility	
Cooler 1					
N/A	N/A	N/A			



ATL - Bryan Facility:
635 Phil Gramm Blvd.
Bryan, TX 77807
(979) 778-3707
Fax (979) 778-3193

ATL - Austin Facility:
3512 Montopolis Drive
Austin, TX 78744
(512) 301-9559
Fax (512) 301-9552

C:\ELMNTV\Printisco_ATL_120522.rpt

Chain-of-Custody & Analysis Request

C-O-C#

515 - G019382

1104/04571

Page 2 of 3

All analyses must be performed by a TNI approved method certified by the TCEQ. Contact ATL's sample custodian via voice and email if your methods do not meet this criteria.

Analytes Requested for Multiple Component Tests

G019382-01

TS SM2540 G 2015			
% Solids			
As SL EPA 6020A	As SL EPA 6020A	As SL EPA 6020A	As SL EPA 6020A
Cd SL EPA 6020A	Cd SL EPA 6020A	Cd SL EPA 6020A	Cd SL EPA 6020A
Cr SL EPA 6020A	Cr SL EPA 6020A	Cr SL EPA 6020A	Cr SL EPA 6020A
Cu SL EPA 6020A	Cu SL EPA 6020A	Cu SL EPA 6020A	Cu SL EPA 6020A
K EPA 6010B 1996	K EPA 6010B 1996	K EPA 6010B 1996	K EPA 6010B 1996
Mo SL EPA 6010B 1996	Mo SL EPA 6010B 1996	Mo SL EPA 6010B 1996	Mo SL EPA 6010B 1996
NH3N SL SUB EPA 350.1 R2.0	NH3N SL SUB EPA 350.1 R2.0	NH3N SL SUB EPA 350.1 R2.0	NH3N SL SUB EPA 350.1 R2.0
Ni SL EPA 6020A	Ni SL EPA 6020A	Ni SL EPA 6020A	Ni SL EPA 6020A
NO3N SW-846 9056	NO3N SW-846 9056	NO3N SW-846 9056	NO3N SW-846 9056
P EPA 6010B 1996	P EPA 6010B 1996	P EPA 6010B 1996	P EPA 6010B 1996
Pb SL EPA 6020A	Pb SL EPA 6020A	Pb SL EPA 6020A	Pb SL EPA 6020A
PCB SW846 8082	PCB SW846 8082	PCB SW846 8082	PCB SW846 8082
PCB-1016	PCB-1016	PCB-1016	PCB-1016
PCB-1248	PCB-1248	PCB-1248	PCB-1248
PCB-1221	PCB-1221	PCB-1221	PCB-1221
PCB-1254	PCB-1254	PCB-1254	PCB-1254
PCB-1232	PCB-1232	PCB-1232	PCB-1232
PCB-1260	PCB-1260	PCB-1260	PCB-1260
PCB-1242	PCB-1242	PCB-1242	PCB-1242



ATL - Bryan Facility:
635 Phil Gramm Blvd.
Bryan, TX 77807
(979) 778-3707
Fax (979) 778-3193

ATL - Austin Facility:
3512 Montopolis Drive
Austin, TX 78744
(512) 301-9559
Fax (512) 301-9552

C:\ELMNT\Printisco_ATL 120522.rpt

Chain-of-Custody & Analysis Request

C-O-C #

515 - G019382

T104704571

Page 3 of 3

All analyses must be performed by a TNI approved method certified by the TCEQ. Contact ATL's sample custodian via voice and email if your methods do not meet this criteria.

Analytes Requested for Multiple Component Tests

Se SL EPA 6020A

Selenium

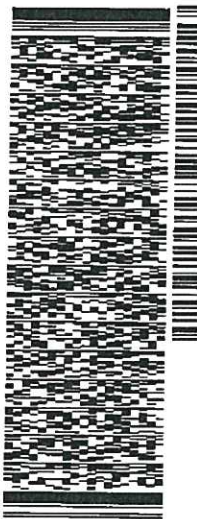
TVS SM2540 G 2015

Total Volatile Solids

Zn SL EPA 6020A

Zinc

1064098 CoC Print Group 001 of 001

ORIGIN ID: AUSA (512) 301-9559 KATLYN JOHNSON AQUA-TECH LAB 3512 MONTOPOLIS DR. SUITE A AUSTIN, TX 78735 UNITED STATES US		SHIP DATE: 19 JUN 23 ACT WGT: 30.00 LB CAD: 5912604/NET 4610 DIMS: 25x14x14 IN BILL SENDER
TO LOGIN ANA-LAB CORP - CORP 2600 DUDLEY RD KILGORE TX 75662 (903) 984-0551 REF: MENO PO DEPT		
		
		
583.02/29AB/FE20		
TRK# 7724 9473 7385 0201	TUE - 20 JUN 4:30P STANDARD OVERNIGHT	AH GCGA TX-US 75662 SHV
		
Date: 10/30/23 Temp: 101.10 Therm #: 6443 Corr Fact: 0.0 C		

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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DOUCET

Attachment L

Hydrologic Characteristics

Hydrologic Characteristics

- a. The land application site is located in the Carrizo-Wilcox Aquifer, Sparta Aquifer, and the Queen City Aquifer per report 345 of the Texas Water Development Board.
- b. Per TWDB WDI, it appears the site overlies the Yegua-Jackson Aquifer.
- c. The Geologic Atlas of Texas, Sequin Sheet shows the land application site to fall in the Yegua Formation.
- d. The only feature on the site that exhibits a direct hydrologic connection between surface and subsurface water is a well that has been previously plugged (See Attachment M – Well Plug Report).
- e. There are no known periods of seasonal perched or high water table. According to the NRCS soil data, the depth to water table is always greater than 200 cm.



DOUCET

Attachment M

Well Plug Report

Texas Department of License and Regulation

Water Well Drilled/Pump Installer Program
P.O. Box 12157 Austin, Texas 78711 (512)463-7880 FAX (512)463 8818

Email address: water.well@license.state.tx.us

This form must be completed and filed with the department within 30 days following the plugging of the well.

PLUGGING REPORT

A. WELL IDENTIFICATION AND LOCATION DATA

1) OWNER		Name		Address		City		State		Zip	
		City of Gonzales		P.O. Box 547		Gonzales		TX		7862	

2) LOCATION		County		Physical Address		City		State		Zip	
		Gonzales		1916 St. Joseph St		Gonzales		TX		7862	

3) Owner's Well No.		N/A		Long. 97 24 10		Lat. 29 31 11		Grid #		N/A	
---------------------	--	-----	--	--------------------	--	-------------------	--	--------	--	-----	--

4) Type of Well		☒ Water		☐ Monitor		☐ Injection		☐ De-Watering		5) 3' concrete 6' brick lined	
-----------------	--	---	--	----------------------------------	--	------------------------------------	--	--------------------------------------	--	-------------------------------------	--

Drill, Pump Installer, or Landowner performing the plugging operations must locate and identify the location of the well with a specific grid on a full scale gridded map available from Texas Natural Resource Information Service. The location of the well should be denoted within the grid by placing a corresponding dot in the square to the right. The legal description is optional.

6) Driller UNKNOWN/HAND DUG WELL License No. N/A

7) Drilled <u>UNKNOWN</u>		8) Diameter of hole <u>24"</u> inches		9) Total depth of well <u>54</u> feet.	
---------------------------	--	---------------------------------------	--	--	--

10) Date well plugged <u>9 '29 '00</u>		11) REMOVE ALL REMOVEABLE CASING	
--	--	----------------------------------	--

12) Name of Driller/Pump Installer or Well Owner performing the plugging		Please check box beside the method of plugging used	
--	--	---	--

RAYMOND ZELLA JR/DIRECTOR OF PUBLIC WORKS		☐ Tremmie pipe cement from bottom to top.	
---	--	--	--

License No. <u>N/A</u> / <u>CITY OF GONZALES</u>		☐ Tremmie pipe bentonite from bottom to 2 feet	
--	--	---	--

		From surface, cement top 2 feet.	
--	--	----------------------------------	--

		☐ Pour in 3-8 bentonite chips when standing water well is less than 100 feet depth, cement top 2 feet	
--	--	--	--

		☐ Large diameter well filled with clay material from top to bottom.	
--	--	--	--

<u>NO</u>		<u>CASING</u>	
-----------	--	---------------	--

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I certify that I plugged this well (or the well was plugged under my supervision) and that all of the statements herein are true and correct. I understand that failure to complete items 1 through 13 will result in the report(s) being returned for completion and resubmitted.

Company or individual's Name (type or print) CITY OF GONZALES

Address P.O. BOX 547 City GONZALES State TX Zip 7862

Signature Raymond Zella Jr Date 9.29.00



DOUCET

Attachment I

TCEQ Transporters Registration Approval Document



Texas Commission on Environmental Quality

SLUDGE TRANSPORTER REGISTRATION

Registration Number: 22153

CN600249353

RN103160354

Print Date: July 06, 2022

For the Commission

Company: CITY OF GONZALES

Registered Since: July 15, 2002

Expiration Date: August 31, 2024

Regulated Entity: CITY OF GONZALES

Status: ACTIVE

Organization Type: CITY GOVERNMENT

County: GONZALES

TCEQ Region: 14

Transport Waste into Texas: NO

Transport Waste out of Texas: NO

Physical Address:

END OF REMSCHEL
GONZALES, TX 78629

Contact Information

Contact: RYAN WILKERSON

Phone: 830-672-3525

Fax: 830-672-3793

Mailing Address:

PO BOX 547
GONZALES, TX 78629-0547

E-Mail: WATERPLANT@CITYOFGONZALES.ORG

Sticker Numbers Issued and Listed below will expire on August 31, 2024:

07025

This is your registration which reflects the information submitted on your application to the Register or Renew as a Transporter of Municipal Sludge(s) and Similar Wastes. Requirements for transportation are provided in accordance with 30 TAC Chapter 312. Issuance of this registration is not acknowledgement by the TCEQ that your operation is in full compliance with the rules and regulations of the TCEQ. Changes or additions referred to this notice require written notification to the TCEQ. Please keep a copy of this registration in every vehicle transporting sludge and all locations where business is being transacted under this registration.



Texas Commission on Environmental Quality

SLUDGE TRANSPORTER

Registration Number: 22153

For the Commission

Print Date: July 06, 2022

Disposal Facility Information

<u>Facility ID</u>	<u>Waste Type</u>	<u>Facility Name</u>	<u>Program</u>
WQ0004467000	WW	GONZALES BENEFICIAL LAND USE SITE	SLUDGE

Waste Types

DS - Septic Tank Waste
GS - Grease Trap Waste

GT - Grit Trap Waste
PP - Chemical Toilet Waste

WT - Water Treatment Residuals
WW - Sewage Sludge/Biosolids



Texas Commission on Environmental Quality

SLUDGE TRANSPORTER

Registration Number: 22153

For the Commission

Print Date: July 06, 2022

Vehicle Information

<u>License Plate</u>	<u>Year</u>	<u>Vehicle Make</u>	<u>Sticker Issued</u>	<u>Vehicle Capacity</u>
JS0972	2019	FREIGHTLINER	09/17/2019	16 CY

2600 Dudley Rd. Kilgore, Texas 75662
24 Waterway Avenue, Suite 375 The Woodlands, TX 77380
Office: 903-984-0551 * Fax: 903-984-5914



SAMPLE CROSS REFERENCE

Project
1112989

AquaTech Laboratories
John Brien
635 Phil Gramm Blvd.
Bryan, TX 77807-9104

Printed 8/15/2024 Page 1 of 1

Sample	Sample ID	Taken	Time	Received
2322000	H023382-01	08/01/2024	09:31:00	08/02/2024

Bottle 01 Client supplied plastic
Bottle 02 Client Supplied Amber Glass
Bottle 03 Prepared Bottle: 2 mL Glass vial (Batch 1131941) Volume: 50.00000 mL <== Derived from 02 (5.0 grams)
Bottle 04 Prepared Bottle: NH3N TRAACS Autosampler Vial (Batch 1132043) Volume: 6.00000 mL <== Derived from 01 (0.5 grams)
Bottle 05 Prepared Bottle: NH3N TRAACS Autosampler Vial (Batch 1132043) Volume: 6.00000 mL <== Derived from 01 (0.5 grams)
Bottle 06 Prepared Bottle: NH3N TRAACS Autosampler Vial (Batch 1132043) Volume: 6.00000 mL <== Derived from 01 (0.5 grams)
Bottle 07 Prepared Bottle: PCBS 2 mL Autosampler Vial (Batch 1132165) Volume: 10.00000 mL <== Derived from 02 (2 grams)
Bottle 08 Prepared Bottle: NH3N TRAACS Autosampler Vial (Batch 1132646) Volume: 6.00000 mL <== Derived from 01 (0.5 grams)
Bottle 09 Prepared Bottle: NH3N TRAACS Autosampler Vial (Batch 1132646) Volume: 6.00000 mL <== Derived from 01 (0.5 grams)
Bottle 10 Prepared Bottle: NH3N TRAACS Autosampler Vial (Batch 1132646) Volume: 6.00000 mL <== Derived from 01 (0.5 grams)
Bottle 11 Prepared Bottle: ICP Preparation for Metals (Batch 1132804) Volume: 50.00000 mL <== Derived from 01 (3.1 grams)

Method	Bottle	PrepSet	Preparation	QcGroup	Analytical
EPA 8082	07	1132165	08/07/2024	1132990	08/13/2024
EPA 9056	03	1131941	08/06/2024	1132117	08/06/2024
EPA 6020A	11	1132804	08/12/2024	1133146	08/13/2024
EPA 6020A	11	1132804	08/12/2024	1133418	08/14/2024
EPA 6010C	11	1132804	08/12/2024	1132993	08/13/2024
EPA 6010C	11	1132804	08/12/2024	1132975	08/13/2024
EPA 350.1 2	08	1132646	08/09/2024	1133032	08/13/2024
SM 2540 G-1997	01	1131853	08/05/2024	1131853	08/05/2024
SM2540 G-1997 /MOD	01	1132997	08/12/2024	1132997	08/12/2024
EPA 160.4	01	1131854	08/05/2024	1131854	08/05/2024
SM 2540 G-1997	01	1132998	08/12/2024	1132998	08/12/2024

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Project
1112989

Printed: 08/15/2024

H023382

RESULTS

Sample Results

2322000 H023382-01		Received: 08/02/2024	
Solid & Chemical Materials		Collected by: Client	AquaTech Laboratories
Taken: 08/01/2024		PO:	H023382
EPA 160.1		Prepared: 1131854 08/05/2024 13:06:00	Analyzed: 1131854 08/05/2024 13:06:00 BLK
Parameter	Results	Units	RL
RELAC Volatile Solids	37.1	%	0.010
EPA 150.1.2		Prepared: 1133616 08/09/2024 13:13:13	Analyzed: 1133073 08/13/2024 07:53:00 AMH
Parameter	Results	Units	RL
RELAC Ammonia Nitrogen	818 *	mg/kg	28.2
* Dry Weight Basis		Flags	P
EPA 6010C		Prepared: 1132801 08/12/2024 14:00:00	Analyzed: 1132975 08/13/2024 08:08:00 CAS
Parameter	Results	Units	RL
RELAC Phosphorus	8290 *	mg/kg	47.4
EPA 6010C		Prepared: 1132804 08/12/2024 14:00:00	Analyzed: 1132993 08/13/2024 09:08:00 CAS
Parameter	Results	Units	RL
RELAC Potassium	2540 *	mg/kg	237
* Dry Weight Basis		Flags	
EPA 6020A		Prepared: 1132804 08/12/2024 14:00:00	Analyzed: 1133146 08/13/2024 13:44:00 JC2
Parameter	Results	Units	RL
RELAC Arsenic, Total	3.76 *	mg/kg	0.947
RELAC Cadmium, Total	0.665 *	mg/kg	0.474
RELAC Chromium, Total	11.6 *	mg/kg	0.474
RELAC Molybdenum, Total	7.12 *	mg/kg	1.42
RELAC Nickel, Total	7.53 *	mg/kg	0.474
RELAC Selenium, Total	3.98 *	mg/kg	1.42
RELAC Zinc, Total	340 *	mg/kg	2.37



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Project

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Printed: 08/15/2024

2322000 H023382-01

Received: 08/02/2024

Solid & Chemical Materials

Collected by: Client
Taken: 08/01/2024

AquaTech Laboratorie
09:31:00

PO: H023382

EPA 6020A		Prepared: 1132804 08/12/2024		14:00:00	Analyzed 1133418 08/14/2024	12:23:00	JC2
Parameter	Results	Units	RL	Flags	CAS	Bottle	
NELAC Copper, Total	146 *	mg/kg	0.474		7440-50-8	11	
NELAC Lead, Total	27.2 *	mg/kg	0.474		7439-92-1	11	
* Dry Weight Basis							
EPA 8082		Prepared: 1132165 08/07/2024		15:18:31	Analyzed 1132990 08/13/2024	05:17:00	KAP
Parameter	Results	Units	RL	Flags	CAS	Bottle	
NELAC PCB-1016	<1000 *	ug/kg	1000		12674-11-2	07	
NELAC PCB-1221	<1000 *	ug/kg	1000		11104-28-2	07	
NELAC PCB-1232	<1000 *	ug/kg	1000		11141-16-5	07	
NELAC PCB-1242	<1000 *	ug/kg	1000		53469-21-9	07	
NELAC PCB-1248	<1000 *	ug/kg	1000		12672-29-6	07	
NELAC PCB-1254	<1000 *	ug/kg	1000		11097-69-1	07	
NELAC PCB-1260	<1000 *	ug/kg	1000		11096-82-5	07	
NELAC PCB-1262	<1000 *	ug/kg	1000		37324-23-5	07	
NELAC PCB-1268	<1000 *	ug/kg	1000		11100-14-4	07	
* Dry Weight Basis							
EPA 9056		Prepared: 1131941 08/06/2024		14:30:13	Analyzed 1132117 08/06/2024	23:22:00	NAZ
Parameter	Results	Units	RL	Flags	CAS	Bottle	
NELAC Nitrate-Nitrogen	<6.65 *	mg/kg	6.65		14797-55-8	03	
* Dry Weight Basis							
SM 2540 G-1997		Prepared: 1131853 08/05/2024		13:06:00	Analyzed 1131853 08/05/2024	13:06:00	BEK
Parameter	Results	Units	RL	Flags	CAS	Bottle	
NELAC Total Solids	16.9	%	0.100			01	
SM 2540 G-1997		Prepared: 1132998 08/12/2024		08:42:00	Analyzed 1132998 08/12/2024	08:42:00	BEK
Parameter	Results	Units	RL	Flags	CAS	Bottle	
NELAC Volatile Solids	34.7	%	0.100			01	



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2322000 H023382-01

Received: 08/02/2024

Solid & Chemical Materials

Collected by: Client
Taken: 08/01/2024

AquaTech Laboratories
09:31:00

PO: H023382

SM2540 G-1997/MOD

Prepared: 1132997 08/12/2024 08:42:00 Analyzed: 1132997 08/12/2024 08:42:00 BFK

Parameter	Results	Units	RI	Flags	CAS	Bottle
Total Solids for Dry Wt Conversion	17.0	%	0.010			01

Sample Preparation

2322000 H023382-01

Received: 08/02/2024

08/01/2024

H023382

Calculation Prepared: 08/15/2024 14:13:48 Calculated: 08/15/2024 14:13:48 CAI

As Received to Dry Weight Basis

Calculated

EPA 3050B Prepared: 1132804 08/12/2024 14:00:00 Analyzed: 1132804 08/12/2024 14:00:00 TFS

Solid/Sludge/Soil/Sediment Metal	503.10	grams				01
----------------------------------	--------	-------	--	--	--	----

EPA 350.1.2 Prepared: 1132043 08/07/2024 07:58:02 Analyzed: 1132043 08/07/2024 07:58:02 MEG

Ammonia Distillation	60.5186	grams				01
----------------------	---------	-------	--	--	--	----

EPA 350.1.2 Prepared: 1132646 08/09/2024 13:12:12 Analyzed: 1132646 08/09/2024 13:12:12 MEG

Ammonia Distillation	60.5013	grams				01
----------------------	---------	-------	--	--	--	----

EPA 3550B Prepared: 1132165 08/07/2024 15:18:21 Analyzed: 1132165 08/07/2024 15:18:21 PIV

PCB Total Somic Extr. W/Hex Bxch	10/2.0	grams				02
----------------------------------	--------	-------	--	--	--	----



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Received: 08/02/2024

H023382

08/01/2024

EPA 8082		Prepared: 1132165 08/07/2024 15:18:21		Analyzed 1132990 08/13/2024 05:17:00		KAP	
NELAC	Polychlorinated Biphenyls	Entered					07
EPA 9056		Prepared: 1131941 08/06/2024 14:30:13		Analyzed 1131941 08/06/2024 14:30:13		PEV	
Water Extract-Ion Chromatography		50/4.99	grams				02
SM 2540 G-1997		Prepared: 1131717 08/05/2024 13:06:00		Analyzed 1131717 08/05/2024 13:06:00		BEK	
NELAC	Total Solids Start	Started					
SM 2540 G-1997		Prepared: 1132744 08/12/2024 08:42:00		Analyzed 1132744 08/12/2024 08:42:00		BEK	
NELAC	Total Solids Start Code	Started					

Qualifiers

P - Spike recovery outside control limits due to matrix effects.

We report results on an As Received (or Wet) basis unless marked Dry Weight.

Unless otherwise noted, testing was performed at SPL, Inc. - Kilgore laboratory which holds International, Federal, and state accreditations. Please see our Websites for details.

(N)ELAC - Covered in our NELAC scope of accreditation

x - Not covered by our NELAC scope of accreditation

These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval of SPL Kilgore. Unless otherwise specified, these test results meet the requirements of NELAC. RL is the Reporting Limit (sample specific quantitation limit) and is at or above the Method Detection Limit (MDL). CAS is Chemical Abstract Service number. RL is our Reporting Limit, or Minimum Quantitation Level. The RL takes into account the Instrument Detection Limit (IDL), Method Detection Limit (MDL), and Practical Quantitation Limit (POL), and any dilutions and/or concentrations performed during sample preparation (EQL). Our analytical result must be above this RL before we report a value in the Results column of our report (without a J flag). Otherwise, we report ND (Not Detected above RL), because the result is "<" (less than) the number in the RL column. MAL is Minimum Analytical Level and is typically from regulatory agencies. Unless we report a result in the result column, or interferences prevent it, we work to have our RL at or below the MAL.



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Bill Peery

Bill Peery, MS, VP Technical Services



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Analytical Set 1133032

EPA 350.1 2

Blank									
Parameter	PrepSet	Reading	MDL	MQL	Units	File			
Ammonia Nitrogen	1132646	ND	0.509	1.00	mg/kg	126649639			
CCV									
Parameter		Reading	Known	Units	Recover%	Limits%	File		
Ammonia Nitrogen		2.03	2.00	mg/kg	102	90.0 - 110	126649638		
Ammonia Nitrogen		2.06	2.00	mg/kg	103	90.0 - 110	126649643		
Ammonia Nitrogen		2.07	2.00	mg/kg	104	90.0 - 110	126649644		
Ammonia Nitrogen		2.05	2.00	mg/kg	102	90.0 - 110	126649645		
Ammonia Nitrogen		2.02	2.00	mg/kg	101	90.0 - 110	126649646		
Ammonia Nitrogen		2.08	2.00	mg/kg	104	90.0 - 110	126649647		
Ammonia Nitrogen		2.00	2.00	mg/kg	100	90.0 - 110	126649648		
Ammonia Nitrogen		1.98	2.00	mg/kg	99.0	90.0 - 110	126649649		
Ammonia Nitrogen		1.97	2.00	mg/kg	98.5	90.0 - 110	126649651		
Ammonia Nitrogen		1.95	2.00	mg/kg	97.5	90.0 - 110	126649654		
Duplicate									
Parameter	Sample		Result	Unknown		Unit	RPD	Limit%	
Ammonia Nitrogen	2322000		151	139		mg/kg	8.28	20.0	
ICV									
Parameter		Reading	Known	Units	Recover%	Limits%	File		
Ammonia Nitrogen		2.05	2.00	mg/kg	102	90.0 - 110	126649637		
LCS Dup									
Parameter	PrepSet	LCS	LCSD		Known	Limits%	LCS%	LCSD%	Units RPD Limit%
Ammonia Nitrogen	1132646	94.6	95.6		100	90.0 - 110	94.6	95.6	mg/kg 1.05 20.0
Mat. Spike									
Parameter	Sample	Spike	Unknown	Known	Units	Recovery %	Limits %	File	
Ammonia Nitrogen	2322000	168	139	100	mg/kg	29.0	80.0 - 120	126649653	*

Analytical Set 1131853

SM 2540 G-1997

ControlBk						
Parameter	PrepSet	Reading	MDL	MQL	Units	File
Total Solids	1131853	0.0002			grams	126625892
Duplicate						
Parameter	Sample	Result	Unknown		Unit	RPD
Total Solids	2322000	16.9	16.9		%	0
						20.0

Analytical Set 1131854

EPA 160.4

ControlBk									
Parameter	PrepSet	Reading	MDL	MQL	Units	File			
Volatile Solids	1131854	0.0002			grams	126625895			

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Duplicate											
Parameter	Sample	Result	Unknown	Unit	RPD	Limit%					
Volatile Solids	2322000	37.8	37.1	%	1.87	20.0					
Analytical Set		1132997		SM2540 G-1997 /MOD							
ControlBik											
Parameter	PrepSet	Reading	MDL	MTL	Units	File					
Total Solids for Dry Wt: Conversi	1132997	0.0003			grams	126649061					
Duplicate											
Parameter	Sample	Result	Unknown	Unit	RPD	Limit%					
Total Solids for Dry Wt: Conversi	2323854	1.04	0.917	%	12.6	20.0					
Analytical Set		1132998		SM 2540 G-1997							
ControlBik											
Parameter	PrepSet	Reading	MDL	MTL	Units	File					
Volatile Solids	1132998	0.0003			grams	126649067					
Duplicate											
Parameter	Sample	Result	Unknown	Unit	RPD	Limit%					
Volatile Solids	2323854	63.6	63.4	%	0.315	20.0					
Analytical Set		1132117		EPA 9056							
Blank											
Parameter	PrepSet	Reading	MDL	MTL	Units	File					
Nitrate-Nitrogen	1131941	ND	0.0185	0.0226	mg/kg	126631962					
CCV											
Parameter	Reading	Known	Units	Recover%	Limits%	File					
Nitrate-Nitrogen	2.30	2.26	mg/kg	102	90.0 - 110	126631961					
Nitrate-Nitrogen	2.36	2.26	mg/kg	104	90.0 - 110	126631977					
Nitrate-Nitrogen	2.34	2.26	mg/kg	104	90.0 - 110	126631983					
LCS Dup											
Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%	
Nitrate-Nitrogen	1131941	1.24	1.25	1.13	75.0 - 120	110	111	mg/kg	0.803	20.0	
MSD											
Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Nitrate-Nitrogen	2321983	9.56	10.1	5.89	2.26	80.0 - 120	162 *	185 *	mg/kg	13.7	20.0
Analytical Set		1132975		EPA 6010C							
Blank											
Parameter	PrepSet	Reading	MDL	MTL	Units	File					
Phosphorus	1132804	0.0598	0.00734	0.100	mg/kg	126648701					
CCV											
Parameter	Reading	Known	Units	Recover%	Limits%	File					

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CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Phosphorus	0.978	1.00	mg/kg	97.8	90.0 - 110	126648700
Phosphorus	0.977	1.00	mg/kg	97.7	90.0 - 110	126648708
Phosphorus	0.973	1.00	mg/kg	97.3	90.0 - 110	126648710

ICL

Parameter	Reading	Known	Units	Recover%	Limits%	File
Phosphorus	24.9	25.0	mg/kg	99.6	95.0 - 105	126648698

ICV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Phosphorus	1.02	1.00	mg/kg	102	90.0 - 110	126648699

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Phosphorus	1132804	19.5	19.4	20.0	80.0 - 120	97.5	97.0	mg/kg	0.514	25.0

LDR

Parameter	Reading	Known	Units	Recover%	Limits%	File
Phosphorus	90.8	100	mg/kg	90.8	90.0 - 110	126648709

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Phosphorus	2322823	4360	4350	3900	327	23.3 - 179	146	143	mg/kg	2.20	25.0

Analytical Set

1132993

EPA 6010C

Blank

Parameter	PrepSet	Reading	MDL	MOL	Units	File
Potassium	1132804	ND	0.111	0.500	mg/kg	126649046

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Potassium	24.7	25.0	mg/kg	98.8	90.0 - 110	126649045
Potassium	25.3	25.0	mg/kg	101	90.0 - 110	126649053

ICL

Parameter	Reading	Known	Units	Recover%	Limits%	File
Potassium	49.6	50.0	mg/kg	99.2	95.0 - 105	126649039

ICV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Potassium	25.0	25.0	mg/kg	100	90.0 - 110	126649043

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Potassium	1132804	24.5	24.4	25.0	78.0 - 116	98.0	97.6	mg/kg	0.409	25.0

LDR

Parameter	Reading	Known	Units	Recover%	Limits%	File
-----------	---------	-------	-------	----------	---------	------

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LDR										
Parameter	Reading	Known	Units	Recover%	Limits%	File				
Potassium	98.2	100	mg/kg	98.2	90.0 - 110	126649040				
MSD										
Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD
Potassium	2322823	1110	1160	735	408	33.6 - 179	95.2	108	mg/kg	12.5
									25.0	

Analytical Set 1133146

EPA 6020A

Blank										
Parameter	PrepSet	Reading	MDL	MDL	Units	File				
Arsenic, Total	1132804	0.000572	0.000492	0.002	mg/kg	126651725				
Cadmium, Total	1132804	ND	0.000223	0.001	mg/kg	126651725				
Chromium, Total	1132804	0.000632	0.000409	0.001	mg/kg	126651725				
Molybdenum, Total	1132804	0.00159	0.000287	0.003	mg/kg	126651725				
Nickel, Total	1132804	0.000437	0.000336	0.001	mg/kg	126651725				
Selenium, Total	1132804	ND	0.000835	0.003	mg/kg	126651725				
Zinc, Total	1132804	0.0021	0.000432	0.005	mg/kg	126651725				

CCV										
Parameter	Reading	Known	Units	Recover%	Limits%	File				
Arsenic, Total	0.0496	0.05	mg/kg	99.2	90.0 - 110	126651728				
Arsenic, Total	0.0498	0.05	mg/kg	99.6	90.0 - 110	126651732				
Arsenic, Total	0.0484	0.05	mg/kg	96.8	90.0 - 110	126651736				
Cadmium, Total	0.0494	0.05	mg/kg	98.8	90.0 - 110	126651732				
Cadmium, Total	0.0488	0.05	mg/kg	97.6	90.0 - 110	126651736				
Chromium, Total	0.0472	0.05	mg/kg	94.4	90.0 - 110	126651728				
Chromium, Total	0.0497	0.05	mg/kg	99.4	90.0 - 110	126651732				
Chromium, Total	0.0496	0.05	mg/kg	99.2	90.0 - 110	126651736				
Molybdenum, Total	0.0461	0.05	mg/kg	92.2	90.0 - 110	126651732				
Molybdenum, Total	0.0456	0.05	mg/kg	91.2	90.0 - 110	126651736				
Nickel, Total	0.0511	0.05	mg/kg	102	90.0 - 110	126651732				
Nickel, Total	0.0502	0.05	mg/kg	100	90.0 - 110	126651736				
Selenium, Total	0.0525	0.05	mg/kg	105	90.0 - 110	126651728				
Selenium, Total	0.0497	0.05	mg/kg	99.4	90.0 - 110	126651732				
Selenium, Total	0.0495	0.05	mg/kg	99.0	90.0 - 110	126651736				
Zinc, Total	0.0501	0.05	mg/kg	100	90.0 - 110	126651732				
Zinc, Total	0.0496	0.05	mg/kg	99.2	90.0 - 110	126651736				

ICV										
Parameter	Reading	Known	Units	Recover%	Limits%	File				
Arsenic, Total	0.0486	0.05	mg/kg	97.2	90.0 - 110	126651720				
Cadmium, Total	0.0496	0.05	mg/kg	99.2	90.0 - 110	126651720				
Chromium, Total	0.0495	0.05	mg/kg	99.0	90.0 - 110	126651720				
Molybdenum, Total	0.0485	0.05	mg/kg	97.0	90.0 - 110	126651720				
Nickel, Total	0.0508	0.05	mg/kg	102	90.0 - 110	126651720				
Selenium, Total	0.0489	0.05	mg/kg	97.8	90.0 - 110	126651720				
Zinc, Total	0.0514	0.05	mg/kg	103	90.0 - 110	126651720				

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LCS Dup

Parameter	PrepSet	LCS	LCS/D	Known	Limits%	LCS%	LCS/D%	Units	RPD	Limit%
Arsenic, Total	1132804	2.41	2.37	2.50	80.0 - 120	96.4	94.8	mg/kg	1.67	20.0
Cadmium, Total	1132804	1.22	1.20	1.25	80.0 - 120	97.6	96.0	mg/kg	1.65	20.0
Chromium, Total	1132804	2.78	2.74	2.50	80.0 - 120	111	110	mg/kg	1.45	20.0
Molybdenum, Total	1132804	2.52	2.49	2.50	80.0 - 120	101	99.6	mg/kg	1.20	20.0
Nickel, Total	1132804	2.56	2.49	2.50	80.0 - 120	102	99.6	mg/kg	2.77	20.0
Selenium, Total	1132804	2.36	2.33	2.50	80.0 - 120	94.4	93.2	mg/kg	1.28	20.0
Zinc, Total	1132804	2.43	2.38	2.50	80.0 - 120	97.2	95.2	mg/kg	2.08	20.0

LDR

Parameter	Reading	Known	Units	Recover%	Limits%	File
Arsenic, Total	4.82	5	mg/kg	96.4	90.0 - 110	126651723
Cadmium, Total	10.9	10	mg/kg	109	90.0 - 110	126651722
Chromium, Total	10.8	10	mg/kg	108	90.0 - 110	126651722
Molybdenum, Total	5.46	5	mg/kg	109	90.0 - 110	126651723
Nickel, Total	10.6	10	mg/kg	106	90.0 - 110	126651722
Selenium, Total	9.59	10	mg/kg	95.9	90.0 - 110	126651722
Zinc, Total	10.4	10	mg/kg	104	90.0 - 110	126651722

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Arsenic, Total	2322823	37.5	42.3	2.26	40.8	67.5 - 123	89.4	102	mg/kg	12.8	20.0
Cadmium, Total	2322823	18.4	22.5	6.49	20.4	86.3 - 114	60.5 *	81.3 *	mg/kg	29.4 *	20.0
Chromium, Total	2322823	47.7	59.0	6.49	40.8	80.1 - 122	105	133 *	mg/kg	24.1 *	20.0
Molybdenum, Total	2322823	40.3	57.3	6.49	40.8	62.9 - 137	85.8	129	mg/kg	40.2 *	20.0
Nickel, Total	2322823	38.1	44.9	6.49	40.8	76.5 - 121	80.2	97.5	mg/kg	19.4	20.0
Selenium, Total	2322823	37.7	42.7	1.43	40.8	63.9 - 122	92.1	105	mg/kg	12.9	20.0
Zinc, Total	2322823	149	173	6.49	40.8	28.6 - 157	362 *	423 *	mg/kg	15.5	20.0

Analytical Set

1133418

EPA 6020A

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Copper, Total	1132804	0.000267	0.000242	0.001	mg/kg	126657106
Lead, Total	1132804	0.000363	0.000262	0.001	mg/kg	126657106

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Copper, Total	0.0493	0.05	mg/kg	98.6	90.0 - 110	126657107
Copper, Total	0.0489	0.05	mg/kg	97.8	90.0 - 110	126657114
Lead, Total	0.0536	0.05	mg/kg	107	90.0 - 110	126657107
Lead, Total	0.0543	0.05	mg/kg	109	90.0 - 110	126657114

ICV

Parameter	Reading	Known	Units	Recover%	Limits%	File
Copper, Total	0.0504	0.05	mg/kg	101	90.0 - 110	126657077
Lead, Total	0.0513	0.05	mg/kg	103	90.0 - 110	126657077

Email: Kilgore.ProjectManagement@spilabs.com



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QUALITY CONTROL

AQU1-G

AquaTech Laboratories
John Brien
635 Phil Gramm Blvd.
Bryan, TX 77807-9104



Page 6 of 7

Project
1112989

Printed 08/15/2024

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
Copper, Total	1132804	2.47	2.56	2.50	80.0 - 120	98.8	102	mg/kg	3.58	20.0
Lead, Total	1132804	2.67	2.78	2.50	80.0 - 120	107	111	mg/kg	4.04	20.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
Copper, Total	2322823	102	103	61.5	40.8	40.4 - 145	103	105	mg/kg	2.44	20.0
Lead, Total	2322823	44.6	45.5	2.63	40.8	78.8 - 123	107	109	mg/kg	2.12	20.0

Analytical Set

1132990

EPA 8082

Blank

Parameter	PrepSet	Reading	MDL	MDL	Units	File
PCB-1016	1132165	ND	43.0	250	ug/kg	126648960
PCB-1221	1132165	ND	43.0	250	ug/kg	126648960
PCB-1232	1132165	ND	43.0	250	ug/kg	126648960
PCB-1242	1132165	ND	43.0	250	ug/kg	126648960
PCB-1248	1132165	ND	43.0	250	ug/kg	126648960
PCB-1254	1132165	ND	43.0	250	ug/kg	126648960
PCB-1260	1132165	ND	43.0	250	ug/kg	126648960

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
PCB-1016	947	1000	ug/kg	94.7	80.0 - 120	126648959
PCB-1016	1040	1000	ug/kg	104	80.0 - 120	126648970
PCB-1260	926	1000	ug/kg	92.6	80.0 - 120	126648959
PCB-1260	1040	1000	ug/kg	104	80.0 - 120	126648970

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
PCB-1016	1132165	5150	4760	5000	28.4 - 187	103	95.2	ug/kg	7.87	30.0
PCB-1260	1132165	5480	4970	5000	22.3 - 183	110	99.4	ug/kg	10.1	30.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
PCB-1016	2321933	4760	4740	ND	10000	0.100 - 427	47.6	47.4	ug/kg	0.421	30.0
PCB-1260	2321933	5000	4980	ND	10000	0.100 - 470	50.0	49.8	ug/kg	0.401	30.0

Surrogate

Parameter	Sample	Type	Reading	Known	Units	Recover%	Limits%	File
Decachlorobiphenyl	1132165	Blank	74.9	100	ug/kg	74.9	10.0 - 200	126648960
Tetrachloro-m-Xylene (Surr)	1132165	Blank	82.2	100	ug/kg	82.2	10.0 - 160	126648960
Decachlorobiphenyl	2322000	Unknown	263	500	ug/kg	52.6	10.0 - 200	126648966
Tetrachloro-m-Xylene (Surr)	2322000	Unknown	355	500	ug/kg	71.0	10.0 - 160	126648966

* Out RPD is Relative Percent Difference: $\frac{abs((r1-r2)/mean((r1,r2)) * 100\%}$

Recover% is Recovery Percent: $result/known * 100\%$

Email: Kilgore.ProjectManagement@spllabs.com



Report Page 23 of 28

QUALITY CONTROL



Page 7 of 7

AQU1-G

AquaTech Laboratories
John Brien
635 Phil Gramm Blvd.
Bryan, TX 77807-9204



Printed 08/15/2024

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Blank - Method Blank (reagent water or other blank matrices that contains all reagents except standard(s) and is processed simultaneously with and under the same conditions as samples; carried through preparation and analytical procedures exactly like a sample; monitors; CCV - Continuing Calibration Verification (series standard used to prepare the curve; typically a mid-range concentration; verifies the continued validity of the calibration curve); MSD - Matrix Spike Duplicate (replicate of the matrix spike, same solution and amount of target analyte added to the MS is added to a third aliquot of sample, quantifies matrix bias and precision); LCS Dup - Laboratory Control Sample Duplicate (replicate LCS; analyzed when there is insufficient sample for duplicate or MSD; quantifies accuracy and precision); ICV - Initial Calibration Verification; LDR - Linear Dynamic Range Standard; Surrogate - Surrogate (mimics the analyte of interest but is unlikely to be found in environmental samples; added to analytical samples for QC purposes. **ANSI/ISO/IEC 15994 Ref #4 TRADE OA Resources Guide)

Email: Kilgore.ProjectManagement@spllabs.com



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Chain-of-Custody & Analysis Request



SHIPPED TO:
SPL Ridge (1104704201)
2600 Dudley Road
Kilgore, TX 75662
Phone: (903) 984-0551
Fax: (903) 984-5914

C-O-C #
24 - H023382

All analyses must be performed by a TNE approved method certified by the TCEQ. Contact ATL's sample custodian via voice and email if your methods do not meet this criteria.

Analysis Request for:	Sample ID: H023382-01	Sampled: 08/01/24 09:31	Matrix: Solid	Laboratory ID >> 2322600
NH3N SL SUB - EPA 350.1 R2 0	K - EPA 6010B 1996	Mo SL - EPA 6010B 1996	P - EPA 6010B 1996	
As SL - EPA 6020A	Cd SL - EPA 6020A	Cr SL - EPA 6020A	Cu SL - EPA 6020A	
Ni SL - EPA 6020A	Pb SL - EPA 6020A	Se SL - EPA 6020A	Zn SL - EPA 6020A	
NO3N - EPA 9056	TS - SM2540 G 2015	TVS - SM2540 G 2015	PCB - SW846 8082	

CONTAINERS SUPPLIED: (ATL indicates cooler number in parentheses for each container - only required if more than one cooler listed below.)
() H023382-01 [A] [SUB] ANA PCB 0.33LG () H023382-01 [B] - Sludge Nutrients 1LP

See next page(s) for list of analytes requested.

Prepared by (print & sign): Suzanne Rudd	☒ ATL Austin ☐ ATL Bryan ☐ Sample	Date: 8/22/24	Time: 11:50	☒ Cool ☐ Control Sealed ☐ Not Closed	Abbreviations: SW - Drinking Water, NP - Non Potable Water, GP - Grease/Matrix, S - Solid, LP - Liquid Matrix, CTR - Custody Transfer Underwriter, LG - Under Glass
Carrier & Tracking Number: Fed Ex	Cooler 1: AQU1 777540583399	Signature: [Signature]	Date: 8/22/24	Time: 11:50	Aqua-Tech Comments and Special Instructions
Received by (print & sign): Raychawn Thompson SPL, Inc.	☒ Delivered in Lab	Date: 8/22/24	Time: 11:50	☒ Original Cool ☒ Not Rec'd Cool	Use sample ID as POE. Need new 2010 MALS. Please J Flag metals < MRL & note all metals < MDL on reports.
Use below document condition at receipt in lab (emphasize) listed above					Please email reports to: reporting@aquatechlabs.com Please return cooler(s) to: Austin Facility Do not further sub-contract any analysis. Keep in house or call for further instructions.
Cooler Temperature (°C)	Temp Read (°F)	Corrected Temp (°C)	Thermometer ID		
Cooler 1					
N/A	N/A	N/A			

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2 of 4

1112989 CoC Print Group 001 of 001



ATL - Bryan Facility
635 Phil Gramm Blvd
Bryan, TX 77807
(979) 778-3707
Fax (979) 778-3193

ATL - Austin Facility
3512 Montopolis Drive
Austin, TX 78744
(512) 301-6559
Fax (512) 301-6552

Chain-of-Custody & Analysis Request

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T104704-371

C-O-C #

24 - H023382

Page 2 of 3

All analyses must be performed by a TN approved method certified by the TCEQ. Contact ATL's sample custodian via voice and email if your methods do not meet this criteria.

Analytes Requested for Multiple Component Tests

H023382-01

TS SM2540 G 2015

% Solids

As SL EPA 6020A

Arsenic

Cd SL EPA 6020A

Cadmium

Cr SL EPA 6020A

Chromium

Cu SL EPA 6020A

Copper

K EPA 6010B 1996

Potassium

Mo SL EPA 6010B 1996

Molybdenum

NH3N SL SUB EPA 350.1 R2.0

Ammonia as N

Ni SL EPA 6020A

Nickel

NO3N EPA 9056

Nitrate as N

P EPA 6010B 1996

Phosphorus-Total

Pb SL EPA 6020A

Lead

PCB SW846 6082

PCB-1016

PCB-1248

PCB-1221

PCB-1254

PCB-1232

PCB-1250

PCB-1242

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AQUA-TECH
LABORATORIES, INC.

ATL - Bryan Facility
625 Phil Gramm Blvd
Bryan, TX 77807
Phone: 778-3707
Fax: (778) 778-3193

ATL - Austin Facility
3512 Monoplane Drive
Austin, TX 78744
Phone: (512) 301-9509
Fax: (512) 301-9502

Chain-of-Custody & Analysis Request

C:\ELMNT\Primiso_ATL_022924.rpt

C-O-C #
24 - H023382



T104704371

All analyses must be performed by a TDI approved method certified by the TCEQ. Contact ATL's sample custodian via voice and email if your methods do not meet this criteria.

Analytes Requested for Multiple Component Tests

Se SL EPA 6020A
Selenium
TVS SM2540 G 2015
Total Volatile Solids
Zn SL EPA 6020A
Zinc

1112989 CoC Print Group 001 of 001

ORIGIN: AUSA (512) 301-9559
 SUZANNE RUDD
 AQUA-TECH LAB
 3512 MONTROUSE DR.
 SUITE A
 AUSTIN, TX 78735
 UNITED STATES US

SHIP DATE: 23 JUL 24
 ACTWGT: 40.00 LB
 CAD: 59126049HE14730
 DIMS: 25x14x14 IN
 BILL SENDER

TO LOGIN - SAMPLES
 ANA-LAB - SPL CORP
 2600 DUDLEY RD
 KILGORE TX 75662
 (907) 884-0551 REF: MEMO
 RV PO DEPT

3 of 10
 7775 4058 2402
 Mstr# 7775 4058 1851
 AH GGGA TX-US SHV
 75662
 TUE - 23 JUL 5:00P
 STANDARD OVERNIGHT
 4/2 1551 RT
 Date Time Tech
 Temp: 4.0 / 3.3 C
 Therm#: 8444 Corr Fact: -0.7 C

After printing this label:
 1. Use the Print button on the shipping label to print your label to your user or reject printer.
 2. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.
 3. Print label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the terms and conditions of the FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any loss, damage, delay, non-delivery, misdelivery or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, damage, delay, non-delivery, misdelivery or misinformation is limited to the greater of \$100 or the actual declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000 e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits. See current FedEx Service Guide.

8/1/24

Appendix C

Test Results for Soil Samples Collected August 2024 From the Biosolids Application
Areas



Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Gonzales County
Laboratory Number: 666777
Customer Sample ID: C1 1 of 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 8/26/2024
Printed on: 9/11/2024
Area Represented: 22.2 acres

Crop grown: Mini Kovel And Hybrid Bermuda Grass (HAT 857) MS-2 PONDRAVLS												
Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess		
pH	5.8	(5.8)	-	Mod. Acid								
Conductivity	338	(-)	umho/cm	None							CL*	Fertilizer Recommended
Nitrate-N	35	(-)	ppm**									25 lbs N/acre
Phosphorus	21	(50)	ppm									70 lbs P2O5/acre
Potassium	102	(150)	ppm									75 lbs K2O/acre
Calcium	1,990	(180)	ppm									0 lbs Ca/acre
Magnesium	215	(50)	ppm									0 lbs Mg/acre
Sulfur	30	(13)	ppm									0 lbs S/acre
Sodium	71	(-)	ppm									
Iron	26.10	(4.25)	ppm									
Zinc	1.28	(0.27)	ppm									0 lbs Zn/acre
Manganese	3.18	(1.00)	ppm									0 lbs Mn/acre
Copper	0.29	(0.16)	ppm									0 lbs Cu/acre
Boron												
Limestone Requirement										0.00 tons 100ECCE/acre		
TKN	1286		ppm									
TN	1449		ppm									
Ammonium-N	3.1		ppm									

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
<http://soiltesting.tamu.edu>

Methods: pH and conductivity 1:2.5, nitrate-N/Cd-red, P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP, Fe, Zn, Mn, and Cu/DTPA by ICP, and B/Hot water by ICP

Procedures Ver. 2.15



Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Visit our website: <http://soiltesting.tamu.edu>

Gonzales County
Laboratory Number: 666778
Customer Sample ID: C1 2 of 2

Sample received on: 8/26/2024
Printed on: 9/11/2024
Area Represented: 22.2 acres

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	5.3	(5.8)	-	Mod. Acid							
Conductivity	228	(-)	umho/cm	None							
Nitrate-N	21	(-)	ppm**								Fertilizer Recommended
Phosphorus	15	(50)	ppm								55 lbs N/acre
Potassium	119	(150)	ppm								85 lbs P2O5/acre
Calcium	1,734	(180)	ppm								50 lbs K2O/acre
Magnesium	336	(50)	ppm								0 lbs Ca/acre
Sulfur	26	(13)	ppm								0 lbs Mg/acre
Sodium	118	(-)	ppm								0 lbs S/acre
Iron	35.30	(4.25)	ppm								
Zinc	0.93	(0.27)	ppm								0 lbs Zn/acre
Manganese	3.35	(1.00)	ppm								0 lbs Mn/acre
Copper	0.18	(0.16)	ppm								0 lbs Cu/acre
Boron											
Limestone Requirement										1.00 tons 100ECCE/acre	
TKN											
TN											
Ammonium-N											

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
<http://soiltesting.tamu.edu>

Methods: pH and conductivity/2.5; nitrate-N/Cd-red; P, K, Ca, Mg, Na and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/Hot water by ICP

Revised 9/1/16



Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

Report generated for:

City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Visit our website: <http://soiltesting.tamu.edu>

Gonzales County

Laboratory Number: 666779

Customer Sample ID: C2 1 of 2

Sample received on: 8/26/2024

Printed on: 9/11/2024

Area Represented: 11 acres

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess	
pH	4.7	(5.8)	-	Strongly Acid							
Conductivity	181	(-)	umho/cm	None							Fertilizer Recommended
Nitrate-N	2	(-)	ppm**								95 lbs N/acre
Phosphorus	6	(50)	ppm								110 lbs P2O5/acre
Potassium	149	(150)	ppm								0 lbs K2O/acre
Calcium	1,165	(180)	ppm								0 lbs Ca/acre
Magnesium	447	(50)	ppm								0 lbs Mg/acre
Sulfur	26	(13)	ppm								0 lbs S/acre
Sodium	183	(-)	ppm								
Iron	31.60	(4.25)	ppm								
Zinc	0.26	(0.27)	ppm								1 lbs Zn/acre
Manganese	1.97	(1.00)	ppm								0 lbs Mn/acre
Copper	0.06	(0.16)	ppm								0.5 lbs Cu/acre
Boron											
Limestone Requirement										1.50 tons 100ECCE/acre	
TKN	1408		ppm								
TN	1642		ppm								
Ammonium-N	3.6		ppm								

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Zinc: Zinc recommendation is based on single broadcast application each 2-3 years.

Copper: Limited supporting research data is currently available.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
<http://soiltesting.tamu.edu>

Methods: pH and conductivity/ 2.1, nitrate-N/Cs-red, P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP, Fe, Zn, Mn, and Cu/DTPA by ICP, and B/soil water by ICP

Publication No. 219



Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Visit our website: <http://soiltesting.tamu.edu>

Gonzales County
Laboratory Number: 666780
Customer Sample ID: C2 2 of 2

Sample received on: 8/26/2024
Printed on: 9/11/2024
Area Represented: 11 acres

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExtLow	VLow	Low	Mod	High	VHigh	Excess	
pH	4.6	(5.8)	-	Strongly Acid							
Conductivity	193	(-)	umho/cm	None							Fertilizer Recommended
Nitrate-N	1	(-)	ppm**								95 lbs N/acre
Phosphorus	3	(50)	ppm								115 lbs P2O5/acre
Potassium	126	(150)	ppm								35 lbs K2O/acre
Calcium	972	(180)	ppm								0 lbs Ca/acre
Magnesium	449	(50)	ppm								0 lbs Mg/acre
Sulfur	22	(13)	ppm								0 lbs S/acre
Sodium	195	(-)	ppm								
Iron	29.20	(4.25)	ppm								
Zinc	0.09	(0.27)	ppm								4 lbs Zn/acre
Manganese	1.43	(1.00)	ppm								0 lbs Mn/acre
Copper	0.03	(0.16)	ppm								0.5 lbs Cu/acre
Boron											
Limestone Requirement											1.60 tons 100ECCE/acre
TKN											
	1389		ppm								
TN											
	1565		ppm								
Ammonium-N											
	9.9		ppm								

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Zinc: Zinc recommendation is based on single broadcast application each 2-3 years.

Copper: Limited supporting research data is currently available.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
<http://soiltesting.tamu.edu>

Methods: pH and conductivity: 2.5 nitrate-N/Ca-red: P, K, Ca, Mg, Na, and S:Mehlich 3 by ICP. Fe, Zn, Mn, and Cu:DTA by ICP, and B:hot water by ICP

Publication No. 3-16



Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Gonzales County
Laboratory Number: 666781
Customer Sample ID: A 1 of 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 8/26/2024

Printed on: 9/11/2024

Area Represented: 9.9 acres

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess	
pH	5.1	(5.8)	-	Strongly Acid							
Conductivity	90	(-)	umho/cm	None							Fertilizer Recommended
Nitrate-N	1	(-)	ppm**								95 lbs N/acre
Phosphorus	9	(50)	ppm								100 lbs P2O5/acre
Potassium	83	(150)	ppm								110 lbs K2O/acre
Calcium	1,026	(180)	ppm								0 lbs Ca/acre
Magnesium	224	(50)	ppm								0 lbs Mg/acre
Sulfur	11	(13)	ppm								5 lbs S/acre
Sodium	27	(-)	ppm								
Iron	22.10	(4.25)	ppm								
Zinc	0.99	(0.27)	ppm								0 lbs Zn/acre
Manganese	2.13	(1.00)	ppm								0 lbs Mn/acre
Copper	0.19	(0.16)	ppm								0 lbs Cu/acre
Boron											
Limestone Requirement											1.00 tons 100ECCE/acre
TKN	1393		ppm								
TN	1626		ppm								
Ammonium-N	6.1		ppm								

*CL=Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm=mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
<http://soiltesting.tamu.edu>

Methods: pH and conductivity: 2.1, nitrate-N/Cs-red, P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP, Fe, Zn, Mn, and Cu/DTPA by ICP, and B/Hot water by ICP

PubAgWeb 2.19



Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

Report generated for:
City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 8/26/2024
Printed on: 9/11/2024
Area Represented: 9.9 acres

Gonzales County
Laboratory Number: 666782
Customer Sample ID: A 2 of 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess.	
pH	4.9	(5.8)	-	Strongly Acid							
Conductivity	105	(-)	umho/cm	None							Fertilizer Recommended
Nitrate-N	0	(-)	ppm**								95 lbs N/acre
Phosphorus	8	(50)	ppm								100 lbs P2O5/acre
Potassium	79	(150)	ppm								115 lbs K2O/acre
Calcium	956	(180)	ppm								0 lbs Ca/acre
Magnesium	305	(50)	ppm								0 lbs Mg/acre
Sulfur	12	(13)	ppm								5 lbs S/acre
Sodium	64	(-)	ppm								
Iron	23.60	(4.25)	ppm								
Zinc	0.56	(0.27)	ppm								0 lbs Zn/acre
Manganese	1.81	(1.00)	ppm								0 lbs Mn/acre
Copper	0.15	(0.16)	ppm								0.5 lbs Cu/acre
Boron											
Limestone Requirement											1.00 tons 100ECCE/acre
TKN	1292		ppm								
TN	1456		ppm								
Ammonium-N	0.9		ppm								

*CL-Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm-mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Potassium: Split apply potassium fertilizer if recommendation is for more than 75 lbs K2O per acre.

Sulfur: Available sulfur may be found deeper in soil profile, thus limiting any response to added sulfur.

Copper: Limited supporting research data is currently available.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
<http://soiltesting.tamu.edu>

Methods: pH and conductivity: 2.5; nitrate-N/Cd-red; P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP; Fe, Zn, Mn, and Cu/DTPA by ICP; and B/hot water by ICP

Publication No. 2-19



Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

Report generated for:

City of Gonzales
Ryan Wilkerson
PO Box 547
GONZALES, TX 78629

Visit our website: <http://soiltesting.tamu.edu>

Sample received on: 8/26/2024

Printed on: 9/11/2024

Area Represented: 2.4 acres

Gonzales County

Laboratory Number: 666783

Customer Sample ID: B 1 of 2

Crop Grown: IMPROVED AND HYBRID BERMUDA GRASS (3 HAY CUTTINGS-2 TONS/A AVG.)

Analysis	Results	CL*	Units	ExLow	VLow	Low	Mod	High	VHigh	Excess	
pH	5.3	(5.8)	-	Mod. Acid							
Conductivity	127	(-)	umho/cm	None							Fertilizer Recommended
Nitrate-N	1	(-)	ppm**								95 lbs N/acre
Phosphorus	38	(50)	ppm								25 lbs P2O5/acre
Potassium	198	(150)	ppm								0 lbs K2O/acre
Calcium	1,838	(180)	ppm								0 lbs Ca/acre
Magnesium	542	(50)	ppm								0 lbs Mg/acre
Sulfur	18	(13)	ppm								0 lbs S/acre
Sodium	88	(-)	ppm								
Iron	45.80	(4.25)	ppm								
Zinc	2.02	(0.27)	ppm								0 lbs Zn/acre
Manganese	2.77	(1.00)	ppm								0 lbs Mn/acre
Copper	0.85	(0.16)	ppm								0 lbs Cu/acre
Boron											
Limestone Requirement											1.00 tons 100ECCE/acre
TKN	1667		ppm								
TN	1945		ppm								
Ammonium-N	9.6		ppm								

*CL-Critical level is the point which no additional nutrient (excluding nitrate-N, sodium and conductivity) is recommended. **ppm-mg/kg

Limestone recommendations are based on 100 ECCE liming products. Limestone applications >3 tons/acre should be made >4 months prior to crop establishment to lessen micro-nutrient availability issues.

Nitrogen: Apply an additional 100 lbs/A of nitrogen for each subsequent hay cuttings.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
<http://soiltesting.tamu.edu>

Methods: pH and conductivity/ 2.5, nitrate-N/Cd-red, P, K, Ca, Mg, Na, and S/Mehlich 3 by ICP, Fe, Zn, Mn, and Cu/DTPA by ICP, and B/hot water by ICP

Publication No. 219

Appendix D

Waste Utilization and Nutrient Management Plan for the City of Gonzales

Waste Utilization and Nutrient Management Plan

City of Gonzales
CR 488
Gonzales, TX
830-672-3525

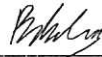
TCEQ Permit Number:
WQ0004467000

Owner
City of Gonzales
P.O. Box 547
Gonzales, TX
830-672-3525

Operator
Ryan Wilkerson
111 St. Michael St.
Gonzales, TX
830-672-3525

Type of Organic Nutrient Management Plan:
Biosolids
located in Gonzales County

Prepared By:



(Signature)

Baoxin Chang

Certified Nutrient Management Specialist
Certificate Number = 202301
Expiration Date = January 31, 2025
Thomas Turf Services, Inc.
11183 State Highway 30
College Station, TX 77845
979-774-1600

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

9/16/24 9:50 AM

Waste Utilization and Nutrient Management Plan

EXECUTIVE SUMMARY:

Permit #:

WQ0004467000

This Nutrient Management Plan has fields that meet NUPs requirements.

This Nutrient Management Plan has been prepared for Doucet and Associates as part of the City of Gonzales renewal application for the beneficial use and land application of biosolids generated from its municipal wastewater treatment plant. The permitted area consists of 149.5 acres of which only 45.5 acres will receive biosolids by means of surface spreading. Fields A, B, & C2 are planted to coastal bermudagrass and will be overseeded with ryegrass in the winter. Field C1 has Klein grass as the warm season crop and will be overseeded with ryegrass in the winter. The plan is based on current soil and waste analysis results. Book values for crop yields and crop nutrient contents were used. There are no animals allowed on this facility. The City contracts with local farmers to harvest and remove hay which represents a net loss of nutrients from the application area. Using the above assumptions and soil properties taken from the official soil series descriptions, the calculated maximum total amount of biosolids that may be applied to all application areas is 349.6 dry tons annually. Biosolids will be applied at 100% of the maximum allowed rate. The biosolid application is sufficient to supply the crop needs for phosphorus, however, additional nitrogen and potash will be needed to achieve the desired yield goals. It is recommended that soil and biosolid samples be collected and tested annually. The farm manager should also keep careful records of the amounts of hay removed from each field and samples of the hay should be submitted for testing. The soil and crop data can then be used to revise the NMP for coming years and provide a more accurate calculation of biosolid application rates. Careful adherence to this nutrient management plan will allow the beneficial use of nutrient rich biosolids while protecting our water resources from environmental damage resulting from excess nitrogen or phosphorus applications.

LOCATION AND PURPOSE OF THE PLAN

Located in : Gonzales County

See plan map for location. The purpose of this plan is to outline the details of land application of biosolids on this land. This plan, when applied, will meet the requirements of the Natural Resources Conservation Service Nutrient Management Standard (590) and Waste Utilization Standard (633). When the appropriate land treatment practices needed to reduce runoff are fully implemented and maintained in each field the plan will provide the more comprehensive benefits of minimizing the affects of the land application of biosolids on the air, soil, water, and animal resources in and around the application area. Annual maximum application rates are determined using **Table 2 & 2a** depending on the current soil test P level and P index result for each field receiving biosolids.

Table 3 provides an estimate of the nutrients removed in the harvested portion of the crop at the planned yield goal for hay, grain, and fiber crops. The values used for grazed crops are the estimated amount of nutrients taken up in the above ground portion of the plants.

Waste Utilization and Nutrient Management Plan

ESTIMATED NUTRIENT AVAILABILITY

Permit #:

WQ0004467000

Refer to **Table 4** for field specific maximum biosolids application rates. Values in **Table 4** are based on the data in **Table 1**. Application will be based on biosolids analysis. Applying biosolids at **MAXIMUM** rates shown in **Table 4** will result in a more rapid build-up of phosphorus than if applied at lower rates. Phosphorus will build up more rapidly on pastureland than on hayland or cropland, since a much small amount of nutrients are actually removed from the farm by grazing animals. Biosolids may be applied to the same acreage every year, but if the soil test P level exceeds the critical level, or the Texas P Index result changes the rates of application will have to be reduced in accordance with Texas NRCS Nutrient Management Standard (590). This plan is valid only if the annual application of biosolids to the crops listed in **Table 4** 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 accordingly the following year.

Recommended annual application amounts that are smaller than can physically be applied due to limitation of the application equipment should be doubled and applied to the field every other year. No other P fertilizer may be used the second year, but supplemental N and K₂O should be applied, if needed. If the P index critical P level is exceeded, it is recommended that no additional biosolids be applied to those fields until the level is reduced. Biosolids applications should be made at appropriate times to meet crop needs, but may be applied at any time as long as soils are not saturated, snow covered, or frozen, and the annual maximum is not exceeded.

SUPPLEMENTAL NUTRIENTS TO MEET YIELD GOAL

Table 5 shows the estimated amount of nutrients that are applied in pounds per acre for each field where biosolids are applied using per acre amounts shown in **Table 4**. Supplemental nitrogen (N) and potassium (K₂O) will be applied to achieve the yield goals noted in **Table 5**, when recommended based on soil analysis and the annual biosolids application does not meet the requirements as detailed in **Table 5**.

Deep soil sampling is recommended on application areas where loamy to clayey soils are present and biosolids have been applied previously. If this deep testing reveals accumulated nitrate N in the root zone, it should be deducted from any supplemental N to be applied to meet the planned yield goal. Sampling in 6 inch increments to a depth of 3 feet is sufficient for most crops.

ADJUSTMENTS TO APPLY LESS THAN THE MAXIMUM RATES

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** can be reduced down to the level that does not exceed the amount of solids available. **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 reduced rates. The amount 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 uses 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.

Waste Utilization and Nutrient Management Plan

FILTER STRIPS, ETC

Permit #: WQ0004467000

Acres of biosolids exclusion zones are noted in Table 8. Location of buffers and other exclusion zones are found on the application area map.

Filter Strips will meet the Texas USDA/NRCS standard (393). A minimum 100 foot wide grassed and/or wooded buffer providing at least 70% ground cover will be maintained between the application area and all water courses, ponds, lakes, wetlands, etc.

Riparian Forested Buffers (if used) will meet the Texas USDA/NRCS Standard (391). When planned, a minimum 50 foot wide wooded buffer will be maintained between the application area and the edge of streams, creeks, rivers, etc. to protect water quality, decrease water temperatures, improve aquatic organism habitat, reduce sediment and nutrient loading and reduce bank erosion. Select harvesting within this zone may be done in accordance with guidelines of the Texas Forest Service. If the wooded buffer is only 50 feet wide, there still must be a minimum 100 feet between biosolids application area and stream bank. Another vegetated buffer will be established or maintained to account for the remaining distance. Biosolids will not be applied within 100 feet of any waterway, stream, creek, pond, lake, or wetlands.

The minimum application distance from private or public wells will be 150 feet and 500 feet respectively. Private wells that are located within a field where biosolids are applied and are part of a center pivot irrigation system are exempt from the set-back requirement. The minimum suggested application distance from schools, institutions, and densely populated residential, business, or similar development is 1000 feet.

Biosolids will not be applied to any buffer areas or any frequently flooded areas, as designated by county soil survey.

PLANNED METHOD OF APPLICATION

Biosolids may be surface applied uniformly, injected, or incorporated below the surface of the soil within the root zone of the planned crop. To reduce soil compaction, applications should only be made when soil conditions are favorable. Biosolids should not be spread if heavy rains are forecast to occur within 1 day of a proposed application date.

ODOR MANAGEMENT

The following steps should be taken when spreading biosolids to reduce problems associated with odor.

1. Avoid spreading biosolids when wind will blow odors toward populated areas.
2. Avoid spreading biosolids immediately before weekends or holidays, if people are likely to be engaged in nearby outdoor activities.
3. Avoid spreading biosolids near heavily traveled highways.
4. Make biosolids applications in the morning when the air is warming, rather than in the late afternoon.

BIOSOLIDS TESTING

If your biosolids application area is permitted by the Texas Commission on Environmental Quality (TCEQ), follow the sampling and testing requirements of your permit. For applications not permitted by TCEQ, the biosolids need to be analyzed for percent moisture, total nitrogen, total phosphorus, and total potassium.

Waste Utilization and Nutrient Management Plan

BIOSOLIDS STORAGE

Permit #: WQ0004467000

Biosolids may be temporarily stockpiled and covered with durable plastic or other suitable tarp material. Stockpiled biosolids must be sited on suitable soil, geology, and topography to prevent contamination of waterways. Runoff from stockpiled biosolids must be retained on-site by use of berms or other adequate structures where there is potential transport of biosolids into waterways.

COLLECTING SOIL SAMPLES FOR ANALYSIS

If your biosolids application area is permitted by the Texas Commission on Environmental Quality (TCEQ), follow the sampling requirements of your permit. If application area is not regulated by TCEQ:

Collect a composite sample for each field (or area of similar soils and management not more than about 40 acres) comprised of 10 - 15 randomly selected cores. Each core should represent 0 - 6 inches below the surface. 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, available phosphorus, potassium, sodium, magnesium, calcium, sulfur, boron, conductivity, and pH. Also note on the samples that they are from a biosolids application area.

SOIL ANALYSIS

If your biosolids application area is permitted by the Texas Commission on Environmental Quality (TCEQ), follow the sampling requirements of your permit. If application area is not regulated by TCEQ:

A base line soil analysis will be completed for all areas to be used for biosolids application. The area will be tested every year that biosolids are applied to monitor P build up. If soil test values rise to a higher category, i.e., Low to Medium, contact the local Soil and Water Conservation District or USDA/NRCS office to revise the Waste Utilization Plan and to assist in development of a plan to reduce P in the field(s).

RECORD KEEPING

If your biosolids application area is permitted by the Texas Commission on Environmental Quality (TCEQ), follow the record keeping requirements of your permit. If application area is not regulated by TCEQ:

Detailed records should be maintained for all applications of biosolids for a period of at least 5 years. Records should include date, time, location, and amount of application; they could also include weather conditions, estimated wind speed and direction, etc. Keep all soil and biosolids analyses for the same period.

OPERATION AND MAINTENANCE

Application equipment should be maintained in good working order, and it should be calibrated at least once a year, so that the desired rate and amount of biosolids will be applied. Any changes in this system must be discussed with Texas Commission on Environmental Quality (TCEQ) prior to their initiation on permitted sites. If your site is not permitted by TCEQ, contact your local NRCS office for updates and assistance.

Waste Utilization and Nutrient Management Plan

SIGNATURE PAGE

WQ0004467000

Plan Prepared by: Baoxin Chang

Date: 9/16/24

Plan Approved by: _____

Date: _____

Producer Signature: Ryan Will

Date: 9-17-24

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 - Est. Amount of Waste Allowed for Land Application

Permit #: WQ0004467000

Biosolids Type	Dry tons biosolids produced annually.	Est. Max DRY tons applied annually
Other	150	349.6

Contact your agronomic consultant, TCEQ or local USDA Natural Resources Conservation Service office, if the application quantities change by more than 10 percent so your plan can be revised.

		Estimated Nutrient Availability	
		Solids	
		pounds / yr	pounds / ton
**	N	4,049	11.6
	P2O5	13,272	38.0
	K2O	2,131	6.1

** Effluent Values Based on Analysis

** Solids Values Based on Analysis

Explanation of Other Biosolids Type:

Aerobically digested sludge produced from City of Gonzales Wastewater Treatment Plant drying press.

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.

Waste Utilization and Nutrient Management Plan

Table 3 - Crop Removal Rates (For Information Only)

P permit #: WQ0004467000

LMU or Field No.	Acres	Crop and P Index Level	ICFQ Plan Type	Actual Crop Analysis or Default	Total Est. N Removal lbs/Ac/Yr	Total Est. P ₂ O ₅ Removal lbs/Ac/Yr	Total Est. K ₂ O Removal lbs/Ac/Yr
A Summer	9.9	Coastal 3 Cut Hay M	NMP	Default	238	74	202
A Winter	9.9	Ryegrass Hay 6000 M	NMP	Default	100	37	102
B Summer	2.4	Coastal 3 Cut Hay M	NMP	Default	238	74	202
B Winter	2.4	Ryegrass Hay 6000 M	NMP	Default	100	37	102
C1 Summer	22.2	Klein 3 Cut Hay 7200 # M	NMP	Default	83	16	164
C1 Winter	22.2	Ryegrass Hay 6000 M	NMP	Default	100	37	102
C2 Summer	11.0	Coastal 3 Cut Hay M	NMP	Default	238	74	202
C2 Winter	11.0	Ryegrass Hay 6000 M	NMP	Default	100	37	102

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**

Table 4 - Maximum Solids Application per Field

Permit #:

WO0004467000

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)
0	A Summer	9.9	Coastal 3 Cut Hay M	9	250	A	6.6	65
	A Winter	9.9	Ryegrass Hay 6000 M	9	110	A	2.9	29
	B Summer	2.4	Coastal 3 Cut Hay M	38	250	A	6.6	16
	B Winter	2.4	Ryegrass Hay 6000 M	38	110	A	2.9	7
	C1 Summer	22.2	Klein 3 Cut Hay 7200 # M	21	110	A	2.9	64
	C1 Winter	22.2	Ryegrass Hay 6000 M	21	110	A	2.9	64
	C2 Summer	11.0	Coastal 3 Cut Hay M	6	250	A	6.6	72
	C2 Winter	11.0	Ryegrass Hay 6000 M	6	110	A	2.9	32
Total Solids Application Acres								
91								
Max. Solids Application Allowable on-site (tons)								
349.6								
Adequate								
Solids to be used off-site (tons)								
0.0								

End of Table 4

Waste Utilization and Nutrient Management Plan

Table 5 - Nutrients Applied/Needs at Maximum Solids Rates

Permit #: [WQ0004467000](#)

LMU / Field #	Nutrients Applied When Application is at Maximum Rates			Supplemental Nutrients Needed When Application is at Maximum Rates			
	N Lb/ac	P ₂ O ₅ Lb/ac	K ₂ O Lb/ac	N Lb/ac	P ₂ O ₅ Lb/ac	K ₂ O Lb/ac	Lime T/Ac
A Summer	76	250	40	220	0	115	1
A Winter	34	110	18	105	0	25	1
B Summer	76	250	40	220	0	0	1
B Winter	34	110	18	105	0	0	1
C1 Summer	34	110	18	45	0	0	0
C1 Winter	34	110	18	35	0	5	0
C2 Summer	76	250	40	220	0	40	1.5
C2 Winter	34	110	18	100	0	0	1.5

Waste Utilization and Nutrient Management Plan

Table 6 - Planned Solids Application Rates

Permit #: **WQ0004467000**

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)
A Summer		9.9	Coastal 3 Cut Hay M	9	A	6.6	100	6.6	65.2
A Winter		9.9	Ryegrass Hay 6000 M	9	A	2.9	100	2.9	28.7
B Summer		2.4	Coastal 3 Cut Hay M	38	A	6.6	100	6.6	15.8
B Winter		2.4	Ryegrass Hay 6000 M	38	A	2.9	100	2.9	7.0
C1 Summer		22.2	Klein 3 Cut Hay 7200 # M	21	A	2.9	100	2.9	64.3
C1 Winter		22.2	Ryegrass Hay 6000 M	21	A	2.9	100	2.9	64.3
C2 Summer		11.0	Coastal 3 Cut Hay M	6	A	6.6	100	6.6	72.4
C2 Winter		11.0	Ryegrass Hay 6000 M	6	A	2.9	100	2.9	31.9
Acres			91.0	Will the planned per acre application rates use all of the Solids?					349.6
350			Tons wet of solids to be used	Tons to be used off-site at planned rates					YES
0									0

Waste Utilization and Nutrient Management Plan

Table 7 - Nutrients Applied/Needed at Planned Solids Rates

Permit #:

WQ0004467000

Red cells? Proceed to adjustment page and fix.

LMU / Field #	Nutrients Applied at Planned Rates			Supplemental Nutrients Needed at Planned Rates			
	N Lb/ac	P ₂ O ₅ Lb/ac	K ₂ O Lb/ac	N Lb/ac	P ₂ O ₅ Lb/ac	K ₂ O Lb/ac	Lime T/Ac
A Summer	76	250	40	220	0	115	1
A Winter	34	110	18	105	0	25	1
B Summer	76	250	40	220	0	0	1
B Winter	34	110	18	105	0	0	1
C1 Summer	34	110	18	45	0	0	0
C1 Winter	34	110	18	35	0	5	0
C2 Summer	76	250	40	220	0	40	2
C2 Winter	34	110	18	100	0	0	2

Tables for TCEQ

Waste Utilization and Nutrient Management Data Entries

General Data	
Date :	9/16/24
Farmer Name :	City of Gonzales
County in which the Land is located :	Gonzales
Type of Waste Plan :	Biosolids
Is this plan in a TMDL watershed for nutrients?	
Yes or No :	No
Is any field PERMITTED by TCEQ?	
Yes or No :	Yes
Permit # :	WQ0004467000

All other entries on General Page appear on the Cover Page

Biosolids Information		
Plan Year :	2024	Explain Other: Aerobically digested sludge produced from City of Gonzales Wastewater Treatment Plant drying press.
Biosolid Type :	Other	
Analysis Date:	8/28/24	
Nitrogen % From Biosolids Analysis:	0.72	
Phosphorus % From Biosolids Analysis:	0.83	
Potassium % From Biosolids Analysis:	0.25	
Moisture % From Biosolids Analysis:	0.00	
Does this site generate biosolids?	Yes	
If B11 = "Yes", How many dry tons/year?	150.00	

This plan is based on: Organic Nutrient Management Plan V 5.0
Printed on: 9/16/24 9:50 AM

Field and Buffer Entries

Printed on: 9/16/24 9:50 AM

Permit #: WQ0004467000
Plan is based on: 590 Organic Nutrient Management Plan V

NOTE: Field Border (FB) is expressed in ACRES on this spreadsheet, but as LINEAR FEET on the CPO.

[illegible]

94

[illegible]

Solids Application Rate Entries

Solids - Set the Planned Application Rates									
150			Permit #: WQ0004467000						
"Wet tons" of solids produced Annually			Will the planned rates use all of the Solids?						YES
			Tons to be used off-site at planned rates						0
LMU or Field No.	Acres	Crop Management and PI runoff potential	Current Soil Test P ppm	Crop P ₂ O ₅ Req.	Annual or Biennial Application Cycle	Maximum Solids Allowable Tons/Ac	Enter % of Maximum Planned to Apply	Planned Solids tons/ac	Planned Solids per field (Tons)
Summe	9.9	Coastal 3 Cut Hay M	9	125	Annual	6.6	100.0	6.6	65.2
Winte	9.9	Ryegrass Hay 6000 M	9	55	Annual	2.9	100.0	2.9	28.7
Summe	2.4	Coastal 3 Cut Hay M	38	125	Annual	6.6	100.0	6.6	15.8
Winte	2.4	Ryegrass Hay 6000 M	38	55	Annual	2.9	100.0	2.9	7.0
1 Summe	22.2	Klein 3 Cut Hay 7200 # M	21	55	Annual	2.9	100.0	2.9	64.3
1 Winte	22.2	Ryegrass Hay 6000 M	21	55	Annual	2.9	100.0	2.9	64.3
2 Summe	11.0	Coastal 3 Cut Hay M	6	125	Annual	6.6	100.0	6.6	72.4
2 Winte	11.0	Ryegrass Hay 6000 M	6	55	Annual	2.9	100.0	2.9	31.9
									349.6

Printed on: 9/16/24 9:50 AM

Plan is based on: 590 Organic Nutrient Management

PI Index by Field

Printed on: 9/16/24 9:50 AM
 Client Name: City of Gonzales
 Planner: Baoxin Chang

This plan is based on: Nutrient Management Plan V 5.0
 Permit #: WQ0004467000
 Date: 9/16/24
 Location: Gonzales
 Rainfall: >25.0 inches

LMU or Fields	Crop	Slope	Runoff Curve	Soil Test P Level	Inorganic P ₂ O ₅ Appl Rate	Organic P ₂ O 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
A Summer	Coastal 3 Cut Hay	1-5%	78	1	0	6	0	4	2.5	2	1.5	17	Medium	9/11/24
A Winter	Ryegrass Hay 6000	1-5%	78	1	0	6	0	4	2.5	2	1.5	17	Medium	9/11/24
B Summer	Coastal 3 Cut Hay	1-5%	78	2	0	6	0	4	1.25	2	1.5	16.75	Medium	9/11/24
B Winter	Ryegrass Hay 6000	1-5%	78	2	0	6	0	4	1.25	2	1.5	16.75	Medium	9/11/24
C1 Summer	Klein 3 Cut Hay 7200 #	1-5%	78	2	0	3	0	4	2.5	2	1.5	15	Medium	9/11/24
C1 Winter	Ryegrass Hay 6000	1-5%	78	2	0	3	0	4	2.5	2	1.5	15	Medium	9/11/24
C2 Summer	Coastal 3 Cut Hay	1-5%	78	1	0	6	0	4	2.5	2	1.5	17	Medium	9/11/24
C2 Winter	Ryegrass Hay 6000	1-5%	78	1	0	6	0	4	2.5	2	1.5	17	Medium	9/11/24

Appendix E

Additional Reference Materials for Site Operators



Waste Utilization Guidelines

- ❖ All manure stockpiled on site should be stored under permanent or temporary cover to be protected from rainfall. Uncovered stacks should not be located in areas where runoff is likely to reach perennial or intermittent streams, lakes, or other sensitive areas.
- ❖ Manure or effluent will not be applied within 150 feet of a private water well, and not within 500 feet of a public water well.
- ❖ Manure or effluent will not be applied within 100 feet of ponds, lakes, perennial or intermittent streams, wetlands, sinkholes, etc. (as designated on NRCS Soil Survey or USGS Topo Map).
- ❖ Manure or effluent will not be applied to frequently flood areas.
- ❖ Manure or effluent will not be applied to slopes greater than 8 percent, unless application is part of an erosion control plan.
- ❖ A laboratory soil analysis of the application area will be completed before initial manure application and at least every other year if waste is applied annually there after. Manure should be submitted for testing before application. Records of soil and manure tests should be maintained for 5 years.
- ❖ Trucks hauling manure more than one mile down state, federal, or other busy highways should be covered.
- ❖ Manure or effluent should not be applied to frozen, snow covered, or saturated soils, and it should not be applied near sensitive areas (water bodies) if heavy rains are forecast to occur soon after application.
- ❖ Neighbors should be informed prior to manure application. Explain that there may be an odor for several days, and that the odor is not harmful.
- ❖ Manure or effluent should not be applied immediately before weekends or holidays if nearby outdoor activities are planned.
- ❖ Records of where, when, how much, and to what crop manure or effluent is applied should be maintained for 5 years.
- ❖ See Table 1 or other attachments for additional application guidance.

Last revised 7/01

Maximum Annual Phosphorus Applications

**TABLE 1. ANNUAL PHOSPHORUS APPLICATION RATES FOR NUTRIENT
NON-IMPAIRED WATER BODY SEGMENTS**
(based on most recent soil test)

Soil Test Rating *	Commercial Fertilizer	Animal Wastes
VL, L, M	Soil Test Recommendation	Apply at Nitrogen Rate
H	Soil Test Recommendation***	≤ 2.0X Crop Requirement** or Phosphorus Index
VH	Soil Test Recommendation***	≤ 1.5X Crop Requirement** or Phosphorus Index
CRITICAL	*****	*****

* Land Grant University ratings (VL = very low, L = low, M = medium or moderate, H = high, VH = very high).

** Not to exceed the Nitrogen rate.

*** Usually zero unless starter P is recommended.

**** Critical soil test extractable P in Texas is 200 ppm and is approximately equal to 5 times the minimum HIGH rating of any other Land Grant University soil test P extractant method (Example: Minimum High rating is 42 in Texas, $42 \times 5 = 210$, ~ 200). **Once the Table 1 "critical" soil test rating is reached, seek assistance from local USDA – NRCS office for assistance before waste is applied.**

Texas A&M nutrient recommendations and crop requirements can be found at the following web site or by visiting the local USDA – NRCS or Texas Agricultural Extension office.

<http://soil-testing.tamu.edu/NMP/>

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Managing Crop Nutrients Through Soil, Manure and Effluent Testing

Mark L. McFarland, Tony L. Provin, and Sam E. Feagley*

Benefits of Manure and Effluent

Livestock manures are often rich in plant nutrients. Studies have shown that up to 75 percent of the nitrogen (N), 60 percent of the phosphorus (P_2O_5) and 80 percent of the potassium (K_2O) fed to dairy cattle are excreted in manure. Poultry litters and swine manures may have even higher values for phosphorus and potassium. These elements are essential plant nutrients required by all plants for normal growth and production. In addition, litter and manures contain smaller amounts of other plant nutrients including calcium, magnesium, sulfur, manganese, copper, iron, zinc, boron, molybdenum, and chloride.

Along with these nutrients, manures and litters supply valuable organic matter to help improve soil structure, soil tilth and workability, and water and nutrient holding capacities. In addition, manures and litters increase the activity of beneficial soil microbes. However, nutrient concentrations in manure can be highly variable, depending on feeding rations and methods of collection, storage and handling. Table 1 shows the average and range in concentrations of nutrients in various types of livestock manure.

*Assistant Professor and Extension Soil Fertility Specialist, Assistant Professor and Extension Soil Chemist, and Professor and State Environmental Soils Specialist, respectively, The Texas A&M University System.

For operations using runoff and effluent containment systems, the benefits of supplemental irrigation water during periods of low rainfall are obvious. In addition, these waters will contain significant quantities of plant nutrients. However, depending on rainfall runoff amounts, effluent production and seasonal evaporational losses, nutrient concentrations vary significantly. Table 2 shows the average and range of nutrient concentrations in effluents at various stages of collection and management.

Soil Testing

Soil testing is the foundation of a sound fertility management program. A soil test is a series of chemical analyses on soil which estimates whether levels of essential plant nutrients are sufficient to produce a desired crop and yield. When not taken up by a crop, some nutrients, particularly nitrogen, can be lost from the soil by leaching or

volatilization. Others, like phosphorus, react with soil minerals over time to form compounds which are not available for uptake by plants. Soil testing can be used to estimate how much loss has occurred and predict which nutrient(s) and how much of that nutrient(s) should be added to produce a particular crop and yield.

Collecting a good soil sample is the most critical step in soil testing. It is generally recommended that one "composite" soil sample be collected from each uniform area (field or part of a field) of 10 to 40 acres. Care should be taken to prevent sampling across areas with historically different land uses, soil types, fertilization practices, or crop yields. For fields used for routine land application of manure and wastewater, one sample per field is commonly submitted. A composite sample is obtained by combining 10 to 15 individual soil cores taken randomly across each field. The 10 cores are placed in a clean plastic bucket, thoroughly

Table 1. Average and Range () in Nutrient Value for Manure at the Time of Land Application.¹

Source	Dry Matter	Nitrogen (N)	Phosphorus (P_2O_5)	Potassium (K_2O)
	%		(lbs/ton)	
Cow (fresh)	25	15	8	10
Beef (feedlot)	65 (45-79)	27 (23-39)	24 (15-39)	36 (18-56)
Dairy (corrals)	65 (2-80)	28 (4-44)	11 (1-78)	26 (1-48)
Dairy (stockpile)	80	28	12	23
Broiler (litter)	65 (25-85)	58 (34-89)	51 (32-67)	40 (16-48)
Layer	35 (4-78)	30 (13-70)	40 (2-85)	20 (8-52)
Swine	18 (15-20)	10 (9-11)	9 (7-13)	7 (6-9)

¹Adapted from Mathers, et al., 1973, Harty et al., 1992, and Bandel, 1990.

Table 2. Average and Range () in Nutrient Value of Effluents at the Time of Land Application.¹

Source	Dry Matter	Nitrogen (N)	Phosphorus (P ₂ O ₅)	Potassium (K ₂ O)
Dairy	%	(lbs/acre-inch)		
Primary Lagoon	<1.0	49 (39-64)	11 (8-13)	62 (48-150)
Second Stage Lagoon	<1.0	21 (16-27)	5 (1-9)	55 (46-66)
Beef	<1.0	38	25	32
Swine	<1.0	113	34	79
Poultry	<1.0	271	90	497
Dairy		(lbs/1000 gallons)		
Primary Lagoon	<1.0	1.8 (1.4 - 2.4)	0.4 (0.3 - 0.5)	2.6 (1.8 - 5.5)
Second Stage Lagoon	<1.0	0.8 (0.6 - 1.0)	0.2 (0.04 - 0.3)	2.0 (1.7 - 2.4)
Beef	<1.0	1.4	0.9	1.2
Swine	<1.0	4.1	1.2	2.9
Poultry	<1.0	9.9	3.3	18.3

¹Adapted from Sweeten and Wolfe, 1993.

mixed and then about 1 pint is sent to the laboratory for testing.

Individual soil cores can be taken using a regular spade, soil auger or soil sampling tube (Figure 1). First, scrape any plant residue from the surface and then make the core or boring 6 inches deep. Be careful not to remove dark colored, partially decomposed organic matter when removing plant residue. When using a spade, dig a 6-inch deep, 45 degree V-shaped hole and take a 1-inch slice from the smooth side of the hole. Then remove a 1 by 1-inch core from the center of the shovel slice. By collecting 10 to 15 individual cores across the area, one can better ensure that the soil test results will be representative of the site and fertilizer recommendations will be appropriate. Complete sampling instructions and sample bags can be obtained from your local county Extension office.

Soil samples taken for the purpose of regulatory reporting may require more than one soil depth. For example, current regulations for most concentrated animal feed operations require composite samples from each land application field for two depths: 0 to 6 and 6 to 24 inches. Both depths should be collected at each of the 10 to 15 coring sites in a field, placed into separate buckets and submitted as separate samples

to the laboratory. Care should be taken during sampling not to mix soil from the two sampling depths, to avoid obtaining incorrect results. In addition, both the sample bags and soil test information sheets should be clearly marked to distinguish between different samples and among different fields. Facilities subject to state regulations should review their permits to determine which samples and tests may be required.

To ensure good samples, a producer also should follow these recommendations:

1. Never use heat to dry a sample. You can air dry the sample by laying it on clean paper (do not use newsprint of any kind).
2. Keep accurate records of the area represented by each sample.
3. Avoid sampling areas such as small gullies and other eroded areas, depressions, terraced waterways and unusual spots.
4. When sampling fertilized fields, do not sample in the fertilized band.
5. Do not use metal buckets or containers with any residue in them since it might affect test results.
6. To avoid contamination, be sure to clean your sampling tool and bucket(s) before sampling the next field.

Soil tests can be obtained from the Texas Agricultural Extension Service Soil, Water and Forage Testing Laboratory in College Station, Texas, or from various private laboratories across the state. Costs range from about \$10 and up, depending on the laboratory and type of tests requested. Contact your local county Extension agent for more information.

Table 3 illustrates the results from a typical soil test analysis. The numerical values are given in parts per million (ppm), which can be multiplied by 2 to obtain estimated pounds of nutrient per acre. Depending on the crop and yield goal (as requested on the soil test information sheet), a fertilizer recommendation for all major and most minor crops in Texas will be provided by the Texas Agricultural Extension Service Soil, Water and Forage Testing Laboratory. You may need to request recommendations from many commercial laboratories. The fertilizer recommendation can be used to determine commercial fertilizer needs, or used in conjunction with manure/wastewater analyses to determine proper land application rates.



Figure 1. Soil sampling is the most important step in soil testing. Above is an example of a 1 x 1 x 6-inch core taken with a spade.

Table 3. Example of a Soil Test Report.													
SOIL TEST REPORT													
TEXAS AGRICULTURAL EXTENSION SERVICE—THE TEXAS A&M UNIVERSITY SYSTEM													
SOIL TESTING LABORATORY, COLLEGE STATION TX 77843													
LAB DIRECTOR (409)845-4816													
DATE RECEIVED: _____													
DATE PROCESSED: _____													
COUNTY: _____													
LAB#: _____													
SOIL ANALYSIS													
[SOIL TEST RATINGS - PPM ELEMENT (AVAILABLE FORM)]													
PH	NITROGEN	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR	
6.6	3.	3.	40.	820	41.	260.	.22	5.2	1.2	.12	16.	3	
MILDLY ACIDIC	VERY LOW	VERY LOW	VERY LOW	HIGH	LOW	NONE	MOD	MOD	MOD	MOD	VERY LOW	LOW	

(PPM X 2 = LBS/ACRE 6 INCHES DEEP)

CROP AND YIELD RANGE: Improved and Hybrid Bermuda Grass (1 Hay Cutting Plus Grazing)

Suggested Fertilizer Rate LBS/A: $\frac{95}{N} - \frac{50}{P_2O_5} - \frac{110}{K_2O}$

Broadcast at spring growth.

Topdress with additional 60 lbs/a of nitrogen after each 4 to 6 week graze down.

Magnesium levels are becoming low. Consider using 150 lbs/a of potassium magnesium sulfate annually.

Broadcast 15 lbs of sulphur per acre. In some cases, deep rooted perennial crops may not respond to sulphur applications due to its presence in the deeper profile.

Further information and assistance can be obtained from your county Extension agent:

Agent name: _____ Address: _____

Nutrient concentrations in manures and effluents can vary substantially due to differences in feeding rations and methods of collection, handling, storage and moisture content. This will affect the fertilizer value of the material and determine proper land application rates. As a result, regular laboratory analyses of manures and effluents are strongly recommended. In addition, annual soil testing is recommended to evaluate soil nutrient levels and adjust loading rates.

ent levels. Mix the core samples in a clean plastic bucket or paper bag. Place about 1 pint of the mixed sample into a sampling bag or a sealable plastic storage bag to submit for testing. Samples should be submitted as soon as possible after collection since chemical changes in the nutrients within the bag can occur during storage.

plastic bottle (new plastic baby bottles work well). Fill the container to within one to two inches of the top to allow for expansion. Do not use glass containers, as they may explode due to pressure buildup or break during shipment.



3

Clearly label each sample with an identification number. This number should correspond to the one listed on the sample identification sheet submitted with the sample to the laboratory. Place all samples, information sheets and payment into a sturdy paper box for shipment to the laboratory. Keep a record of the dates and locations from which the samples were collected. Submit all samples as soon as possible after collection.

Table 4 presents results from a typical laboratory analysis of manure for three samples from different sources. Values for nitrogen, phosphorus, potassium, calcium and magnesium are given in percent (%). Multiplying these numbers by 20 will give the total pounds of nutrient per ton. For example, 1.09% nitrogen would be equivalent to 21.8 lbs N/ton.

Phosphorus (P) values should then be multiplied by 2.29 to give pounds of P_2O_5 /ton. Potassium (K) values should be multiplied by 1.2 to give pounds of K_2O /ton. Other nutrients expressed in parts per million (ppm) can be multiplied by 0.002 to obtain pounds per ton.

Table 5 presents the results from a typical laboratory analysis of effluent for two samples from different sources. Values for nitrogen, phosphorus and potassium are given in percent (%). Multiply these percentages by 2264 to obtain the total pounds of nutrient per acre-inch. Here again, phosphorus and potassium must then be multiplied by 2.29 or 1.2, respectively, to give pounds of P_2O_5 or K_2O per acre-inch. For nutrients expressed in ppm, multiply values by 0.2264 to determine pounds per acre-inch.

Manure and effluent tests can be obtained from the Texas Agricultural Extension Service Soil, Water and Forage Testing Laboratory in College Station, Texas, or from various private laboratories across the state. Costs range from about \$20 and up, depending on the laboratory and type of tests requested. Contact your local county Extension agent for more information.

Determining Land Application Rates

Land application rates should be beneficial to crops while protecting the environment. However, nutrient ratios (N: P_2O_5 : K_2O) in manures usually do not match the nutrient requirements of crops. As a result, the most efficient and economical fertilizer management strategy gener-

Table 4. Typical Laboratory Analysis Report for Solid Dairy Manure Obtained from Three Sources.

PLANT ANALYSIS REPORT													
TEXAS AGRICULTURAL EXTENSION SERVICE THE TEXAS A&M UNIVERSITY SYSTEM													
SOIL, WATER AND FORAGE TESTING LABORATORY													
COLLEGE STATION, TX 77843-2474													
Lab Coordinator (409) 845-4816													
Date Received: _____													
Date Reported: _____													
County: _____													
Plant Analysis*													
Plant Analysis Ratings													
Lab Number	Sample ID Sample Type	Nitrogen %	Phosphorus %	Potassium %	Calcium %	Magnesium %	Sodium PPM	Zinc PPM	Iron PPM	Copper PPM	Manganese PPM	Sulfur PPM	Boron PPM
xxx	MAN	1.09	.58	2.25	1.40	.82	2,000	130	6,116	36	202	3,956	42
xxx	MAN	2.00	1.03	1.93	4.73	1.81	5,751	263	9,611	88	427	6,390	56
xxx	MAN	1.24	.77	1.20	4.15	.81	2,456	164	12,392	65	291	3,911	37

*Results Reported on 100% Dry Matter Basis

Table 5. Typical Laboratory Analysis Report for Dairy Lagoon Effluent Obtained from Two Sources.

Extension Soil, Water and Forage Testing Laboratory														
Effluent/Liquid Manure Analysis Report														
Lab#	Sample ID	N	P	K	Ca	Mg	Na	Zn	Fe	Cu	Mn	NO ₃	pH	Conductivity
		←-----%-----→					←-----PPM-----→					%		μmhos/cm
xxx	Lagoon 1	.027	.005	.065	.015	.009	145	0	3	0	0	< 1	7.3	5,170
xxx	Lagoon 2	.014	.004	.056	.010	.006	114	0	3	0	0	< 1	7.3	3,440

ally involves using a combination of manure and/or effluent, and commercial fertilizer to meet crop nutrient needs. In this way, the proper balance of nutrients for optimum crop production can be provided.

Phosphorus-based application rates can help prevent the buildup of phosphorus in soils. Excessive levels of phosphorus in soils can lead to nutrient imbalances which reduce crop yields, and can potentially contribute to water pollution. Once the proper application rate is determined based on soil and manure/effluent testing, supplemental commercial fertilizer can be used to supply the balance of crop needs for other essential nutrients (particularly nitrogen).

Management Considerations

Using manures and wastewaters effectively can greatly reduce crop fertilizer needs, and thus improve the economics of production. At the same time, application of too much manure, wastewater or commercial fertilizer, or a combination of these materials, can reduce crop yields, hurt animal performance and limit profits. When nutrients are applied at excessive rates and are not balanced with crop requirements, plant nutrient deficiencies or toxicities can occur. For example, excessive phosphorus levels in soil can cause a zinc and/or iron deficiency in crops. In addition, over application and/or improper spreading of manure and effluent can pollute surface and ground water with nitrates, phosphates and/or fecal bacteria. This accidental contamination of the ground and surface water can pose a health risk to you, your family and livestock, and may require years to correct.

Other best management practices (BMPs), which should be followed when using any fertilizer material, include:

1. Time applications of manures and fertilizers as close as possible to periods of crop nutrient need.
2. Avoid applications when the ground is frozen, saturated, or when the potential for heavy rainfall is great.
3. Inject or incorporate wastes into the soil if possible to conserve nutrients.
4. Avoid surface applications on steep (>8%) slopes.
5. Use management practices to control sediment losses.
6. Provide a filter or buffer strip (25 to 100 feet) between the application area and any nearby water resources including wells, ponds, streams, etc. (increase strip width in areas prone to erosion, slow infiltration, or limited plant growth).

Calibrating Solid Manure Spreaders

No fertilizer material can be properly applied if the rate of application is not known. A properly calibrated manure spreader will help ensure the correct amount of manure is applied. The following procedure can be used to calibrate typical solid manure spreaders.

Materials needed:

- Bucket
- Plastic sheet, tarp or old bed sheet. Even sizes, such as 8 feet x 8 feet, 10 feet x 10 feet or 10 feet x 12 feet will make the calculation easier.
- Scales (accurate to 1/2 pound).

Table 6. Calibration of Solid Manure Spreaders.

Pounds of Manure Applied to Sheet	Tons of Manure Applied/Acre		
	Size of Sheet (feet)		
	8'x8'	10'x10'	10'x12'
1	0.34	0.22	0.18
2	0.68	0.44	0.36
3	1.02	0.65	0.54
4	1.36	0.87	0.73
5	1.70	1.09	0.91
6	2.04	1.31	1.09
7	2.38	1.52	1.27
8	2.72	1.74	1.45
9	3.06	1.96	1.63
10	3.40	2.18	1.82
11	3.74	2.40	2.00
12	4.08	2.61	2.18
13	4.42	2.83	2.36
14	4.76	3.05	2.54
15	5.10	3.27	2.72
16	5.45	3.48	2.90
17	5.79	3.70	3.09
18	6.13	3.92	3.27
19	6.47	4.14	3.45
20	6.81	4.36	3.63
21	7.15	4.57	3.81
22	7.49	4.79	3.99

If the size of the sheet being used is not listed, the following equation may be used to determine litter application per acre. Remember to account for the moisture content of the material if application rates are to be made on a dry weight basis. This can be done by dividing tons/acre (wet weight basis) by the percent moisture content (decimal fraction).

$$\frac{\text{Pounds of manure collected over sheet} \times 21.78}{\text{Area of sheet, ft.}^2} = \text{tons/acre (wet weight basis)}$$

To calibrate:

1. Locate a large and reasonably smooth, flat area where manure can be applied.
2. Spread the plastic sheet, tarp or bed sheet evenly on the surface of the test field.
3. Start driving the spreader at the normal application speed toward the sheet, and begin spreading at an even rate.
4. Drive over the sheet at the normal application speed while continuing to apply manure.
5. Collect all manure spread on the sheet and pour it into the bucket.
6. Weigh the bucket with manure, then subtract the weight of the empty bucket to determine pounds of manure applied to the sheet.
7. Repeat the procedure at least three times to get a reliable average.

8. Determine the average weight of the manure applications.
9. Refer to the chart in Table 6 under the appropriate sheet size to read Tons of Manure Applied Per Acre.
10. Remember to account for moisture content when determining actual land application rates on a dry weight basis.

Optional Method for Easy Calculations

1. Use a square sheet measuring 4 feet 8 inches on all sides, which is equal to 1/2000th of an acre.
2. Follow steps 1 through 8 above.
3. Pounds of manure collected on this size of sheet is equal to the Tons of Manure Applied Per Acre.

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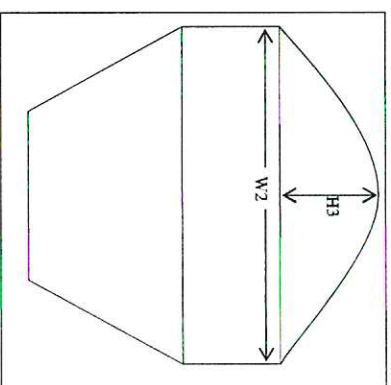
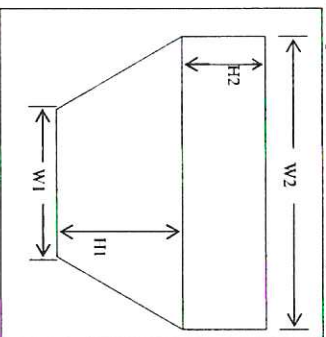
Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Chester P. Fehlis, Deputy Director, Texas Agricultural Extension Service, The Texas A&M University System.
2.5M, Reprint

AGR 13

Estimating the Volume and Capacity of Spreaders with Trapezoidal Bottom *(Revised)*

Use these calculations to estimate volume and capacity of spreader or truckload of poultry litter.

(L) Length of spreader or trailer _____



Dry system - measure all dimensions in feet and tenths of feet. (round measurements to even inch and divide by 12 to get feet and tenths)

A. Spreader Volume

Box spreader (level load):

$$\left[\left(\frac{W1 + W2}{2} \right) \times (H1) \times (L) \right] + \left[(W2 \times H2) \times (L) \right] = \text{_____ Cubic Feet Level Load}$$

Box spreader (piled load):

$$\left(\frac{W2}{2} \times H3 \right) \times (L - W2) = \text{_____ Additional cubic feet in piled section}$$

_____ Cubic feet in level load

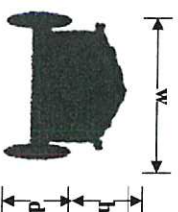
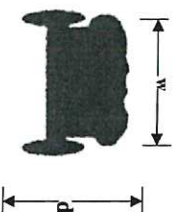
_____ Total Cu.Ft. in Piled Load

B. Spreader Capacity

(Cubic feet _____ x 32) ÷ 2000 = _____ Tons per Load

Estimating the Volume and Capacity of Spreaders

Use these calculations to estimate volume and capacity of spreader or truckload of poultry litter.



Dry System- measure all dimensions in feet and tenths of feet. (1 3/16" is approximately 1/10 of a foot)

A. Spreader Volume

Box spreader (level load):

Cubic feet = length (l) _____ x width (w) _____ x depth (d) _____ = _____ Cu.Ft. Level Load

Add these values for Cu.Ft. of Piled Load

Box spreader (piled load):

[length (l) _____ x width (w) _____ x depth (d) _____] = _____

[length (l) _____ x width (w) _____ x height (h) _____] ÷ 2 = _____

Cu.Ft. of piled load _____

B. Spreader Capacity

(Capacity feet _____ x 32) ÷ 2000 = _____ Tons per Load



DOUCET

Attachment H

Nutrient Management Plan

Nutrient Management Plan

Prepared For:

Doucet & Associates
1340 Wonder World Drive
Suite 108
San Marcos, TX 78666

office: (512) 851-1740
cell: (512) 566-4076

Prepared By:

Baoxin Chang
Thomas Turf Services, Inc.
11183 State Highway 30
College Station, TX 77845
Phone: 979-774-1600
e-mail: soiltest@thomasturf.com

17-Sept-24

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Waste Utilization and Nutrient Management Plan

Signature Page

Permit #WQ0004467000

Plan Prepared by: *Baoxin Chang*
Baoxin Chang

Date: 9/16/2024

Producer's acceptance and agreement: As a representative of the City of Gonzales my signature below constitutes agreement with the terms and operating provisions contained in this nutrient management plan. Furthermore, we agree to manage the beneficial land application sites in accordance with the recommendations set forth in this nutrient management plan.

Plan Accepted By: *Ryan Wilkerson*
Ryan Wilkerson, Water Plant Manager

Date: 9-17-24

1. Summary

This nutrient management plan has been developed in support of the City of Gonzales, Texas permit renewal application for the beneficial use and land disposal of biosolids (sewage sludge) generated from its municipal wastewater treatment plant (TCEQ Permit number WQ0004467000). The permit renewal application is being prepared for the City of Gonzales by Doucet and Associates in September 2024. Both the treatment plant and proposed disposal site are located in Gonzales County, TX.

The biosolids application area is located on four fields used for hay production. The fields are composed of the Benchley, Edge and Kurten soil series with 1-5% slopes. The permitted area is 2-3 miles east of the City of Gonzales. The site is composed of a total of 149.5 acres. However, after removal of buffer areas along unnamed drainage areas, wells, property boundaries and other exclusion areas including a former municipal solid waste landfill, sludge application will be made to only 45.5 acres of the site. Application will be done by surface spreading of the biosolids with no incorporation. The origin of the waste is from the City of Gonzales Wastewater Treatment Plant after passing through their drying press and typically contains 16.7% solids by weight.

The permitted application area is subdivided into four management units labeled as Areas A, B, C1 and C2. Areas A, B and C2 are used for coastal bermudagrass hay production and are managed for 3 cuttings per year. Area C1 is used for kleingrass hay production and is also managed for 3 cuttings per year. All four areas will be overseeded with ryegrass during the winter months. All four areas are leased to a local farmer for harvesting, baling and removal of hay from the site.

Management techniques for surface spreading of the biosolids are in place and are based on good agronomic practices. Procedures are in place to accumulate excess solids in the digesters when application cannot be made. If the storage capacity of the digesters is exceeded, excess material will be stored on former drying beds. Should weather conditions continue to be unsuitable for application at the field site and further storage is needed, excess biosolids will be transported to alternate permitted facilities through a contract with Texas Waste Disposal. The Management Plan includes methods for keeping records of waste application volumes and locations.

Based on the above information, the proposed waste applications to the City of Gonzales waste application area are agronomically sound and should not result in excessive risk of environmental damage from excess plant nutrients.

2. Background Information

For the past 21 or more years the City of Gonzales, Texas has possessed a permit for land application of their municipal wastewater treatment plant biosolids to City owned hayland adjacent to the former municipal solid waste landfill and animal shelter.

Past applications have been made to four small tracts of land totaling 45.5 acres. The biosolids are classified as a sludge having approximately 16.7% solids. The waste basically consists of liquids and solids from aerobic digestion chamber of the City's municipal wastewater treatment plant (TCEQ Permit number WQ0004467000).

As part of the registration process, the Texas Commission on Environmental Quality (TCEQ) has required that a nutrient management plan be prepared for the receiving facility. Thomas Turf Services, Inc. was contacted by Keith Schauer, P.E. of Doucet and requested to develop the required nutrient management plan. In response to that request, the following plan was developed by Dr. Baoxin Chang, General Manager of Thomas Turf Services, Inc. and Certified Nutrient Management Specialist (Cert. No. 202301). The management plan is based on discussions with the site operator, a review of various documents supplied by Doucet and Associates; and a site visit conducted on August 2, 2024.

3. General Site Information

a. Site Location and Ownership

The application site is located on the northeast side of the city, approximately 1.2 miles northeast of the intersection of State Highway 90 and FM 532 in Gonzales County, TX. The site is owned by the City of Gonzales. The current contact information for the City of Gonzales is as follows:

City of Gonzales, TX
820 St. Joseph Street
Gonzales, TX 778629
Phone: 830-672-3525

Driving instructions to get to the Land Application Site are as follows:

1. Starting at the intersection of Hwy 90 and FM 532, travel approximately 0.8 miles west on FM 532.
2. Turn left (south) onto CR 488 and travel 0.3 miles.
3. Just as you encounter the sharp right turn in the road, the site entrance is straight ahead.

A reproduction of the USGS topographical map prepared previously by TRC Engineering, Inc. showing the location of the land application site, the individual application areas and adjacent area is presented in Figure 1. General highway maps showing the site are on file with the TCEQ as part of the permit application and will not be resubmitted with this nutrient management plan.

b. Site Organization

Waste applications will be limited to 45.5 acres of the total 149.5 acres within the permitted site as presented in Figure 1. This reduced area allows for a 100' buffer along each side of two unnamed waterways that go through the site. One waterway divides Application area A from B. The second waterway is the reason for the U shape of Area C. There is also a private well on the Site which has been given the needed 150 ft setback. There are also two large tracts of land on the site that are excluded from waste application. The first is the large area to the east of Area A. This is the site of the closed municipal solid waste landfill and no application will be made to or near it. The second area is a large tract of land immediately north of areas A & B and east of Area C. This area has been reserved for other uses including an animal shelter and shooting range.

Since waste is brought in from the municipal wastewater treatment plant, there is no on-site production facility. However, the Beneficial Land Use Site is equipped with a suitable all weather driveway to accommodate the spreader truck that is used to haul and apply the biosolids.

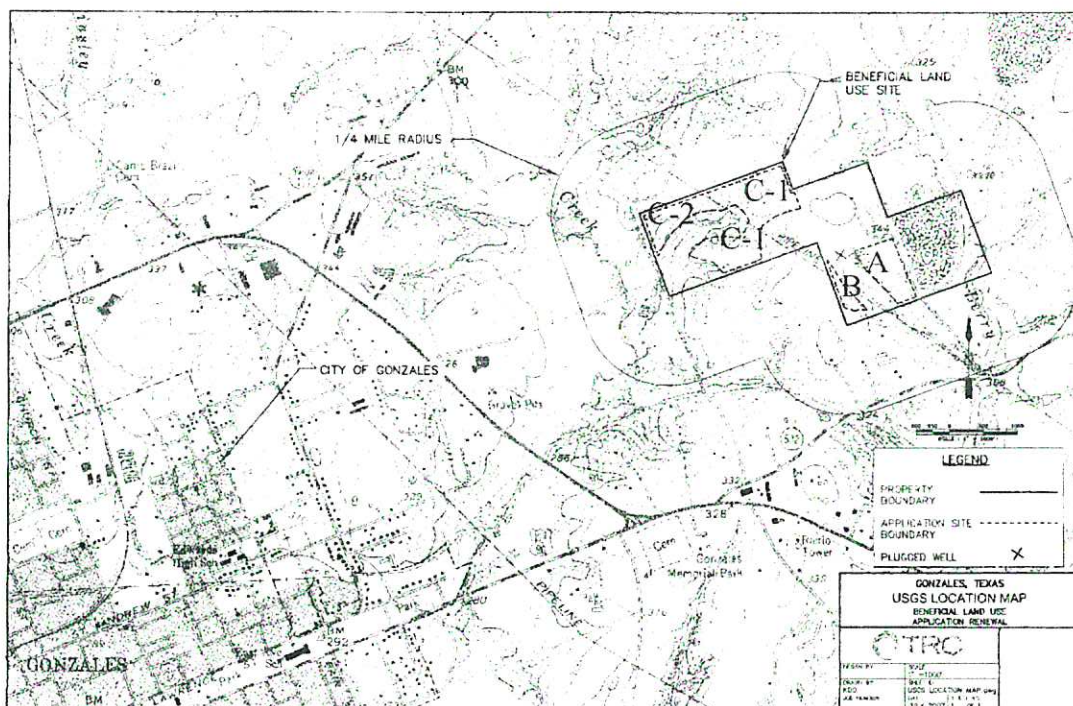


Figure 1. USGS topographical map showing the overall Beneficial Land Use Site and Waste Application Areas A, B, C1 and C2.

The waste application areas are located on rolling terrain with an overall slope of approximately 4% usually grading downhill to a drainage waterway. The Site Application Areas are free of large trees and are covered with pasture grass (Areas A&B are approximately 80% coastal bermudagrass. Site C1 is approximately 60% kleingrass) in good condition while C-2 is approximately 80% coastal bermudagrass in good condition. The grass is mowed and baled for hay approximately three times per year by a local farmer who leases the area for hay production. Baled hay is sold to local farmers for use as livestock feed. The current farmer in charge of hay production is unknown. The site operator was not able to provide an estimate of yields which have been achieved, therefore the NMP is based on book values for yields. Since the hay is sold and transported off site, it represents a net loss of plant nutrients from the site.

4. Soil Conditions

The Waste Application Areas are shown in Figure 2. Figure 2 is a reproduction of a soil series map of the Gonzales County Soil Survey which is currently available online. The soils map shows the Waste Application Areas to contain three soil series with 1-5% slope. Soil series present on the site include the Benchley, Edge and Kurten series. The official NRCS soil series descriptions for each soil series are presented in Appendix A of this report.

The Benchley soil series is classified as a Fine smectitic, thermic Udertic Argiustolls. Under pasture conditions, the Benchley series 1-3% slope is estimated to have a slight erosion hazard. The upper 10 inches of the soil profile is listed as having a loam texture. From 10 to 80 inches, the soil texture changes to clay loam and clay textures which have a very low estimated permeability. Based on the NRCS criteria for determining hydrologic soil groups, the Benchley series is classified in hydrologic group D, due to having a restrictive layer in the upper 50 cm.

The Edge soil series is classified as a Fine, mixed, active, thermic Udic Paleustalfs. Under pasture conditions, the Edge series 1-3% slope is estimated to have a slight erosion hazard. The upper 11 inches of the soil profile is listed as having a fine sandy loam texture. From 10 to 80 inches, the soil texture changes to a clay texture which has a very low estimated permeability. Based on the NRCS criteria for determining hydrologic soil groups, the Edge series is classified in hydrologic group D, due to having a restrictive layer in the upper 50 cm.

The Kurten soil series is classified as a Fine, smectitic, thermic Udertic Paleustalfs. Under pasture conditions, the Edge series 1-3% slope is estimated to have a slight erosion hazard. The upper 4 inches of the soil profile is listed as having a fine sandy loam texture. From 4 to 45 inches, the soil texture changes to a clay texture which has a very low estimated permeability. Based on the NRCS criteria for determining hydrologic soil groups, the Edge series is classified in hydrologic group D, due to having a restrictive layer in the upper 50 cm.

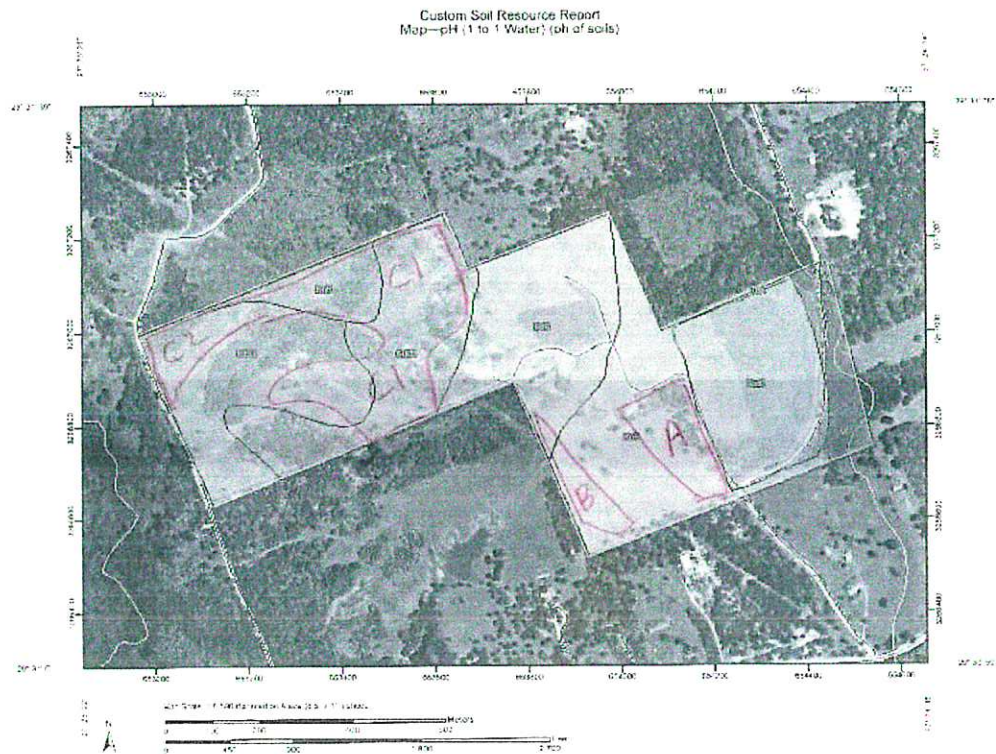


Figure 2. Map of the Land Application Site Showing the Waste Application Areas and Soil Series present.

During the site visit on August 2, 2024, the four application areas were observed to be managed as hay production areas. The fields had not yet been mowed and the grass was thick due to wet weather. Figure 3 shows a view of the Waste Application Area A. The application areas are not grazed and there were no signs of previous animal activity on the site. Upon careful examination, residues from biosolids could be identified on application areas but were not present in buffer areas, indicating that applications are being performed properly. Green poles similar to the one shown in the upper right quadrant of the photo are used delineate the boundaries of waste application for field equipment operators.

5. Waste Characterization

Representative samples of wastewater treatment plant biosolids were collected by City employees from the drying press at the Gonzales Municipal Wastewater Treatment Plant on 08/01/2024. The samples were analyzed by Aqua-Tech Laboratories and the results are presented in Appendix B. Nutrient contents reported on these samples were utilized in the NMP program as a basis for calculating nutrient loading rates.

6. Site Operation and Maintenance

a. Past Application Amounts

According to personal communication with Ryan Wilkerson, the biosolids have been surface applied using a Knight Pro Twin Sludge Slinger. A review of records showed the following applications over the past 5 year period.

Year	Total (dry tons)
2019	0
2020	91.06
2021	72.37
2022	150.3
2023	122.31

Application rates in 2019 were zero due to significant mechanical issues with the Knight Pro Twin Sludge Slinger truck used for sludge application. In 2019, the City purchased a new vehicle, and application rates began returning to normal in 2020.

The total application rates for the coming year are expected to be 6.6 dry tons per acre per year for Area A, 6.6 dry tons per acre per year for Area B, 2.9 dry tons per acre per year for Area C1, and 6.6 dry tons per acre per year for Area C2 during the warm season when warm-season grasses are actively growing. Additionally, an application of 2.9 dry tons per acre per year is planned for Areas A, B, C1, and C2 during the winter months, when the fields are overseeded with ryegrass. This will allow the application of a total of 349.6 dry tons per year which is more than the estimated annual biosolid production of 150 tons. If excess sludge is generated, it will need to be taken to a locally permitted landfill by the contracted service provider (Texas Disposal Services).



Figure 3. Photograph of Waste Application Area A.



Figure 4. Kleingrass growing on Waste Application Area C-1.

b. Soil Sampling of the Application Areas

The four biosolid application areas were sampled by Ryan Wilkerson and staff on August 25, 2024. Two separate composite samples were collected from each of the application areas A, B, C1 and C2. Composite samples from Fields A, B, and C2 were made by combining samples from 8 individual sampling locations (Fig 5). The composite from field C1 was a combination made from 10 individual sampling locations. The first sample from each area was from the 0-6 inch depth and the second was from the 6-24 inch depth. These eight composite samples were analyzed by the Texas A&M Soil, Water and Forage Testing Laboratory for plant available nutrients according to the Appendix B "Soil Testing Information" from TCEQ using the specified methods and extractants. Results of the soil sample analyses from the four Application Areas are shown in Appendix C.

c. Waste Application

The land management unit sizes, nutrient contents, soil properties, biosolids composition, and other pertinent information were entered into the 590-633 Nutrient Management Plan Program, Version 5.0. The resultant nutrient management plan is attached as Appendix D and allows the application of a maximum total of 349.6 dry tons of biosolids annually to the four application areas. The management units and maximum allowable amounts of biosolid applications are summarized in the following table.

Land Management Unit	Size	Maximum Allowable Biosolids Application	
		Tons/Acre	Tons/field
A Summer	9.9	6.6	65.2
A Winter	9.9	2.9	28.7
B Summer	2.4	6.6	15.8
B Winter	2.4	2.9	7.0
C1 Summer	22.2	2.9	64.3
C1 Winter	22.2	2.9	64.3
C2 Summer	11.0	6.6	72.4
C2 Winter	11.0	2.9	31.9

Since the City of Gonzales produces approximately 150 dry tons of biosolids, application rates will be at 100% of the maximum. Extra biosolids will be taken to a locally available permitted landfill if there are any.

Waste application is to be accomplished using a Knight Pro Twin Slinger truck capable of broadcast spreading of the sludge on the ground surface. The Knight Pro

Twin Slinger truck will be filled with sludge at the treatment facility and driven to the appropriate application area. Once within the boundaries of the application area the biosolids will be spread at a low rate allowing for distribution at a rate not to exceed the maximum allowable application rate in dry tons per acre noted above. Application will proceed from Area A to B to C-1 and then to C-2. The truck driver will make notes of which loads go to what area of which field so that repeat application to the same area can be avoided. Permanent markers have been installed in the field to delineate buffer areas from those areas permitted for sludge application. In the case of wet soil conditions which may limit access to low lying areas of some parts of the permitted application areas, application may be made to dryer areas but special notes will be made to avoid reapplication to these areas later in the year.

Aug 21
2018

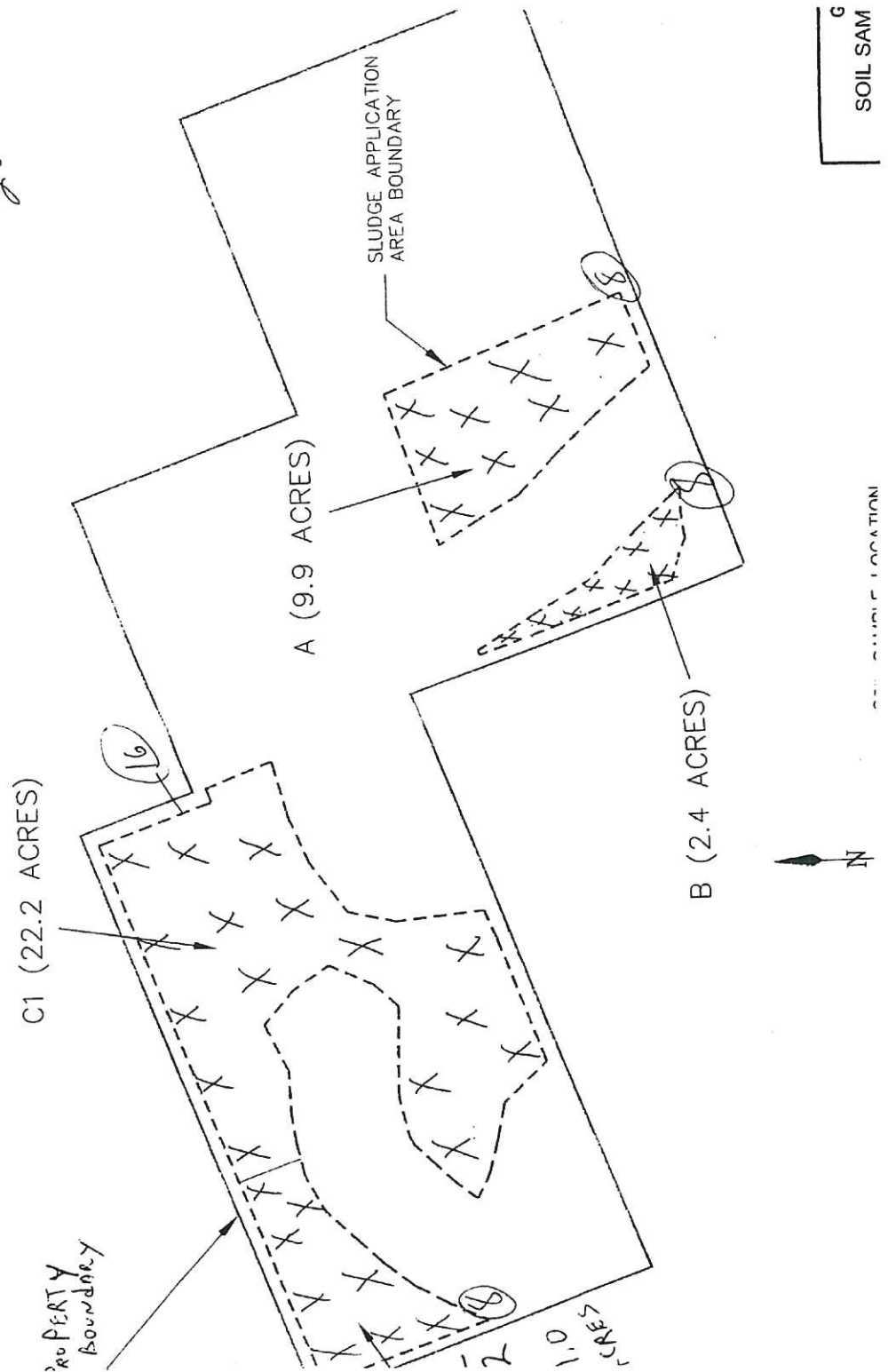


Figure 5. Soil sampling locations for 2024 followed the same sampling map used in August 2018.

Sludge application shall not be conducted if any of the following conditions exist:

1. A rainfall event greater than 0.5 inch has occurred within the previous 24 hr.
2. Heavy rains are forecast to occur within 24 hr of the proposed application.
3. There is standing water on the ground surface.

Direct surface application of sludge in an orderly fashion as described above is designed to achieve uniform waste application across the permitted area. It also provides minimal exposure of waste materials for wind or water erosion while still allowing for beneficial use of the nutrients in hay production for animal feed.

d. Storage Capacity

The only dedicated storage area for accumulated wastewater treatment plant sludge is the old drying beds. Should inclement weather, equipment breakdowns, or other unforeseen problems occur that prevent waste application to the site, a small amount of storage may first be achieved by letting it remain in the digesters. Then additional biosolids will be stored on the old drying beds. This should provide a total of approximately 60 days storage. Should this be insufficient, accumulated sludge will be disposed of by alternate permitted methods such as dewatering and off site disposal at a nearby permitted landfill facility.

e. Record Keeping

The City of Gonzales wastewater treatment plant manager shall be responsible for maintaining detailed records of all waste applications. Records will be kept of the amounts of sludge removed from the plant and sent to the application area. In addition, records of the amount of biosolids applied and the exact location of each application will be made by the operator and submitted to the plant manager. All records are to be maintained for a minimum of 5 years.

f. Nutrient Management Plan Review

An annual review of the nutrient management plan shall be made by the Plant Manager beginning one year (12 months) after the official starting date of the permit renewal. The management review shall look at each numbered and lettered heading in this report and document any changes for the coming year. The annual reviews shall be conducted by the treatment plant manager in consultation with other City Officials, consulting engineers and Treatment Plant employees as appropriate. However, every fifth year, the nutrient management plan will undergo a thorough and detailed review by

a Certified Nutrient Management Specialist including the collection of new soil and sludge samples for nutrient analysis. In this way, reduction in N and P due to plant uptake and removal will be confirmed prior to the start of reapplication in year 6. Written records of the Management Plan Reviews shall be maintained for a minimum of 5 years.

Appendix A

Soil Series Descriptions for the Benchley, Edge and Kurten Soil Series

BENCHLEY SERIES

The Benchley series consists of very deep, moderately well drained slowly permeable soils that developed in marine sediments. These nearly level to moderately sloping soils are on uplands. Slopes are dominantly 1 to 3 percent, but range from 0 to 8 percent.

TAXONOMIC CLASS: Fine, smectitic, thermic Udertic Argiustolls

TYPICAL PEDON: Benchley loam--native pasture. (Colors are for moist soil unless stated).

A--0 to 10 inches; dark brown (10YR 2/2) loam, very dark grayish brown (10YR 3/2) dry; moderate medium granular structure; hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common fine pores; cracks from 1/4 to 1/2 inch wide extend through the horizon; few reddish brown worm casts; 1 percent rounded ironstone pebbles mainly less than 1/2 inch in diameter; slightly acid; clear smooth boundary. (6 to 16 inches thick)

Bt--10 to 16 inches; dark brown (10YR 2/2) clay loam, very dark grayish brown (10YR 3/2) dry; moderate medium subangular blocky structure parting to moderate very fine subangular blocky; hard, friable; sticky and plastic; common very fine and fine roots; common fine and few medium pores; cracks 1/4 to 1/2 inch wide extend through the horizon; few pressure faces; less than 1 percent rounded ironstone pebbles about 1/4 to 1/2 inch in diameter; common fine and medium distinct dark yellowish brown (10YR 4/6) masses of iron accumulation; slightly acid; clear smooth boundary. (0 to 15 inches thick)

Btss1--16 to 30 inches; reddish brown (5YR 4/3) clay, reddish brown (5YR 4/4) dry; moderate medium angular blocky structure; very hard, very firm, very sticky and very plastic; few fine roots; few fine and medium pores; cracks from 1/4 to 1/2 inch wide extend through the horizon; common pressure faces and slickensides; distinct patchy clay films on surface of peds and in some pores; less than 1 percent rounded ironstone pebbles about 1/4 to 1/2 inch in diameter; many fine distinct light olive brown (2.5Y 5/4) and pale yellow (2.5Y 7/3) masses of iron accumulation; slightly acid; gradual wavy boundary.

Btss2--30 to 44 inches; light olive brown (2.5Y 5/4) clay, light yellowish brown (2.5Y 6/4) dry; moderate medium angular blocky structure; very hard, very firm, very sticky and very plastic; few fine roots; few fine and medium pores; common slickensides; distinct patchy clay films on surface of peds and in pores; less than 1 percent rounded ironstone pebbles about 1/4 to 1/2 inch in diameter; many medium and coarse prominent red (2.5YR 4/8) masses of iron accumulation; slightly acid; gradual wavy boundary.

Btss3--44 to 54 inches; light olive brown (2.5Y 5/4) clay, light yellowish brown (2.5Y 6/4) dry; moderate medium angular blocky structure; very hard, very firm, very sticky

and very plastic; few fine roots; few fine and medium pores; common slickensides; distinct patchy clay films on surface of peds and in pores; few fine iron manganese concretions; less than 1 percent rounded ironstone and siliceous pebbles about 1/4 to 1/2 in diameter; common medium prominent red (2.5YR 4/8) masses of iron accumulation; slightly acid; gradual wavy boundary. (combined thickness of Btss horizon is 20 to 45 inches)

Bct --54 to 70 inches; light olive brown (2.5Y 5/4) clay loam, light yellowish brown (2.5Y 6/4) dry; weak medium subangular blocky structure; very hard, firm, sticky and plastic; few fine roots; few fine and medium pores; distinct patchy clay films on surface of peds and in some pores; few small slickensides; common iron manganese concretions; 5 percent rounded ironstone and siliceous pebbles mainly less than 1/2 inch in diameter; common fine and medium faint pale yellow (2.5Y 7/4) masses of iron accumulation; neutral; gradual smooth boundary. (8 to 35 inches thick)

Ck --70 to 80 inches; light olive brown (2.5Y 5/6) shale with clay texture, light yellowish brown (2.5Y 6/4) dry; angular rock-like structure; very hard, very firm, very sticky and very plastic; few fine roots mainly along fractures; common fine and medium concretions and masses of calcium carbonate; few fine iron manganese concretions; less than 1 percent ironstone pebbles about 1/4 to 1/2 inch in diameter; common medium faint pale yellow (2.5Y 7/4) masses of iron accumulation of surfaces of rock-like aggregates; slightly alkaline.

TYPE LOCATION: Brazos County, Texas: from the intersection of Texas Hwy. 21 and Texas Hwy. 6 in Bryan, 6.3 miles north on Hwy. 6 to intersection of OSR, 50 feet east and 75 feet south in pasture.

RANGE IN CHARACTERISTICS: Solum thickness ranges from 60 to more than 80 inches. Average clay content of the 10- to 40- inches particle size control section ranges from 35 to 55 percent. Slickensides typically range from few to common below a depth of 20 inches. When dry, cracks about 1/2 an inch wide are in the argillic horizon and extend to a depth of 12 inches or more. Ironstone pebbles range none to about 5 percent by volume.

The A horizon has hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 to 3. Texture is loam, sandy clay loam or clay loam. The clay content ranges from 20 to 29 percent. Reaction ranges from moderately acid to neutral.

The Bt horizon has hue of 7.5YR, 10YR or 2.5Y, value of 2 or 3, and chroma of 1 to 3. Redoximorphic features range from none to common and are in shades of brown, yellow or red. Texture is clay loam or clay. Reaction ranges moderately acid to neutral.

The Btss1 and, in some pedons, the Btss2 horizon has hue of 2.5YR to 10YR, value of 3 to 5, and chroma of 2 to 8. Redoximorphic features in shades of olive, brown, red or yellow range from few to many. Some pedons have a mottled matrix of these colors. Reaction ranges from moderately acid to neutral.

The lower Bt horizons have hue of 10YR, 2.5Y or 5Y, value of 4 to 6, and chroma of 3 to 6. Mottles in shades of red, yellow, gray, or brown range from few to many. Texture is clay loam or clay. Reaction ranges from moderately acid to slightly alkaline.

The BCt or BCtk horizon has hue of 7.5YR to 5Y, value of 4 to 7, and chroma of 3 to 8. Redoximorphic features in various colors range from few to common. Gypsum crystals and calcium carbonate concretions range from none to common. Reaction ranges from slightly acid to moderately alkaline.

The C horizon is horizontally bedded shale with clay texture. Thin strata of weakly cemented sandstone ranges from none to few. Colors are mainly in shades of brown, yellow, or olive with or without spots and strata of gray or red. Calcium carbonate concretions and gypsum crystals range from none to common. Reaction ranges from slightly acid to moderately alkaline.

COMPETING SERIES: These are the Caradan (TX), Durant (OK), Flatonia (TX), Foraker (OK), and Tabler (OK) series. Similar soils are the Behring, Blum, Bonham, Culp, Elmendorf, and Hallettsville series. Caradan soils have calcic horizons, and do not have redoximorphic features due to wetness in the Bt horizons. Durant, Foraker, and Tabler soils have lower mean annual temperature, and a shorter growing season. In addition, Foraker soils have Cr horizons between 20 and 40 inches, and Tabler soils have sola less than 60 inches thick. Flatonia soils have Cr horizons between 40 and 60 inches. Behring soils do not have argillic horizons. Blum and Culp soils have mixed mineralogy. Bonham soils are in the udic moisture regime. Elmendorf soils are moist in the moisture control section for longer periods. Hallettsville soils have an abrupt textural change between the A and Bt horizons (Pale).

GEOGRAPHIC SETTING: Benchley soils are on nearly level to moderately sloping uplands. Slopes are mostly 1 to 3 percent but range from 0 to 8 percent. The soil formed in residuum weathered from clayey marine sediments. Geology at the type location is the Cook Mountain Formation of Tertiary Age. The mean annual temperature ranges from 66 to 70 degrees F. Mean annual precipitation ranges from 35 to 40 inches. Elevation ranges from 250 to 350 feet, and frost free days range from 240 to 270. Thornthwaite annual P-E indices range from 54 to 64.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Bremond, Crockett, Dimebox, Mabank, and Wilson series. Bremond, Mabank, and Wilson soils are on slightly lower terrace positions commonly near drainageways. Crockett and Dimebox soils are on similar landscape positions or on slightly higher convex positions. These soils do not have mollic epipedons. Also, the Dimebox series is clayey throughout and has large slickensides.

DRAINAGE AND PERMEABILITY: Moderately well drained. Permeability is slow. Runoff is low on slopes less than 1 percent, medium on 1 to 5 percent slopes, and high on 5 to 8 percent slopes.

USE AND VEGETATION: Typically cultivated crops are cotton, grain sorghum, corn and small grain. Bermudagrass pastures are common. Native vegetation includes little bluestem, big bluestem, Indiangrass, brownseed paspalum and various forbs.

DISTRIBUTION AND EXTENT: The Blackland Prairies of East Central Texas (MLRA 86B). The series is of moderate extent.

MLRA OFFICE RESPONSIBLE: Temple, Texas

SERIES ESTABLISHED: Leon County, Texas; 1985. The name is from a community near the Brazos-Robertson county line.

REMARKS: This soil was formerly included within the Bonham and Culp series.

Diagnostic horizons and features recognized in this pedon are:

Mollic epipedon - 0 to 16 inches; includes the A horizon and upper part of the argillic horizon in most pedons.

Argillic horizon - 10 to 70 inches. (Bt, Btss, and BCt horizons)

Vertic properties - Slickensides in the argillic horizon.

ADDITIONAL DATA: TAMU S62TX-21-90; K1243-1249

Soil Interpretation Record: TX1052

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EDGE SERIES

The Edge series consists of soils that are deep to weathered siltstone. They are well drained and very slowly permeable. These soils are on uplands. They formed in residuum derived from stratified loamy materials. Slopes range from 1 to 12 percent.

TAXONOMIC CLASS: Fine, mixed, active, thermic Udic Paleustalfs

TYPICAL PEDON: Edge fine sandy loam, on a 3 percent slope in an old field being used for rangeland. (Colors are for moist soil unless otherwise stated).

A--0 to 8 inches; dark brown (10YR 4/3) fine sandy loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common fine and medium roots; few fine and medium pores; few fine ironstone pebbles; moderately acid; clear smooth boundary. (3 to 9 inches thick)

E--8 to 11 inches; brown (10YR 5/3) fine sandy loam, very pale brown (10YR 7/3) dry; weak medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common fine and medium roots; few fine and medium pores; few fine ironstone pebbles; few fine fragments of red Bt material; slightly acid; abrupt smooth boundary. (0 to 10 inches thick)

Bt1 --11 to 19 inches; dark red (2.5YR 3/6) clay, red (2.5YR 4/6) dry; moderate medium angular blocky structure parting to moderate fine angular blocky; extremely hard, firm, very sticky and very plastic; few fine and very fine roots; few fine pores; common distinct clay films on surfaces of peds; few fine distinct pale brown (10YR 6/3) mottles; very strongly acid; gradual smooth boundary. (6 to 12 inches thick)

Bt2 --19 to 29 inches; red (2.5YR 4/6) clay; red (2.5YR 5/6) dry; weak medium and coarse prismatic structure parting to moderate fine angular blocky; extremely hard, firm, sticky and plastic; few fine and very fine roots; few fine pores; common distinct clay films on surfaces of peds; common medium distinct pale brown (10YR 6/3) iron depletions, and few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation; very strongly acid; gradual smooth boundary. (8 to 20 inches thick)

Bt3 --29 to 37 inches; red (2.5 YR 4/6) clay loam, red (2.5YR 5/6) dry; weak medium and coarse prismatic structure parting to moderate fine angular blocky; very hard, firm, sticky and plastic; few fine and very fine roots; few fine pores; few very dark gray (10YR 3/1) organic stains along root channels; common distinct reddish brown (5YR 5/4) clay films on surfaces of peds; common fine distinct light yellowish brown (10YR 6/4) masses of iron accumulation, and common fine distinct grayish brown (10YR 5/2) iron depletions; very strongly acid; gradual smooth boundary. (0 to 15 inches thick)

Bt4 --37 to 43 inches; yellowish red (5YR 5/6) clay loam; reddish yellow (5YR 4/6) dry; weak medium prismatic structure parting to moderate fine subangular blocky; very hard, firm, sticky and plastic; few fine and very fine roots; few medium continuous pores;

common distinct brown (7.5YR 4/4) clay films on vertical surfaces of peds; few medium very dark gray (10YR 3/1) organic stains; few fine light brownish gray (10YR 6/2) seams along old shale seams; few fine distinct yellowish brown (10YR 5/4) masses of iron accumulation; slightly acid; gradual smooth boundary. (0 to 12 inches thick)

BCt --43 to 48 inches; strong brown (7.5YR 5/6) sandy clay loam; reddish yellow (5YR 6/6) dry; weak very coarse prismatic structure parting to weak coarse subangular blocky; very hard, firm, sticky and plastic; few fine and very fine roots; common distinct brown (7.5YR 4/4) clay films on vertical surfaces of peds; few fine light brownish gray (10YR 6/2) seams along old shale bedding planes, in places, platy, inherited structure dominates; few fine faint light yellowish brown (10YR 6/4) masses of iron accumulation, and few fine distinct light brownish gray (10YR 6/2) iron depletions; neutral; gradual smooth boundary. (0 to 18 inches thick)

C/B1 --48 to 58 inches; strong brown (7.5YR 5/6) weakly consolidated siltstone that has a loam texture; few medium distinct red (2.5YR 5/6) mottles; weak very coarse prismatic structure; very hard, friable, slightly sticky and slightly plastic; few very fine roots; few brown (7.5YR 5/4) clay films on vertical surfaces of peds; few medium masses of barite; horizon becomes stratified with depth in colors of strong brown (7.5YR 5/6), yellowish brown (10YR 5/6) and thin discontinuous gray (5YR 6/) seams of shale; slightly alkaline; gradual smooth boundary.

C/B2 --58 to 75 inches; light yellowish brown (10YR 6/4) weakly consolidated siltstone that has a loam texture; massive; very hard, friable, slightly sticky and slightly plastic; few very fine roots; few horizontal, thin streaks of strong brown (7.5YR 5/6); slightly alkaline; gradual smooth boundary. (CB horizons range from 0 to 36 inches thick)

C--75 to 80 inches; light brownish gray (10YR 6/2) weakly consolidated siltstone that has a silt loam texture; very hard, friable; slightly alkaline.

TYPE LOCATION: Milam County, Texas; from U. S. Highway 79 in Milano; 2.5 miles west on Highway 36; 1.0 miles northeast on county road; 75 feet east of road in an old field being used for rangeland. Latitude 30 degrees, 44 minutes, 36 seconds N, Longitude 96 degrees 53 minutes 14 seconds W.

RANGE IN CHARACTERISTICS: Solum thickness ranges from 40 to 60 inches. Clay content of the 10- to 40- inch particle size control section ranges from 35 to 55 percent. Typically, it averages about 40 to 45 percent. The base saturation of the argillic horizon ranges from about 45 to 90 percent but is 75 percent or more in some part and the CEC per 100g clay ranges from 35 to 55. The shrink-swell is high in the upper part of the control section with a COLE of about 0.06 to 0.09. However, the PLE is less than 2.4 inches in the upper 50 inches of the soil. Some pedons have a few calcium carbonate concretions below a depth of 30 inches.

The A horizon has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 2 to 4. The

texture is fine sandy loam, very fine sandy loam, gravelly fine sandy loam or loam. Ironstone pebbles range from 0 to 35 percent. Reaction ranges from strongly acid to neutral.

The E horizon where present has hue of 7.5YR or 10YR, value of 5 to 7, and chroma of 2 to 4. The texture is fine sandy loam, very fine sandy loam or loam. Ironstone pebbles range from 0 to 10 percent by volume. Reaction ranges from very strongly acid to slightly acid. The combined thickness of the A and E horizons ranges from 6 to 19 inches, unless eroded.

The Bt horizon has hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 4 to 8. However, some Bt1 horizons and typically lower Bt horizons are mottled with yellowish or brownish colors or have a mottled matrix in shades of red, brown and yellow. The Bt horizons contain colors with chroma of 2 or less in some pedons. However, they are considered to be inherited from parent material, or they are relict redoximorphic features. Texture is clay loam, sandy clay or clay with clay content ranging from 27 to 55 percent.

The Bt1 and Bt2 horizons are commonly clay or sandy clay. Lower Bt horizons are clay loam or sandy clay. Ironstone fragments mainly less than 6 inches across range from 0 to 10 percent. Reaction of the Bt1 horizon ranges from very strongly acid to moderately acid. Reaction of the lower Bt horizons ranges from very strongly acid to neutral.

The BCt horizon has matrix colors mainly in shades of brown with yellowish, reddish, or grayish mottles, fragments or strata. Thin strata or fragments of sandstone and ironstone make up less than 15 percent. The texture is sandy clay loam, clay loam, fine sandy loam, or is stratified with these and other clayey or sandy materials. Grayish shale fragments or strata make up about 5 to 15 percent of some pedons. Reaction ranges from very strongly acid to slightly alkaline.

The CB and C horizons have colors mainly in shades of gray or brown, typically with yellowish or reddish iron accumulations or strata. Texture is loam, silt loam, fine sandy loam, sandy clay loam, or stratified siltstone with these textures. Some pedons contain sandy strata. Barite ranges from none to a few fine or very fine masses. The reaction ranges from strongly acid to moderately alkaline.

COMPETING SERIES: These are the Callisburg , Chigley (OK), Cona, Margie, Minwells, Shiro, Truce, and Windthorst series. Similar soils are the Axtell, Gredge, and Rosanky series. Callisburg soils have sola thicker than 60 inches. Chigley soils have a lithic contact with conglomerate below 60 inches. Cona and Shiro soils have sola 20 to 40 inches thick. Margie soils have a BA horizon of sandy clay loam, formed in marine sediments high in glauconite, and have sola between 60 and 80 inches. Minwells soils formed in old alluvial deposits and are underlain by beds of gravel. Truce soils are underlain by shale. Axtell soils have vertic properties and sola thicker than 60 inches. Gredge soils have montmorillonitic mineralogy, and have sola greater than 60 inches. Rosanky soils are members of the Ultic subgroup, and do not have redoximorphic

features in the upper part of the argillic horizon.

GEOGRAPHIC SETTING: Edge soils are on gently sloping to strongly sloping uplands. Slopes are mainly 3 to 8 percent but range from 1 to 12 percent. These soils formed in loamy and clayey residuum, mainly of the Wilcox Group. Mean annual temperature ranges from 64 to 68 degrees F., and mean annual precipitation ranges from 32 to 40 inches. Frost free days range from 240 to 270 days, and elevation ranges from 300 to 500 feet. Thornthwaite P-E indices range from 52 to 64.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Axtell, Crockett, Gasil, Gredge, Lufkin, Rosanky, and Silawa series. Axtell soils are typically on lower terrace positions. Gredge, Rosanky and Crockett soils are on positions similar to the Edge series. Crockett soils have a clayey argillic horizon with vertic properties. Gasil and Silawa soils have fine-loamy control sections and Gasil soils are on similar stream divide positions. Silawa soils are on slightly lower terrace positions. Lufkin soils are on lower flats or depressions and have grayish colors throughout.

DRAINAGE AND PERMEABILITY: Well drained. Permeability is very slow. Runoff is medium on 1 to 3 percent slopes, high on 3 to 5 percent slopes, and very high on slopes greater than 5 percent.

USE AND VEGETATION: Used mainly for rangeland or improved pasture with a few cultivated areas. Native vegetation is a savannah with scattered post oak, blackjack oak, and elm trees with ground cover of medium and tall native grasses. Present vegetation is a fairly dense cover of oak trees, yaupon, American beautyberry and hawthorn with shade tolerant grasses such as longleaf uniola. Many areas have been cultivated in the past. These old cropland fields are being used for rangeland or have been established to bermudagrass, bahiagrass or other improved pasture grasses. A few small areas have been planted to loblolly pine. Old fields being used for rangeland are typically producing low quality perennial grasses, annuals grasses, forbs and some fields are being invaded by mesquite.

DISTRIBUTION AND EXTENT: Mainly in East Central Texas (MLRA 87A). The series is extensive.

MLRA OFFICE RESPONSIBLE: Temple, Texas

SERIES ESTABLISHED: Freestone County, Texas; 1986. The Edge series was originally established in Brazos County, Texas in 1955. In May, 1963 the series was placed on the inactive list and the soils were included with the similar Axtell series. The Axtell soils are members of a fine, montmorillonitic, thermic family of Udertic Paleustalfs. Axtell soils are typically on terraces or in valley fill positions and have a solum thicker than 60 inches and with vertic properties. The redefined Edge series has a concept similar to the original series established in Brazos County.

REMARKS: This pedon is within an area of Edge fine sandy loam, eroded. It is on a

small area that is not eroded. These soils are not saturated in any part of the solum for more than 30 consecutive days during most years. Diagnostic horizons and features recognized in this pedon are:

Ochric epipedon - 0 to 11 inches. (A and E horizons)

Argillic horizon - 11 to 48 inches. T(Bt and Bct horizons). The clay content decreases with depth. The upper part of the argillic horizon has high shrink-swell potential but the lower horizons have moderate or low potential. The clay mineralogy is mixed borderline to montmorillonitic.

Pale feature - Abrupt texture change at 11 inches.

ADDITIONAL DATA: NSSL Data: Milam County, S83TX-331-1 (832755-832761), TAMU Data: Bastrop County, S82TX-021-1-4, 84TX-021-1-5; Freestone County, S84TX-161-1-2, S84TX-161-2-2; Milam County, S84TX-331-8-2, S84TX-331-9-2, S84TX-331-10-2, S86TX-331-01-10; Lee County, S81TX-287-2 (1198-1207).

Soil Interpretation Records: TX1084; GRAVELLY TX1192

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KURTEN SERIES

The Kurten series consists of soils that are deep to weathered shale. They are well drained, very slowly permeable soils on gently sloping to moderately sloping uplands. The soil formed in mostly acid deltaic shales and clays of Tertiary age. Slopes are dominantly 1 to 5 percent, but range to 8 percent.

TAXONOMIC CLASS: Fine, smectitic, thermic Udertic Paleustalfs

TYPICAL PEDON: Kurten fine sandy loam--pasture. (Colors are moist unless otherwise stated).

Ap --0 to 4 inches; brown (10YR 4/3) fine sandy loam, pale brown (10YR 6/3) dry; weak fine subangular blocky structure; hard, very friable; few fine siliceous pebbles; many fine and medium roots; slightly acid; abrupt smooth boundary. (3 to 12 inches thick)

Bt --4 to 11 inches; red (2.5YR 4/6) clay, red (2.5YR 5/6) dry; moderate coarse prismatic structure parting to weak coarse subangular blocky; very hard, very firm; few siliceous pebbles; many fine and medium roots along ped faces; few pressure faces; very strongly acid; gradual wavy boundary. (4 to 20 inches thick)

Btss1 --11 to 20 inches; red (2.5YR 4/6) clay; moderate coarse prismatic structure parting to moderate medium angular blocky; very hard, very firm; few siliceous pebbles; common fine and medium roots; common fine and medium prominent light brownish gray (2.5Y 6/2) relict iron depletions; common pressure faces; few large slickensides tilted 40 degrees from horizontal plane; grayish brown (10YR 5/2) coatings along root channels; very strongly acid; gradual wavy boundary.

Btss2 --20 to 33 inches; red (2.5YR 4/6) clay; moderate coarse prismatic structure parting to moderate medium angular blocky; very hard, very firm; grayish brown (10YR 5/2) coatings along root channels; common fine and medium roots; moderate medium and coarse prominent pale red (2.5YR 6/2) relict iron depletions; few prominent large slickensides; very strongly acid; gradual wavy boundary. (combined thickness of Btss horizon is 20 to 45 inches)

BCtss --33 to 45 inches; grayish brown (10YR 5/2) clay; many medium prominent red (2.5YR 5/6) and yellowish brown (10YR 5/8) masses of iron accumulation; weak coarse prismatic structure parting to weak thick platy; very hard, very firm; common fine roots; few prominent large slickensides very strongly acid; gradual wavy boundary. (0 to 25 inches thick)

C1 --45 to 58 inches; grayish brown (10YR 5/2) shale with clay texture; massive; stratified rock fragments from the C2 horizon; hard, firm; clay films along horizontal strata; thin strata of reddish yellow (7.5YR 6/6) material; few fine and medium roots; few large masses of gypsum crystals; thin loamy strata of strong brown (7.5YR 4/6) and

yellow (2.5R 7/6); very strongly acid; gradual wavy boundary. (10 to 20 inches thick.)

C2 --58 to 80 inches; grayish brown (10YR 5/2) shale with clay texture; and stratified rock fragments; massive; hard, firm; few faint yellowish brown (10YR 5/4) masses of iron accumulation; approximately 20 percent loamy strata 1/4 to 1/2 inch thick of strong brown (7.5YR 4/6), yellow (2.5Y 7/6), and light gray (10YR 7/2); few fine roots; very strongly acid.

TYPE LOCATION: Brazos County, Texas; from the intersection of Old San Antonio Road (OSR) and Texas Highway 6 in north Brazos County, east on OSR 15.1 miles to the entrance of Pecan Valley Ranch (part of Granada Ranch), 1.1 miles southeast on a ranch road, 0.1 mile east in pastureland. (Latitude: 30N, 53, 06; Longitude: 96W, 20, 46).

RANGE IN CHARACTERISTICS: Solum thickness ranges from 40 to 60 inches. The boundary between the A and Bt horizons is abrupt over the subsoil crests and clear over the subsoil troughs. Ironstone and siliceous pebbles range from 0 to 10 percent by volume, with or without a few ironstone fragments up to 20 inches across on the surface. The particle-size control section ranges in clay content from 40 to 60 percent. COLE ranges from 0.07 to 0.10 in the upper 20 inches of the Bt horizon and has potential linear extensibility greater than 2.5 inches in the upper 50 inches of the soil.

The A horizon averages less than 10 inches thick in more than 50 percent of the pedon, but it is as much as 12 inches thick over some subsoil troughs. The A horizon has hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 2 to 6. Some pedons have redox concentrations in shades of yellow and brown. The E horizon, where present, has color that is about 1 to 2 units of value higher than the A horizon. The A and E horizons are fine sandy loam, very fine sandy loam, loam or gravelly fine sandy loam. Siliceous or ironstone pebbles range from 0 to 30 percent by volume. Reaction ranges from strongly acid to neutral.

The Bt horizon has hue of 2.5YR to 7.5YR, value of 3 to 6, and chroma of 4 to 8. Redox features in shades of red, brown, gray or yellow are in some pedons or the matrix is mottled with these colors. Texture is commonly clay or silty clay and less commonly clay loam. Reaction ranges from very strongly to medium acid. Base saturation is 35 to 75 percent.

The Btss horizon has hue of 2.5YR to 10YR, value of 3 to 6, and chroma of 2 to 8. In some pedons, the lower part of the horizon has color with hue of 2.5Y. Texture is commonly clay or silty clay and less commonly clay loam. Reaction ranges from very strongly acid to neutral. Gypsum crystals range from none to common.

The BCtss horizon, where present, has color that is mixed in hue of 2.5YR to 2.5Y with shades of red, brown, yellow and gray. Texture clay loam, silty clay, or clay, and less commonly sandy clay loam. Reaction ranges from very strongly acid to slightly

alkaline. Gypsum crystals range from none to common and calcium carbonate concretions range from none to few.

The C horizon has colors in shades of red, brown, yellow, gray, or white. Texture is mostly clay or soft shale but is stratified with silt loam, clay loam, loam, or very fine sandy loam in some pedons. Reaction is very strongly acid to slightly alkaline. Gypsum crystals range from none to common and calcium carbonate concretions range from none to few.

COMPETING SERIES: These are the Axtell, Bremond, Crockett, Crosstell, Navo and Tabor. Similar soils are the Annona, Burlewash, Edge, Gredge, Normangee, Payne and Woodtell series. Axtell soils have sola thicker than 60 inches, and formed in Pleistocene alluvium. Bremond and Crockett soils have reaction higher than 5.5 and base saturation between 75 and 100 percent throughout the solum. Crosstell soils are underlain by shale and sandstone of the Cretaceous Woodbine Formation, are in slightly drier climates and do not have gypsum in the lower profile. Navo, Payne, and Normangee soils do not have an abrupt textural change between the A and Bt horizons and, in addition, Payne soils have COLE less than 0.07. Tabor soils have A horizons more than 10 inches thick in more than half the pedon, and matrix colors in hue yellower than 7.5YR in the Bt horizons. Annona and Woodtell soils are in the udic moisture regime. Edge and Gredge soils have a significant decrease in clay content within 35 inches of the surface. Burlewash soils have solum thickness less than 40 inches.

GEOGRAPHIC SETTING: Kurten soils are on gently sloping to moderately sloping erosional uplands. Slope forms are commonly linear or convex and when combined form noseslope and sideslope configurations. Local drainage basin relief commonly ranges up to 50 feet. These soils formed mainly in acid shaly and clayey sediments of the Tertiary Cook Mountain Formation. The mean annual temperature ranges from 64 to 69 degrees F. and mean annual precipitation ranges from 32 to 40 inches. Frost free days range from 240 to 270 days and elevation ranges from 200 to 500 feet. The Thornthwaite P-E index ranges from 50 to 64.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the competing Crockett and Tabor series and the Benchley, Dimebox, Edge, Luling, Rader, Robco, Spiller and Wilson series. Edge, Robco, and Spiller soils are on the next younger and superadjacent geologic member. Rader, Tabor and Wilson soils are on Pleistocene terraces in slightly lower upland positions. The Benchley, Crockett, Dimebox and Luling soils are on the next older subadjacent geologic member.

DRAINAGE AND PERMEABILITY: Well drained. Permeability is very slow. Runoff is low on slopes less than 1 percent, medium on 1 to 3 percent slopes, high on 3 to 5 percent slopes and very high on 5 to 8 percent slopes.

USE AND VEGETATION: Some areas were cultivated in the past but are now used mainly as pastureland. Some areas are cropped to small grains. Native vegetation

consists of post oak, blackjack oak, red cedar, greenbriar, forbes and mid and tall grasses such as little bluestem, indiagrass, panicums and paspalums. Also, a part of the Lost Pine area of Fayette County is included.

DISTRIBUTION AND EXTENT: Mainly in east-central Texas. This soil is of small extent.

MLRA OFFICE RESPONSIBLE: Temple, Texas

SERIES ESTABLISHED: Madison County, Texas, 1989.

REMARKS: This soil was formerly mapped as part of the Axtell series. The reaction of the lower sola and parent materials can vary greatly due to the interfingering nature of the acid deltaic and alkaline marine depositional environments of the Cook Mountain Formation. Diagnostic horizons and features recognized in the pedon are:

Ochric epipedon - 0 to 4 inches (A horizon).

Abrupt textural change - occurs at 4 inch depth.

Argillic horizon - 4 to 45 inches (Bt horizons).

Vertic properties - COLE of 0.07 to 0.10; PLE greater than 2.5 inches in upper 50 inches of the soil, large slickesides in argillic horizon.

SOIL INTERPRETATION RECORD NUMBER: TX1154

ADDITIONAL DATA: Brazos County, Texas; S88TX-041-05.

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Appendix B

Wastewater Treatment Plant Drying Press Biosolids Analyses from August 2024 Sample

email information for report date:
8/28/24 13:08
H023382

GONZALES, CITY OF

Attn: Ryan Wilkerson
waterplant@cityofgonzales.org
PO BOX 547
GONZALES, TX 78629

Please contact us for your sampling needs or if you have any questions. Some convenient contacts are listed below. You can also access your results and reports through our ClientConnect™ portal on our website (www.aqua-techlabs.com).

For sampling questions:

samplingbryan@aquatechlabs.com (Bryan area)
samplingaustin@aquatechlabs.com (Austin area)

reporting@aquatechlabs.com (report questions)

Aqua-Tech values you as a customer and encourages you to speak with our staff at 979-778-3707 or the above emails if you have questions.

Thank you for your business,
June M. Brien
Executive Technical Director

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The analysis summarized in this report were performed by Aqua-Tech Laboratories, Inc. unless otherwise noted. Aqua-Tech Laboratories, Inc. holds accreditation from the State of Texas in accordance with TNI and/or through the TCEQ Drinking Water Commercial Laboratory Approval Program.

The following abbreviations indicate certification status:

NEI TNI accredited parameter.
ANR Accreditation not offered by the State of Texas.
DWP Approval through the TCEQ Drinking Water Commercial Laboratory Approval Program.
INF Aqua-Tech Laboratories, Inc. is not accredited for this parameter. It is reported on an informational basis only.

Subcontracted data summarized in this report is indicated by "Sub" in the Lab column.

General Definitions:

NR Not Reported
RPO Relative Percent Difference
% R Percent Recovery
dry Results with the "dry" unit designation are reported on a "dry weight" basis.
SQL The Sample Quantitation Limit is the value below which the parameter cannot reliably be detected. The SQL includes all sample preparations, dilutions and / or concentrations.
Adj. MDL The Adjusted Method Detection Limit is the MDL value adjusted for any sample dilutions or concentrations.
MDL The Method Detection Limit is the lowest theoretical value that is statistically different from zero for a specific method, taking into account all preparation steps and instrument settings.

All samples are reported on an "as received" basis unless the designation "dry" is added to the reported unit.

Copies of Aqua-Tech Laboratories, Inc. procedures and individual sampling plans are available upon request. Note that samples are collected by Aqua-Tech Laboratories, Inc. personnel unless otherwise noted in the "Sample Collected" field of this report as "Client" or "CLT".

Samples included in this report were received in acceptable condition according to Aqua-Tech Laboratories, Inc. procedures and 40 CFR, Chapter I, Subchapter D, Part 136.3, TABLE II - Required containers, preservation techniques, and holding times, unless otherwise noted in this report.

Record Retention:

All reports, raw data, and associated quality control data are kept on file for 10 years before being destroyed. Any client that would like copies of records must contact Aqua-Tech Laboratories, Inc. no later than six months prior to the scheduled disposal. An administrative fee for retrieval and distribution will apply.

This report was approved by:

June M. Brien
June M. Brien, Technical Director

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TCEQ Lab ID T104704371



Certificate: T104704371-23-27

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Analytical Report
GONZALES, CITY OF
8/28/24 13:08
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Report Printed:

Gonzales WWTP Sludge									
Lab ID#	H023382-01	Result	7240	Collected 08/01/24 09:31 by CLIENT Received 08/01/24 15:07 by Mitchell Miranda	Type	Grab	Lab	Matrix	C-O-C #
		Units	mg/kg dry	Notes	Adj MDL	SO.	Analysed	Solid	H023382
					MDL				Batch
					0.13	187	08/21/24 11:01 KMA		M181829
Microbiological Analyses									
Fecal Coliform Geometric Mean (7 pr)	129000	CFU/g			5780	5780	Cdc	08/15/24 11:11 AOC	SM9272 D 2015
									M181437
Metals (Total)									
Mercury	0.205	mg/kg dry			NS-01	0.032	0.038	0.093	08/07/24 14:52 ASM
									EPA 14171A '99c
									M181016
Please see the attached subcontract report for subcontracted data									

Gonzales WWTP Sludge Part 1									
Lab ID#	H023382-02	Result		Collected 08/01/24 09:36 by CLIENT Received 08/01/24 15:07 by Mitchell Miranda	Type	Grab	Lab	Matrix	C-O-C #
		Units		Notes	Adj MDL	SO.	Analysed	Solid	H023382
					MDL				Batch
					0.10	0.10	0.10	0.10	08/03/24 06:10 SR
General Chemistry									
% Solids	16.6	g/100g (%)							SM2540 C 2015
									M180926
Microbiological Analyses									
Fecal Coliform	122000	CFU/g dry			5370	5370	Austin	08/02/24 08:58 B.U.	SM9272 D 2015
									M180861
Gonzales WWTP Sludge Part 2									
Lab ID#	H023382-03	Result		Collected 08/01/24 09:38 by CLIENT Received 08/01/24 15:07 by Mitchell Miranda	Type	Grab	Lab	Matrix	C-O-C #
		Units		Notes	Adj MDL	SO.	Analysed	Solid	H023382
					MDL				Batch
					0.10	0.10	0.10	0.10	08/03/24 06:10 SR
General Chemistry									
% Solids	16.9	g/100g (%)							SM2540 C 2015
									M180926
Microbiological Analyses									
Fecal Coliform	136000	CFU/g dry			5730	5730	Austin	08/02/24 08:58 B.U.	SM9272 D 2015
									M180861
Gonzales WWTP Sludge Part 3									
Lab ID#	H023382-04	Result		Collected 08/01/24 09:40 by CLIENT Received 08/01/24 15:07 by Mitchell Miranda	Type	Grab	Lab	Matrix	C-O-C #
		Units		Notes	Adj MDL	SO.	Analysed	Solid	H023382
					MDL				Batch
					0.10	0.10	0.10	0.10	08/03/24 06:10 SR
General Chemistry									
% Solids	16.8	g/100g (%)							SM2540 G 2015
									M180926
Microbiological Analyses									
Fecal Coliform	163000	CFU/g dry			5240	5240	Austin	08/02/24 08:58 B.U.	SM9272 D 2015
									M180861

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Analytical Report
GONZALES, CITY OF
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H023382

Gonzales WWTP Sludge Part 4

Lab ID#	H023382-05	Result	Collected: 08/01/24 09:42 by CLIENT	Recover: 08/01/24 15:07 by Mitchell Mindiola	Notes	MDL	Adj MDL	Type	Grab	Lab	Analyzed	Matrix	Solid	Method	C-O-C #	Batch

% Solids	16.6	g/100g (%)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	Austin	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
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Microbiological Analyses	122000	CFU/g dry	1	5310	5310	5310	5310	Austin	08/02/24 08:58 B.L.J	SMR222 D 2015	M180964	NEL
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Gonzales WWTP Sludge Part 5

Lab ID#	H023382-06	Result	Collected: 08/01/24 09:44 by CLIENT	Recover: 08/01/24 15:07 by Mitchell Mindiola	Notes	MDL	Adj MDL	Type	Grab	Lab	Analyzed	Matrix	Solid	Method	C-O-C #	Batch

% Solids	16.7	g/100g (%)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	Austin	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
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Microbiological Analyses	111000	CFU/g dry	1	5290	5290	5290	5290	Austin	08/02/24 08:58 B.L.J	SMR222 D 2015	M180964	NEL
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Gonzales WWTP Sludge Part 6

Lab ID#	H023382-07	Result	Collected: 08/01/24 09:46 by CLIENT	Recover: 08/01/24 15:07 by Mitchell Mindiola	Notes	MDL	Adj MDL	Type	Grab	Lab	Analyzed	Matrix	Solid	Method	C-O-C #	Batch

% Solids	16.8	g/100g (%)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	Austin	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
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Microbiological Analyses	102000	CFU/g dry	1	5360	5360	5360	5360	Austin	08/02/24 08:58 B.L.J	SMR222 D 2015	M180964	NEL
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Gonzales WWTP Sludge Part 7

Lab ID#	H023382-08	Result	Collected: 08/01/24 09:48 by CLIENT	Recover: 08/01/24 15:07 by Mitchell Mindiola	Notes	MDL	Adj MDL	Type	Grab	Lab	Analyzed	Matrix	Solid	Method	C-O-C #	Batch

% Solids	16.8	g/100g (%)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	Austin	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
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Microbiological Analyses	156000	CFU/g dry	1	5210	5210	5210	5210	Austin	08/02/24 08:06 B.L.J	SMR222 D 2015	M180964	NEL
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Gonzales WWTWP WAS

Gonzales WWTP WAS													
Lab ID#	H023382-09												
General Chemistry													
Result	Collected 08/01/24 09:50 by CLIENT Received 08/01/24 15:07 by Mitchell Miranda												
Units	Notes												
MDL	Adj MDL												
SQL	Type												
Lab	Grav												
Analyzed	Matrix												
Method	Solid												
Batch	C-O-C # H023382												
M180927													
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Explanation of Notes

- MS This result is estimated as no plates obtained so only counts within the method-specified range.
- MS-01 The MS and/or MSD recovery was outside acceptable limits. Investigation concludes it is a sample specific matrix effect and the batch was accepted based on acceptable LCS and/or LCSD recovery.

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Analytical Report
GONZALES, CITY OF
8/26/24 13:08
H023382

General Chemistry - Quality Control

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
% Solids - SM2540 G 2015												
Blank	<0.10	g/100g (%)	0.10	0.10	08/03/24 06:10 SR							M180926
Duplicate	16.6	g/100g (%)	0.10	0.10	08/03/24 06:10 SR		16.6			0.301	10	M180926
Duplicate	16.6	%	0.100	0.100	08/03/24 06:10 SR		16.6			0.301	10	M180926
Blank	<0.10	g/100g (%)	0.10	0.10	08/03/24 06:36 KHA							M180927
Duplicate	16.8	g/100g (%)	0.10	0.10	08/03/24 06:36 KHA		16.8			0.595	10	M180927
Total Kjeldahl Nitrogen as N - SM4500-NH3 G 2011												
Initial Cal Check	3.34	mg/L			08/21/24 11:01 KMA	3.38		98.7	90 - 110			240827/3
Low Cal Check	0.19	mg/L			08/21/24 11:01 KMA	0.200		97.0	70 - 130			240827/3
Blank	<0.20	mg/kg wet	0.13	0.20	08/21/24 11:01 KMA							M181629
LCS	3.88	mg/kg wet	0.13	0.20	08/21/24 11:01 KMA	4.00		97.0	91 - 116			M181629
LCS Dup	3.90	mg/kg wet	0.13	0.20	08/21/24 11:01 KMA	4.00		97.6	91 - 116	0.642	10	M181629
Matrix Spike	2860	mg/kg dry	75.7	116	08/21/24 11:01 KMA	2330	708	82.3	85.2 - 119			M181629
Matrix Spike Dup	2880	mg/kg dry	75.7	116	08/21/24 11:01 KMA	2330	708	83.2	85.2 - 119	0.916	20	M181629
Reference	954	mg/kg wet	32.1	49.4	08/21/24 11:01 KMA	1160		82.2	80 - 120			M181629

Total Volatile Solids - SM2540 G 2015												
Blank	<0.1	%	0.1	0.1	08/03/24 06:36 KHA							M180927
Duplicate	39	%	0.1	0.1	08/03/24 06:36 KHA		39			0.155	10	M180927

Metals (Total) - Quality Control

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
Mercury - EPA 7471A 1994												
Initial Cal Check	8.46	ug/L			08/07/24 14:52 ABM	8.88		94.0	80 - 120			2408072
Blank	<0.0005	mg/kg wet	0.0002	0.0005	08/07/24 14:52 ABM							M181046
Duplicate	0.205	mg/kg dry	0.038	0.100	08/07/24 14:52 ABM		0.206			0.535	20	M181046
LCS	0.002	mg/kg wet	0.0002	0.0005	08/07/24 14:52 ABM	0.00250		94.2	80 - 120			M181046
LCS Dup	0.002	mg/kg wet	0.0002	0.0005	08/07/24 14:52 ABM	0.00250		91.8	80 - 120	2.58	10	M181046
Matrix Spike	0.632	mg/kg dry	0.038	0.100	08/07/24 14:52 ABM	0.499	0.206	85.3	80 - 120			M181046
Matrix Spike Dup	0.586	mg/kg dry	0.038	0.100	08/07/24 14:52 ABM	0.502	0.206	77.7	80 - 120	9.35	20	M181046
MRL Check	0.0005	mg/kg wet	0.0002	0.0005	08/07/24 14:52 ABM	0.000500		109	70 - 130			M181046

Microbiological Analyses - Quality Control

Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	RPD	RPD Limit	Batch
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Sample Preparation Summary

Sample Preparation Summary									
Sample	Method	Prepared	Lab	Bottle	Initial	Units	Final	Units	External Dilution Factor
H023382-01									
% Solids	% calculation	8/5/24 13:23 SPL	Bryan	-	-	-	-	-	M181993
Fecal Coliform Geometric Mean (7 prl)	SM9222 D 2015	8/15/24 11:11 AOG	Austin	-	-	-	-	-	M181437
Mercury	EPA 747A 1994	8/17/24 9:45 ABM	Bryan	C	0.298	g	10.0	mL	M181046
Subsorbent	Sub Contract Data Entry	8/29/24 12:21 PMY	Bryan	-	-	-	-	-	M181887
Total Kjeldahl Nitrogen as N	SM4500-NH3 C 2011	8/20/24 7:59 CTC	Bryan	C	0.103	g	25.0	mL	M181629
H023382-02									
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	M180864
H023382-03									
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	M180864
H023382-04									
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	M180864
H023382-05									
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	M180864
H023382-06									
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	M180864
H023382-07									
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	M180864
H023382-08									
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	M180864
H023382-09									
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	M180864
H023382-10									
% Solids	SM2540 G 2015	8/3/24 6:36 SR	Austin	A	10.0	g	10.0	mL	M180927
Total Volatile Solids	SM2540 G 2015	8/3/24 6:36 SR	Austin	A	10.0	g	10.0	mL	M180927

Aqua-Tech		Chain-of-Custody and Analysis Request	
Client / Project Name: Name: Ryan Wilkerson Address: PO BOX 547 City: GONZALES State: TX Zip: 78629 Phone: (830) 672-3525 email:		GONZALES, CITY OF Land App Full with PCBs	
Contact Information Name: Ryan Wilkerson Address: PO BOX 547 City: GONZALES State: TX Zip: 78629 Phone: (830) 672-3525 email:		Definitions DW: Drinking Water NP: Non-Potable Water S: Solid CM: Custody Maintained CTU: Custody Transfer Unbroken CT: Corrected Temperature	
Analyses Requested - "X" prefix indicates Austin, all others Bryan or Subcontracted indicated by (SUB) Name format: Analysis Matrix-Technology-Method (NEL) = NELAP accredited parameter (SUB) = NELAP accredited subcontracted parameter (CNRI) = No NELAP accreditation required or available (INF) = Informational only (not NELAP certified) By returning the sample, listed below to Aqua-Tech Laboratories, Inc. (ATL), the client agrees to the following terms. Samples will be analyzed by a method that is within ATL's NELAP fields of accreditation (FSA). Clients requiring an accredited method that is not within ATL's field will be subcontracted to a NELAP lab that is accredited for that method. Clients will not receive the results of the subcontract lab's results. Other analysis not requiring accreditation will be analyzed by a commercial method. If a specific method is required, the client will note the method in the "Analysis Request" column. The client approves a current list of ATL's NELAP fields of accreditation and other methods are available on request.			
Comments: - LAB RECEIPT - 1030 Temperature - CT (C): 5.6 Preservation Correct: Yes Post-Preservatives: N/A Thermometer ID: 0811655 pH Paper ID: 0816272 No A.COD, MCLUT, 1520, 08			
Field Sample ID Date Start Time End Time Composite Type Sample Matrix Container (Checked box indicates bottle arrived in lab) Lab ID			
Gonzales WWTP Sludge A Fecal SL, 701 Geo Mean Calc SM 9222 D (NEL) 08-01-24 0931 - N/A - - N/A - Grab S ☒ A (SUB) ANA PCB 0.33LG H023382-01 Cd SL ICP SW846 6020 A (SUB) As SL ICP SW846 6020 A (SUB) ☒ B Sludge Nutrients TLP Cu SL ICP SW846 6020 A (SUB) Cu SL ICP SW846 6020 A (SUB) ☒ D PCB 0.33LG Hg SL CVA4 SW846 7471 A (NEL) K SL ICP SW846 6010 B (SUB) ☒ B Fecal 0.15L SIP Na2S2O3 NH3N NP SL T1 EPA 350.1 (SUB) (NEL) Mo SL ICP SW846 6010 B (SUB) ☒ B Fecal 0.15L SIP Na2S2O3 Pb SL ICP SW846 6010 B (SUB) NO3N SL ICP SW846 6020 A (SUB) ☒ B TS 0.1LP Se SL ICP SW846 6020 A (SUB) PCB GC-ICD EPA 8082 (SUB) ☒ A Fecal 0.15L SIP Na2S2O3 TKN SL A JTO SM4500 NH3 G (CNRI) TKN SL A JTO SM4500 NH3 G (CNRI) ☒ B TS 0.1LP Y Billing Digest, Metals Hg Y Billing Digest, Metals Solid			
Gonzales WWTP Sludge Part 1 A Fecal SL Membrane SM 9222 D (NEL) 08-01-24 0936 - N/A - - N/A - Grab S ☒ A Fecal 0.15L SIP Na2S2O3 H023382-02 A TS SL Grav SM2540 G (NEL) A TS SL Grav SM2540 G (NEL) ☒ B TS 0.1LP			
Gonzales WWTP Sludge Part 2 A Fecal SL Membrane SM 9222 D (NEL) 08-01-24 0938 - N/A - - N/A - Grab S ☒ A Fecal 0.15L SIP Na2S2O3 H023382-03 A TS SL Grav SM2540 G (NEL) A TS SL Grav SM2540 G (NEL) ☒ B TS 0.1LP			
Gonzales WWTP Sludge Part 3 A Fecal SL Membrane SM 9222 D (NEL) 08-01-24 0940 - N/A - - N/A - Grab S ☒ A Fecal 0.15L SIP Na2S2O3 H023382-04 A TS SL Grav SM2540 G (NEL) A TS SL Grav SM2540 G (NEL) ☒ B TS 0.1LP			
Gonzales WWTP Sludge Part 4 A Fecal SL Membrane SM 9222 D (NEL) 08-01-24 0942 - N/A - - N/A - Grab S ☒ A Fecal 0.15L SIP Na2S2O3 H023382-05 A TS SL Grav SM2540 G (NEL) A TS SL Grav SM2540 G (NEL) ☒ B TS 0.1LP			

Client: GONZALES, CITY OF

C-O-C #

H023382

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Field Sample ID	Date	Start Time	End Time	Composite Type	Sample Matrix	Container (Checked box indicates bottle arrived in lab) (Volume - Type - Preservative)	Lab ID
Gonzales WWTP Sludge Part 5	08-01-24	0944	- N/A -	Grab	S	☒ A Fecal 0.15L SIP Na2S2O3 ☒ B TS 0.1LP	H023382-06
A Fecal SL Membrane SM 9222 D (NEL)	ATS SL Grav SM2540 G (NEL)						
Gonzales WWTP Sludge Part 6	08-01-24	0946	- N/A -	Grab	S	☒ A Fecal 0.15L SIP Na2S2O3 ☒ B TS 0.1LP	H023382-07
A Fecal SL Membrane SM 9222 D (NEL)	ATS SL Grav SM2540 G (NEL)						
Gonzales WWTP Sludge Part 7	08-01-24	0948	- N/A -	Grab	S	☒ A Fecal 0.15L SIP Na2S2O3 ☒ B TS 0.1LP	H023382-08
A Fecal SL Membrane SM 9222 D (NEL)	ATS SL Grav SM2540 G (NEL)						
Gonzales WWTP WAS	08-01-24	0950	- N/A -	Grab	S	☒ A TS VS 0.5LP	H023382-09
ATS SL Grav SM2540 G (NEL)	ATS SL Grav SM2540 G (CHN)						

2600 Dudley Rd. Kilgore, Texas 75662
24 Waterway Avenue, Suite 375 The Woodlands, TX 77380
Office: 903-984-0551 * Fax: 903-984-5914



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AQU1-G

AquaTech Laboratories
John Brien
635 Phil Gramm Blvd.
Bryan, TX 77807-9104

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1112989_r03_06_D_ProjectTRRP	SPL Kilgore Project P:1112989 C:AQU1 Project TRRP Results Report for Class D	2
1112989_r03_06_G_ProjectTRRP	SPL Kilgore Project P:1112989 C:AQU1 Project TRRP Results Report for Class G	2
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1112989_r99_09_CoC_1_of_1	SPL Kilgore CoC AQU1 1112989_1_of_1	4
Total Pages:		27

Email: Kilgore.ProjectManagement@spilabs.com

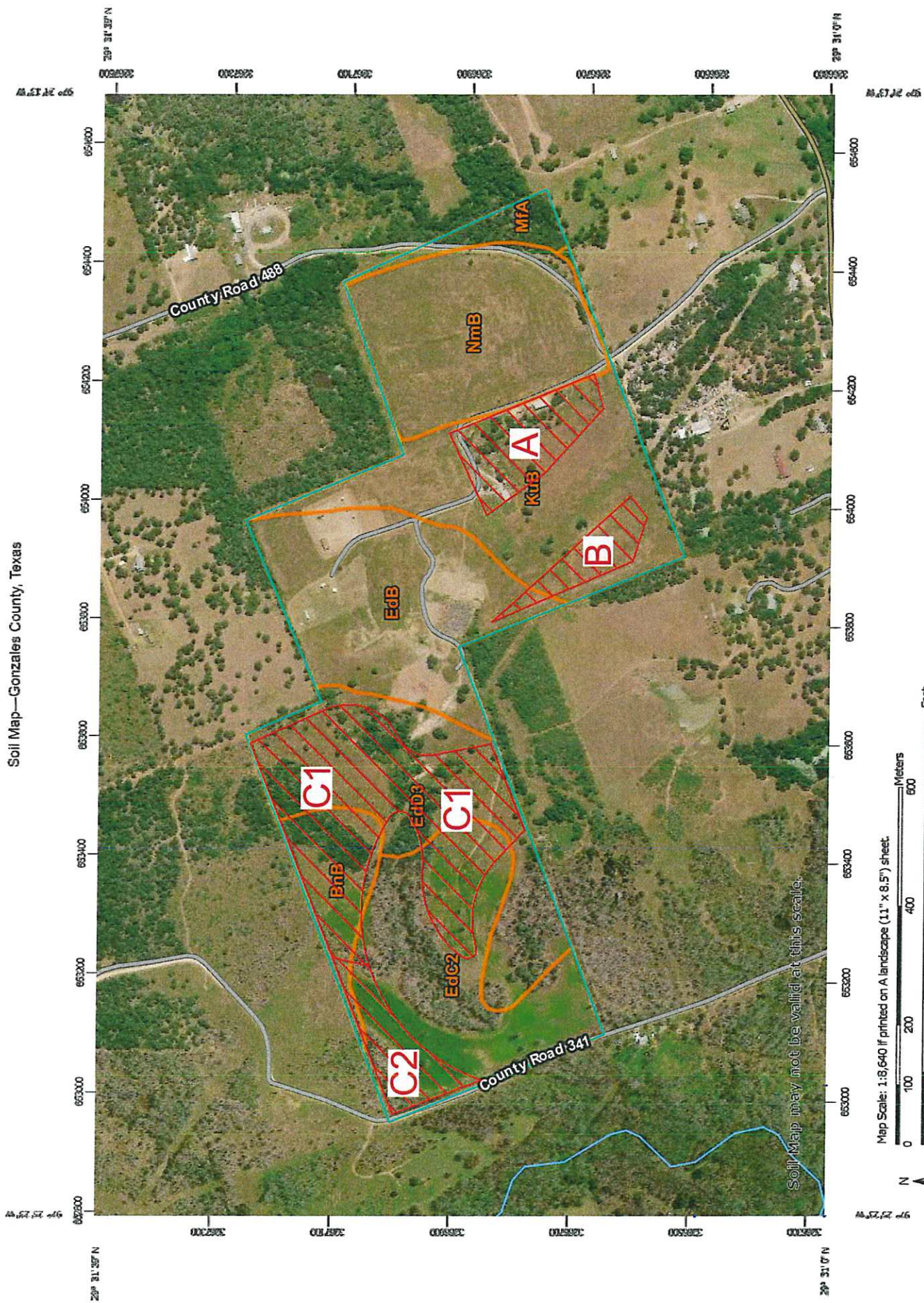


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Attachment F

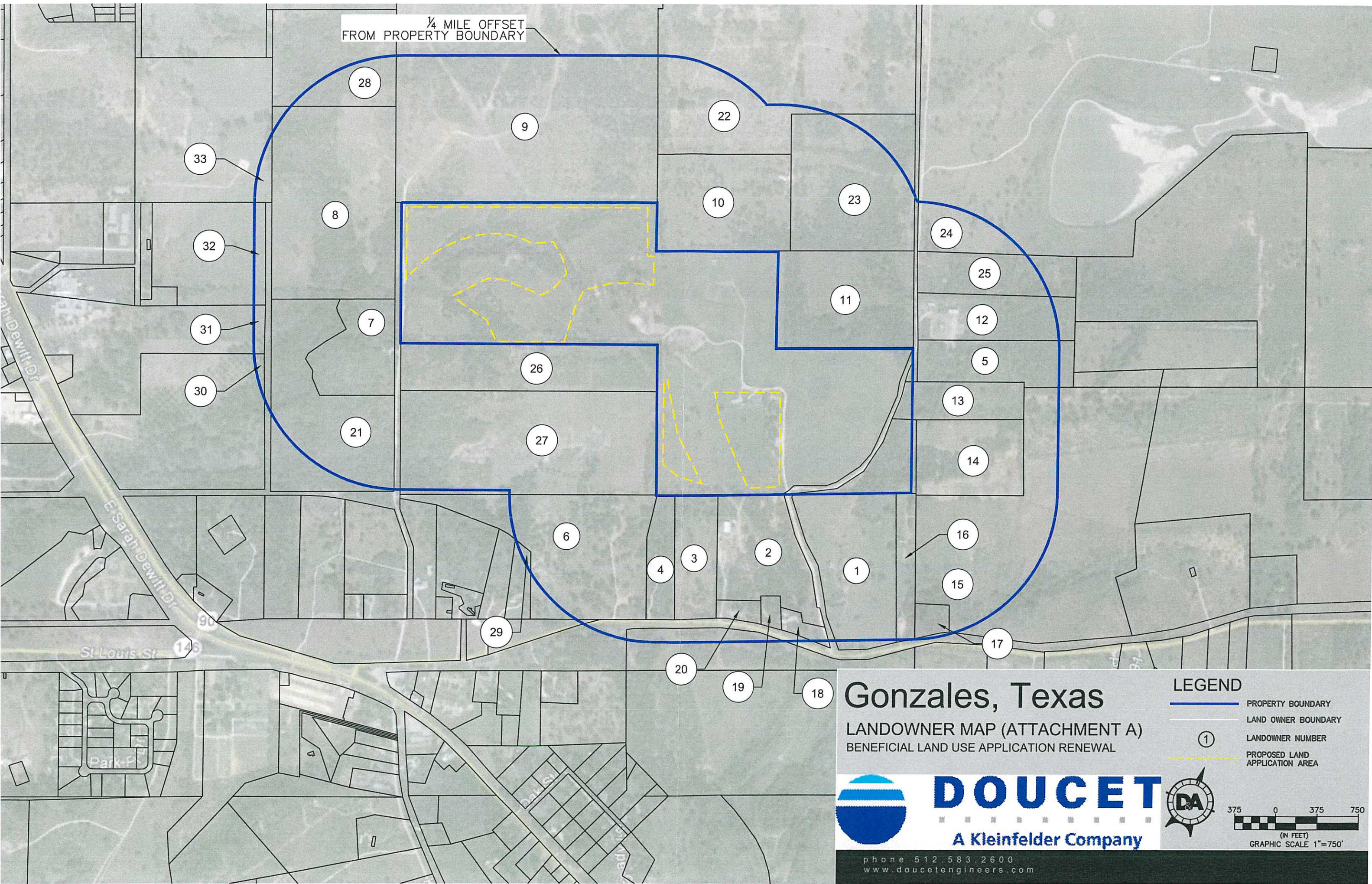
USDA-NRCS Soil Map





Attachment A
Landowner Map

1/4 MILE OFFSET
FROM PROPERTY BOUNDARY



Gonzales, Texas

LANDOWNER MAP (ATTACHMENT A)
BENEFICIAL LAND USE APPLICATION RENEWAL



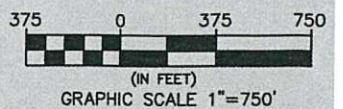
DOUCET

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phone 512.583.2600
www.doucetengineers.com

LEGEND

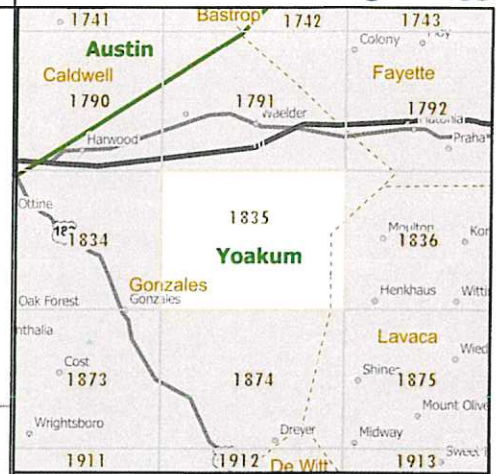
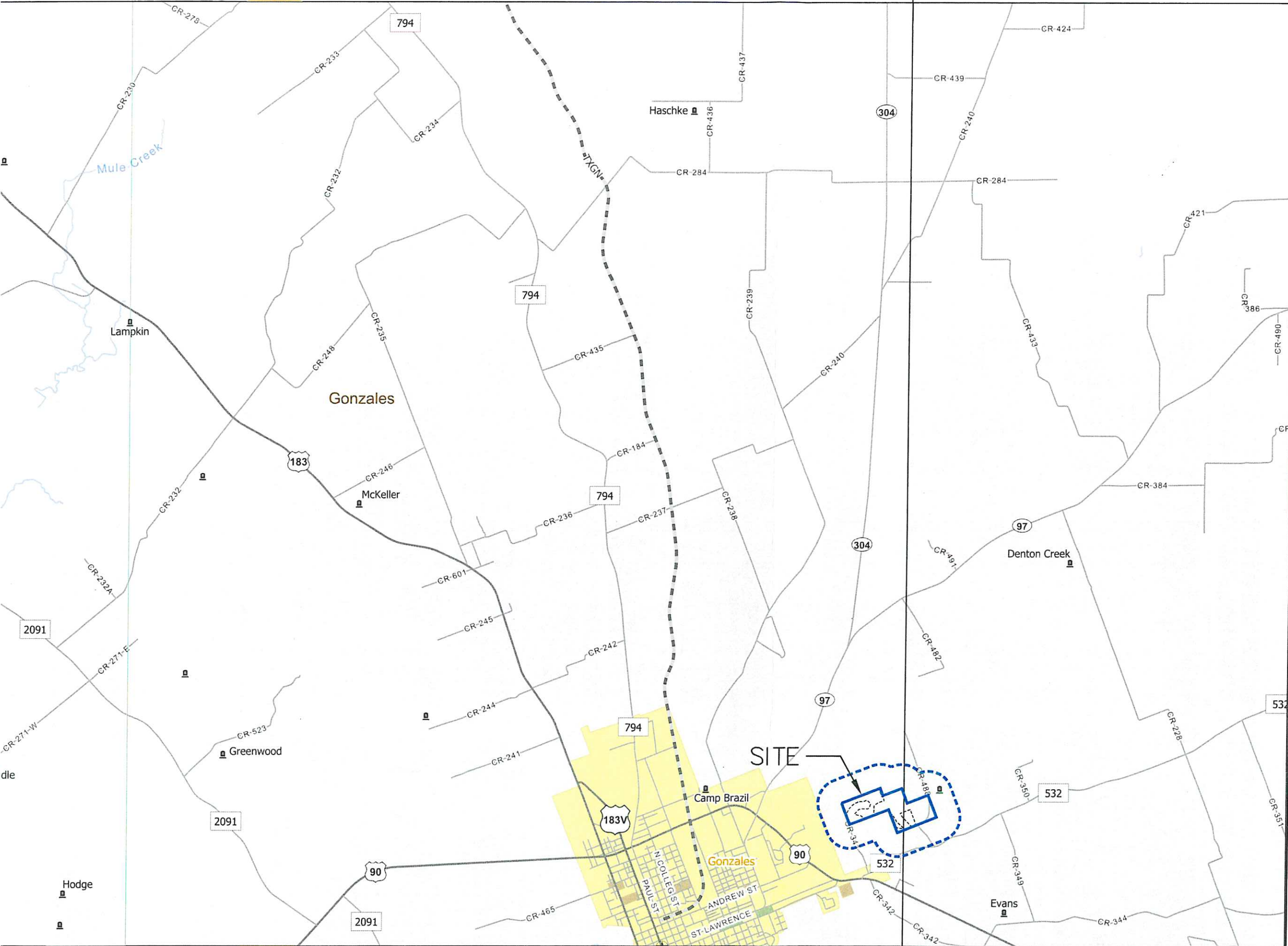
- PROPERTY BOUNDARY
- LAND OWNER BOUNDARY
- LANDOWNER NUMBER
- PROPOSED LAND APPLICATION AREA





Attachment D

General Highway (County) Map

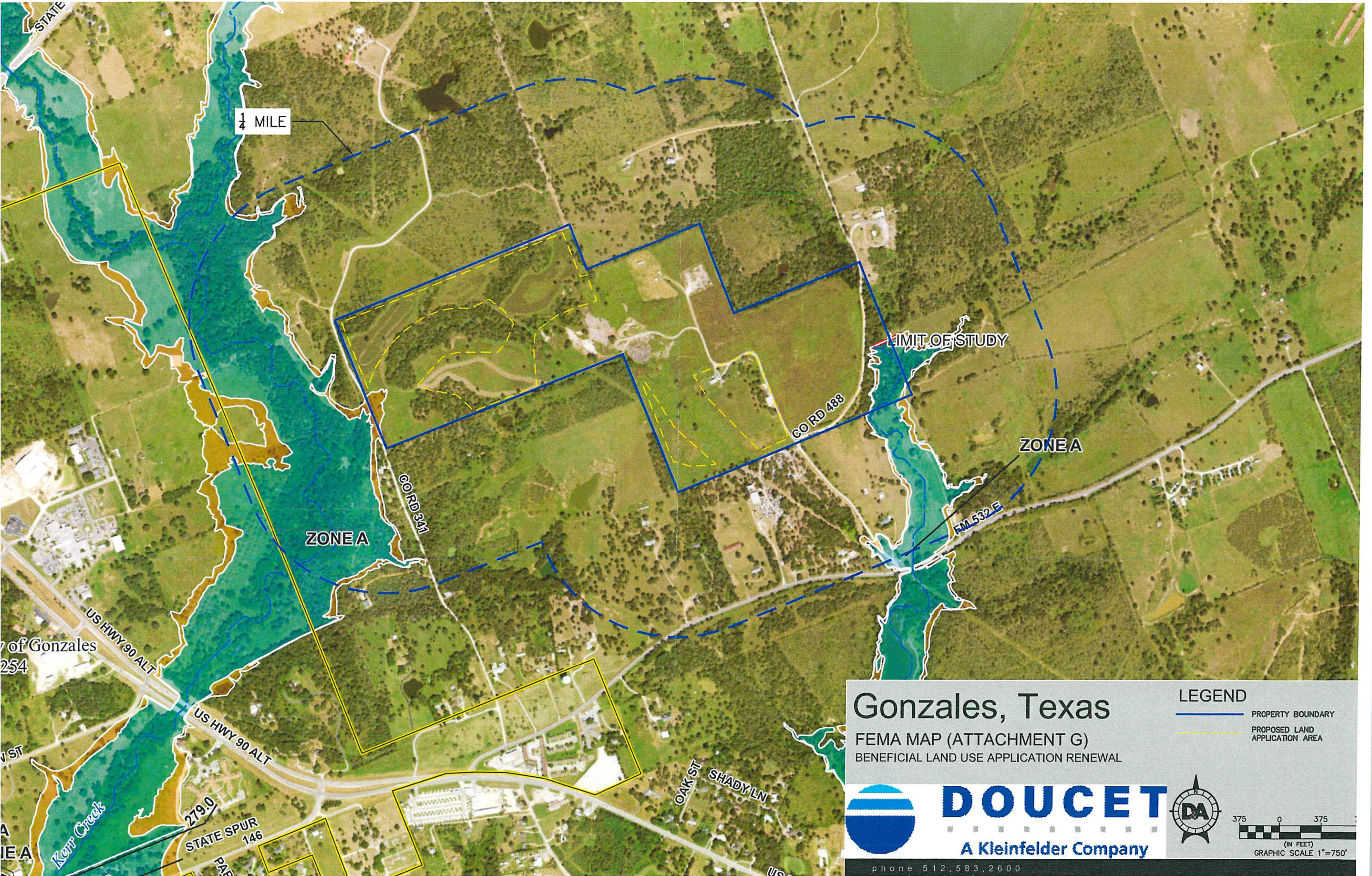


- Unincorporated Community
- ★ County Seat
- ⬇ Border Crossing
- ⬆ Cemetery
- ⬆ Cemetery (Inside City)
- ⬆ Deep Draft Port
- ⬆ Shallow Draft Port
- ⬆ Railroad
- ⬆ Dam
- ⬆ River or Stream
- ⬆ TXDOT District
- ⬆ Lakes
- ⬆ Education
- ⬆ Military
- ⬆ Airport Runway
- ⬆ Airport
- ⬆ Prison
- ⬆ Parks and Other Public Land



Attachment G

FEMA Map



Gonzales, Texas

FEMA MAP (ATTACHMENT G)
BENEFICIAL LAND USE APPLICATION RENEWAL

LEGEND

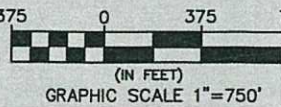
- PROPERTY BOUNDARY
- PROPOSED LAND APPLICATION AREA



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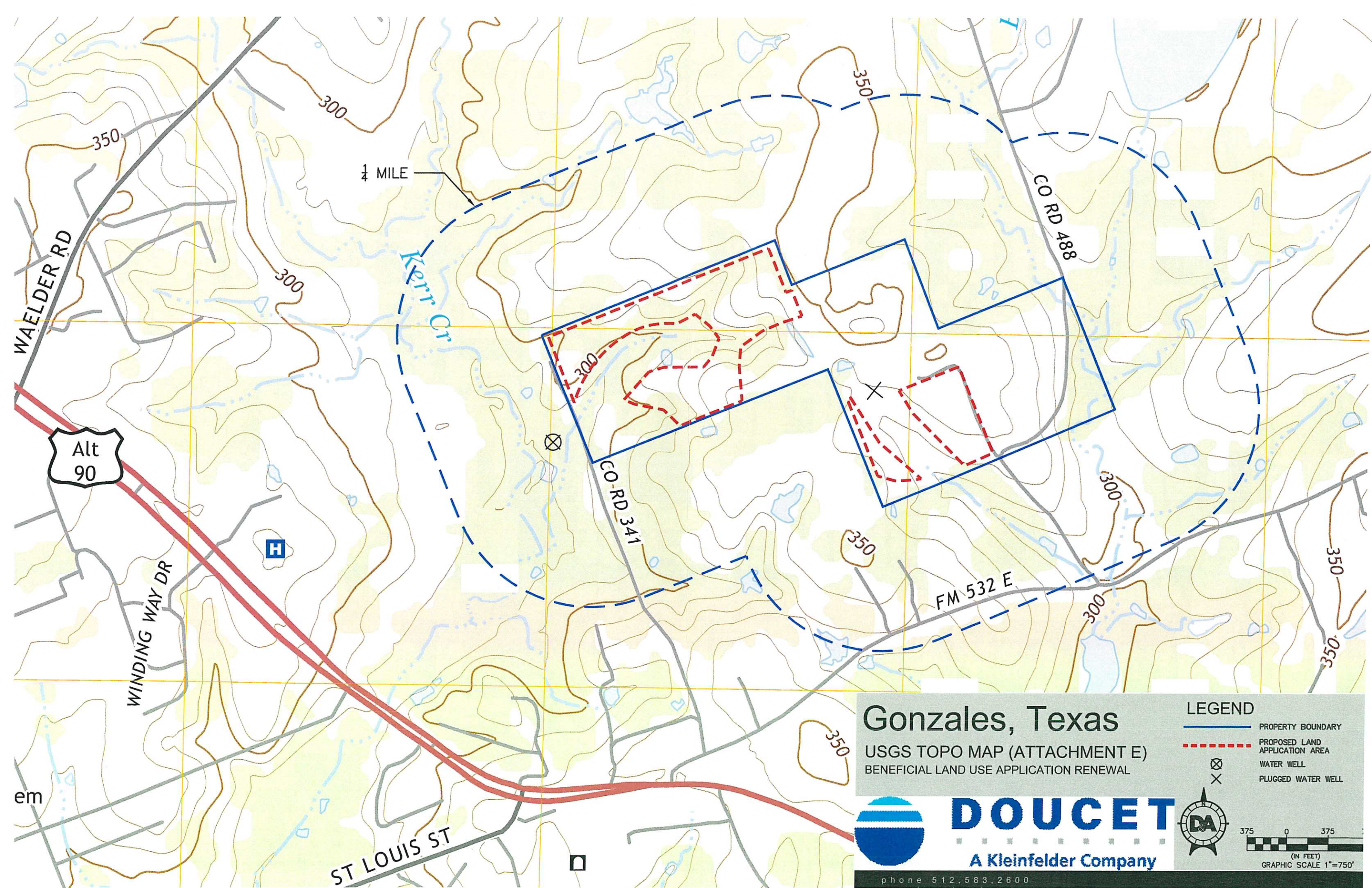
phone 512.583.2600





Attachment E

USGS Topo Map



Gonzales, Texas

USGS TOPO MAP (ATTACHMENT E)
BENEFICIAL LAND USE APPLICATION RENEWAL



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phone 512.583.2600

LEGEND

- PROPERTY BOUNDARY
- PROPOSED LAND APPLICATION AREA
- WATER WELL
- PLUGGED WATER WELL

