Administrative Package Cover Page

This file contains the following documents:

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

Portada de Paquete Administrativo

Este archivo contiene los siguientes documentos:

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

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

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

DOUCET
A Kleinfelder Company

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

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 WQ0004467000 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.....]**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.**

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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.

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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

DOUCET

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.

DOUCET

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

Doucet & Associates, Inc.

TBPE Firm #3937

Victor Ostiguin, P.E.

7401-B Highway 71 W., Ste. 160

Austin, TX 78735

TBPLS Firm No. 10194551
TBPE Firm No. F-3937

TCEQ Office Use Only
Permit No:
CN:
RN:
Region:

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.

RECEIVED
OCT 09 2024
Water Quality Applications Team

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.

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, forseeable 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): _____ Date: 9-27-2024

SUBSCRIBED AND SWORN to before me by the said Timothy L. Crow on this 27 day of September, 20 24

My commission expires on the 16 day of December, 20 24

_____

(Seal) Notary Public

Gonzales

County, Texas

KRISTINA VEGA
Notary Public, State of Texas
Notary ID# 12812119-2
My Commission Expires
DECEMBER 16, 2025

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 Costal Bermuda will be cut approximately once every three to four months, allowed to dry, racked 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	Megiun 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.

TCEQ Auth. Number	Est. Dry Tons*	As	Cd	Cr	Cu	Pb	Hg	Mo	Ni	Se	Zn	TKN	NH_4-N	NO_3-N	P	K
Sum																
Volume Weighted Average																

*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 (NH4-N)	0.172	x 20	3.44
Nitrate Nitrogen (NO3-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:

mg/kg ÷ 10,000 = %

ppm = 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*NO_3-N (ppm)(in the 0-6" soil depth) + 6*NO_3- 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, NH_4-N, and NO_3-N from Step 1.

Organic Nitrogen = TKN – (NH_4-N) – (NO_3-N) 60.1

Mineralization Rate (%) * 30

3A. Organic Nitrogen x Mineralization Rate 18

3B. Ammonium Nitrogen = (NH_4-N) x V 1.72

V = 0.5 if biosolids are left on soil surface

V = 1.0 if biosolids are worked into the soil

3C. Nitrate Nitrogen (NO_3-N) 0.03

3D. Total PAN = (Line 3A + Line3B + Line 3C)= 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)

4A. Nitrogen amount still needed (lbs/acre/year)

Enter amount from Step 2C. 828

4B. Total PAN (lbs/ton)

Enter amount from Step 3D. 19.79

4C. Biosolids Application Rate (BAR_N) (tons/acre/year)

Line 4A ÷ Line 4B 12 (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 $\underline{BAR_N}$ (lbs/acre/yr) (C x SAR_N)	E Biosolids Applied Yearly at $\underline{BAR_M}$ (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 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 BAR_M dictates the maximum biosolids application rate and the value of E = B ÷ 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*NO_3-N (ppm)(in the 0-6" soil depth) + 6*NO_3- N(ppm)(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:

AAR = N ÷ 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 ÷ 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 02/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 form 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

DOUCET

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 Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission *(If other is checked please describe in space provided.)*

☐ New Permit, Registration or Authorization *(Core Data Form should be submitted with the program application.)*

☒ Renewal *(Core Data Form should be submitted with the renewal form)*

☐ Other

2. Customer Reference Number *(if issued)*

CN 600249353

Follow this link to search for CN or RN numbers in Central Registry**

3. Regulated Entity Reference Number *(if issued)*

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)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*

If new Customer, enter previous Customer below:

City of Gonzales

7. TX SOS/CPA Filing Number	8. TX State Tax ID (11 digits)	9. Federal Tax ID (9 digits)	10. DUNS Number *(if applicable)*
	17460010014	746001001	093738540

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

12. Number of Employees
☐ 0-20 ☐ 21-100 ☒ 101-250 ☐ 251-500 ☐ 501 and higher

13. Independently Owned and Operated?
☒ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) -- *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant
☐ Other:

15. Mailing Address:

P.O. Box 547

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)*

(830) 672-2815		(830) 672-2813

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: ***(No PO Boxes)***	CR 488							
	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 Physical Location:	N side of CR 488, approximately 0.2 miles of intersection CR 488 & FM 532 & 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 (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (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 Address:	**P.O. Box 547**							
	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:

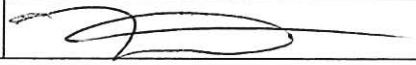
SECTION IV: Preparer Information

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

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,

Shannon W. Frazier, Manager
Registration & Reporting Section

Enclosures
CC: TCEQ Region 14, CORPUS CHRISTI

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,

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

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

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

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

Sample received on: 9/6/2023
Printed on: 9/14/2023
Area Represented: 9.9 acres

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.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	6.0	(5.8)	-	Mod. Acid	
Conductivity	101	(-)	umho/cm	None (CL*)	
Nitrate-N	4	(-)	ppm**		90 lbs N/acre
Phosphorus	13	(50)	ppm		90 lbs P2O5/acre
Potassium	115	(150)	ppm		55 lbs K20/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

Methods: pH and conductivity/ 2:1; 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.

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

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

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

Sample received on: 9/6/2023
Printed on: 9/14/2023
Area Represented: 9.9 acres

Gonzales County
Laboratory Number: 639101
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	5.1	(5.8)	-	Strongly Acid	
Conductivity	105	(-)	umho/cm	None CL*	Fertilizer Recommended
Nitrate-N	12	(-)	ppm**		75 lbs N/acre
Phosphorus	13	(50)	ppm		90 lbs P2O5/acre
Potassium	98	(150)	ppm		85 lbs K20/acre
Calcium	1,331	(180)	ppm		0 lbs Ca/acre
Magnesium	223	(50)	ppm		0 lbs Mg/acre
Sulfur	18	(13)	ppm		0 lbs S/acre
Sodium	50	(-)	ppm		
Iron	19.90	(4.25)	ppm		
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

Methods: pH and conductivity/ 2:1; 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.

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

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

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

Sample received on: 9/6/2023
Printed on: 9/14/2023
Area Represented: 2.4 acres

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.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	5.1	(5.8)	-	Strongly Acid	
Conductivity	108	(-)	umho/cm	None CL*	
Nitrate-N	2	(-)	ppm**		95 lbs N/acre
Phosphorus	6	(50)	ppm		110 lbs P2O5/acre
Potassium	138	(150)	ppm		15 lbs K20/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

Methods: pH and conductivity/ 2:1; 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.

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

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

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

Sample received on: 9/6/2023
Printed on: 9/14/2023
Area Represented: 2.4 acres

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.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	5.2	(5.8)	-	Strongly Acid	
Conductivity	107	(-)	umho/cm	None (CL*)	
Nitrate-N	1	(-)	ppm**		95 lbs N/acre
Phosphorus	3	(50)	ppm		115 lbs P2O5/acre
Potassium	155	(150)	ppm		0 lbs K20/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

Methods: pH and conductivity/ 2:1; 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

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

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

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

Sample received on: 9/6/2023
Printed on: 9/14/2023
Area Represented: 22.2 acres

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.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	4.3	(5.8)	-	Strongly Acid	
Conductivity	91	(-)	umho/cm	None CL*	
Nitrate-N	5	(-)	ppm**		90 lbs N/acre
Phosphorus	40	(50)	ppm		20 lbs P2O5/acre
Potassium	44	(150)	ppm		175 lbs K20/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

Methods: pH and conductivity/ 2:1; 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.

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

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

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

Sample received on: 9/6/2023
Printed on: 9/14/2023
Area Represented: 22.2 acres

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.)

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 K20/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

Methods: pH and conductivity/ 2:1; 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.

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

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979-845-4816 (phone)
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Visit our website: http://soiltesting.tamu.edu

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

Sample received on: 9/6/2023
Printed on: 9/14/2023
Area Represented: 11 acres

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.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	5.3	(5.8)	-	Strongly Acid	
Conductivity	101	(-)	umho/cm	None CL*	
Nitrate-N	3	(-)	ppm**		90 lbs N/acre
Phosphorus	9	(50)	ppm		100 lbs P2O5/acre
Potassium	86	(150)	ppm		105 lbs K20/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

TKN	952	ppm
TN	1195	ppm
Ammonium-N	6.8	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

Methods: pH and conductivity/ 2:1; 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.

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

Sample received on: 9/6/2023
Printed on: 9/14/2023
Area Represented: 11 acres

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.)

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 K20/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

Methods: pH and conductivity/ 2:1; 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.

PrnAnalysisVer. 2.19

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@aqua-techlabs.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

AQUA-TECH LABORATORIES, INC.

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.

Certificate: T104704371-22-26

NELAP ACCREDITED TNI LABORATORY

TCEQ Lab ID T104704371

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@aqua-techlabs.com www.aqua-techlabs.com

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

AQUA-TECH LABORATORIES, INC.

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

Analytical Report

GONZALES, CITY OF

Report Printed: 8/8/23 17:48

G019382

Gonzales WWTP Sludge

Collected: 06/29/23 10:00 by CLIENT
Received: 06/29/23 14:10 by Mitchell Mindieta
Type Grab | *Matrix* Solid | *C-O-C #* G019382

Lab ID# G019382-01	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
Total Kjeldahl Nitrogen as N	**31800**	mg/kg dry		0.13	1410	2170	*Bryan*	07/19/23 13:05 KMA	SM4500-NH3 G 2011	M163904	*ANR*
Microbiological Analyses											
Fecal Coliform Geometric Mean (7 prt)	**127000**	CFU/g			6480	6480	*Calc*	07/12/23 13:54 SR	SM9222 D 2015	M163668	*NEL*
Metals (Total)											
Mercury	**0.336**	mg/kg dry		0.0001	0.026	0.136	*Bryan*	07/12/23 11:23 ABM	EPA 7471A 1994	M163554	*NEL*

Please see the attached subcontract report for subcontracted data.

Gonzales WWTP Sludge Part 1

Collected: 06/29/23 10:04 by CLIENT
Received: 06/29/23 14:10 by Mitchell Mindieta
Type Grab | *Matrix* Solid | *C-O-C #* G019382

Lab ID# G019382-02	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	**13.7**	g/100g (%)		0.10	0.10	0.10	*Austin*	07/03/23 09:58 MAM	SM2540 G 2015	M163220	*NEL*
Microbiological Analyses											
Fecal Coliform	**122000**	CFU/g dry	M5	1	7150	7150	*Austin*	06/29/23 15:26 AOG	SM9222 D 2015	M163135	*NEL*

Gonzales WWTP Sludge Part 2

Collected: 06/29/23 10:05 by CLIENT
Received: 06/29/23 14:10 by Mitchell Mindieta
Type Grab | *Matrix* Solid | *C-O-C #* G019382

Lab ID# G019382-03	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	**13.4**	g/100g (%)	C-02	0.10	0.10	0.10	*Austin*	07/03/23 09:58 MAM	SM2540 G 2015	M163220	*NEL*
Microbiological Analyses											
Fecal Coliform	**102000**	CFU/g dry	M5	1	6770	6770	*Austin*	06/29/23 15:26 AOG	SM9222 D 2015	M163135	*NEL*

Gonzales WWTP Sludge Part 3

Collected: 06/29/23 10:08 by CLIENT
Received: 06/29/23 14:10 by Mitchell Mindieta
Type Grab | *Matrix* Solid | *C-O-C #* G019382

Lab ID# G019382-04	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	**13.5**	g/100g (%)		0.10	0.10	0.10	*Austin*	07/03/23 09:58 MAM	SM2540 G 2015	M163220	*NEL*
Microbiological Analyses											
Fecal Coliform	**153000**	CFU/g dry		1	6650	6650	*Austin*	06/29/23 15:26 AOG	SM9222 D 2015	M163135	*NEL*

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AUSTIN FACILITY
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Austin, TX 78744
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Analytical Report

GONZALES, CITY OF

Report Printed: 8/8/23 17:48

G019382

Gonzales WWTP Sludge Part 4

Collected: 06/29/23 10:12 by CLIENT
Received: 06/29/23 14:10 by Mitchell Mindieta

Type Grab | *Matrix* Solid | *C-O-C #* G019382

Lab ID# G019382-05	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	**17.0**	g/100g (%)		0.10	0.10	0.10	*Austin*	07/03/23 09:58 MAM	SM2540 G 2015	M163220	NEL
Microbiological Analyses											
Fecal Coliform	**66700**	CFU/g dry	M5	1	5130	5130	*Austin*	06/29/23 15:26 AOG	SM9222 D 2015	M163135	NEL

Gonzales WWTP Sludge Part 5

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

Type Grab | *Matrix* Solid | *C-O-C #* G019382

Lab ID# G019382-06	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	**13.5**	g/100g (%)		0.10	0.10	0.10	*Austin*	07/03/23 09:58 MAM	SM2540 G 2015	M163220	NEL
Microbiological Analyses											
Fecal Coliform	**150000**	CFU/g dry		1	6540	6540	*Austin*	06/29/23 15:50 AOG	SM9222 D 2015	M163135	NEL

Gonzales WWTP Sludge Part 6

Collected: 06/29/23 10:16 by CLIENT
Received: 06/29/23 14:10 by Mitchell Mindieta

Type Grab | *Matrix* Solid | *C-O-C #* G019382

Lab ID# G019382-07	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	**14.9**	g/100g (%)		0.10	0.10	0.10	*Austin*	07/03/23 09:58 MAM	SM2540 G 2015	M163220	NEL
Microbiological Analyses											
Fecal Coliform	**157000**	CFU/g dry		1	5800	5800	*Austin*	06/29/23 15:50 AOG	SM9222 D 2015	M163135	NEL

Gonzales WWTP Sludge Part 7

Collected: 06/29/23 10:18 by CLIENT
Received: 06/29/23 14:10 by Mitchell Mindieta

Type Grab | *Matrix* Solid | *C-O-C #* G019382

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

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G019382

Gonzales WWTP WAS

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

Type Grab

Matrix Solid

C-O-C # G019382

Lab ID# G019382-09

	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	**14.8**	g/100g (%)		0.10	0.10	0.10	*Austin*	07/03/23 10:17 MAM	SM2540 G 2015	M163218	NEL
Total Volatile Solids	**57**	%		0.1	0.1	0.1	*Austin*	07/03/23 10:17 MAM	SM2540 G 2015	M163218	ANR

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

Report Printed: 8/8/23 17:48

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													*Austin*
Blank	<0.10	g/100g (%)		0.10	0.10	07/03/23 09:58 MAM							M163220
Duplicate	14.3	g/100g (%)		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	g/100g (%)		0.10	0.10	07/03/23 10:17 MAM							M163218
Duplicate	15.4	g/100g (%)		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
Mercury - EPA 7471A 1994													*Bryan*
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	*J (0.0001)*	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		0.336			9.46	20	M163554
LCS	0.003	mg/kg wet		0.0001	0.0005	07/12/23 11:23 ABM	0.00250		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 Range	Log10 Comparison Control Limit	Batch

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Analytical Report

GONZALES, CITY OF

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G019382

Microbiological Analyses - Quality Control

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

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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

AQUA-TECH LABORATORIES, INC.

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.

TCEQ LAB ID: T104704371

Aqua-Tech laboratories, Inc.

Austin	Bryan
3512 Montopolis Dr. Austin, TX 78744	635 Phil Gramm Blvd. Bryan, TX 77807
512.301.9559	979.778.3707

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

C-O-C # **G019382**

rte_ATL COC 012723.rpt

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

rint\wko_A COC 042120.rpt

Sample Custody

Relinquished (print & sign)	JAMIE BAZON / Jamie Bazon	☑ Sampler ☐ Client ☐ ATL Field	Date 6-29-23 Time 1030 ☑ Iced / Refrig ☐ Custody Sealed
Received (print & sign)	Mitchell Mindieta	☐ Client ☑ ATL Field	Date 6-29-23 Time 1110 ☑ Iced / Refrig ☐ CM / CTU
Relinquished (print & sign)	NA	☐ Client ☐ ATL Field	Date Time ☐ Iced / Refrig ☐ CM / CTU
Received (print & sign)	JMM	☐ Client ☐ ATL Field	Date Time ☐ Iced / Refrig ☐ CM / CTU
Relinquished (print & sign)	Mitchell Mindieta	☐ Client ☐ ATL Field	Date Time 06/29/23 ☑ Iced / Refrig ☑ CM / CTU / Sealed
Received (print & sign)	Mitchell Mindieta Lab X	☐ Client ☐ ATL Field	Date 14:10 Time 06/29/23 14:10 ___ Cond Good X Iced / Refrig X CM / CTU

Field Sample ID	Start Date	Start Time	End Date	End Time	Composite Type	Sample Matrix	Container (Checked box indicates bottle arrived in lab) (Volume - Type - Preservative)	Lab ID
Gonzales WWTP Sludge	6-29-23	1000	- N/A -	- N/A -	Grab	S	☑ A [SUB] ANA PCB 0.33LG ☐ B Sludge Nutrients 1LP ☑ C Sludge Metals & Hg 1LP ☑ D 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 Tit 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]	A TS SL Grav SM20 2540 G [SUB]; Cr SL ICP SW846 6020 A [SUB]; K SL ICP SW846 6010 B [SUB]; Ni SL ICP SW846 6020 A [SUB]; Pb SL ICP SW846 6020 A [SUB]; Solids, Dry Weight; Y Billing Digest, Metals Hg		As SL ICP SW846 6020 A [SUB]; Cu SL ICP SW846 6020 A [SUB]; Mo SL ICP SW846 6010 B [SUB]; NO3N SL IC SW846 9056 [SUB]; PCB SL GC-ECD EPA 8082 [SUB]; TKN SL AUTO SM4500 NH3 G [CNR]; Y Billing Digest, Metals Solid				
Gonzales WWTP Sludge Part 1	6-29-23	1004	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☑ B TS 0.1LP	G019382-02
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]		Solids, Dry Weight					
Gonzales WWTP Sludge Part 2	6-29-23	1005	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☑ B TS 0.1LP	G019382-03
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]		Solids, Dry Weight					
Gonzales WWTP Sludge Part 3	6-29-23	1008	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☑ B TS 0.1LP	G019382-04
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]		Solids, Dry Weight					
Gonzales WWTP Sludge Part 4	6-29-23	1012	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☑ B TS 0.1LP	G019382-05
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]		Solids, Dry Weight					

AQUA-TECH LABORATORIES, INC.

Chain-of-Custody and Analysis Request

C-O-C #
G019382

Client : GONZALES, CITY OF

Field Sample ID	Start Date	Start Time	End 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	6-29-23	1014	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☑ B TS 0.1LP	**G019382-06**
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]		Solids, Dry Weight					
Gonzales WWTP Sludge Part 6	6-29-23	1016	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☑ B TS 0.1LP	**G019382-07**
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]		Solids, Dry Weight					
Gonzales WWTP Sludge Part 7	6-29-23	1018	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☑ B TS 0.1LP	**G019382-08**
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]		Solids, Dry Weight					
Gonzales WWTP WAS	6-29-23	1020	- N/A -	- N/A -	Grab	S	☑ A TS VS 0.5LP	**G019382-09**
A TS SL Grav SM2540 G [NEL]	A TVS SL Grav SM2540 G [CNR]							

'600 Dudley Rd. Kilgore, Texas 75662
'4 Waterway Avenue, Suite 375 The Woodlands, TX 77380
Office: 903-984-0551 * Fax: 903-984-5914

SPL
The Science of Sure

Project
1064098

AQU1-G

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

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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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SAMPLE CROSS REFERENCE

Project
1064098

Printed 8/2/2023

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

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

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Aqua-Tech Laboratories
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Bryan, TX 77807-9104

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515-G019382

RESULTS

Sample Results

2209731 **G019382-01** Received: 06/30/2023

Solid & Chemical Materials | Collected by: Client | Aqua-Tech Laboratori | PO:
Taken: 06/29/2023 10:00:00

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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2209731 G019382-01 Received: 06/30/2023

Solid & Chemical Materials Collected by: Client Aqua-Tech Laboratori PO:
Taken: 06/29/2023 10:00:00

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
ELAC	Molybdenum, Total	7.78 *	mg/kg	2.59		7439-98-7	06
ELAC	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
ELAC	PCB-1016	<1000 *	ug/kg	1000		12674-11-2	05
ELAC	PCB-1221	<1000 *	ug/kg	1000		11104-28-2	05
ELAC	PCB-1232	<1000 *	ug/kg	1000		11141-16-5	05
ELAC	PCB-1242	<1000 *	ug/kg	1000		53469-21-9	05
ELAC	PCB-1248	<1000 *	ug/kg	1000		12672-29-6	05
ELAC	PCB-1254	<1000 *	ug/kg	1000		11097-69-1	05
ELAC	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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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*	*TES*
ELAC **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*
ELAC **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*
ELAC **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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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*	*RC1*

ELAC	Total Solids Start	Started

Qualifiers:

J - Analyte detected below quantitation limit

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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

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CAS	Parameter	Results	MDL	SDL	MQL	MQLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials	**Distillations**									**EPA 350.1 2**	
2209731	G019382-01										
		Collection:	06/29/2023		10:00:00	Client			*Received:*	06/30/2023	
	Prepared: 1070503										
				Analyzed:	1070601			7/5/23	12:54:00		
	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)
MQL is the Method Quantitation Limit and corresponds to a low standard
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)

Qualifiers:

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CAS	Parameter	Results	MDL	SDL	MQL	MQLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials	**Gravimetrics**									**SM 2540 G-1997**	
2209731	G019382-01										
		Collection:	06/29/2023		10:00:00	Client			*Received:*	06/30/2023	
	Prepared: 1070840										
				Analyzed:		1070840		7/5/23	14:15:00		
	Volatile Solids	53.5	0.100	0.100	0.100	0.100		%		01	1.00
	Prepared: 1070841										
				Analyzed:		1070841		7/5/23	14:15:00		
	Total Solids	13.5	0.100	0.100	0.100	0.100		%		01	1.00

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

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CAS	Parameter	Results	MDL	SDL	MQL	MQLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials	**Ion Chromatography**									**EPA 9056**	
2209731	**G019382-01**										
		Collection:	06/29/2023		10:00:00	Client			*Received:*	06/30/2023	
	Prepared: ***1071019***										
				Analyzed:	***1071223***			7/7/23	22:54:00		
14797-55-8	**Nitrate-Nitrogen**	**16.2 ***	0.0256	9.48	0.0256	9.48		**mg/kg**		04	49.90

** Dry Weight Basis*

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CAS	Parameter	Results	MDL	SDL	MQL	MQLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials	**Metals**									**EPA 6010C**	
2209731	**G019382-01**										
		Collection:	06/29/2023		10:00:00	Client			*Received:*	06/30/2023	
	Prepared: ***1071176***										
				Analyzed:		***1071418***		7/11/23	09:05:00		
7440-09-7	**Potassium**	**2810 ***	0.111	96.3	0.500	433		**mg/kg**		06	117.00
				Analyzed:		***1071437***		7/11/23	10:22:00		
7723-14-0	**Phosphorus**	**28900 ***	0.00734	63.5	0.100	867		**mg/kg**		06	1170.00
** Dry Weight Basis*											
Solid & Chemical Materials	**Metals**									**EPA 6020A**	
2209731	**G019382-01**										
		Collection:	06/29/2023		10:00:00	Client			*Received:*	06/30/2023	
	Prepared: ***1071176***										
				Analyzed:		***1072093***		7/13/23	20:38:00		
7440-43-9	**Cadmium, Total**	**0.807 ***	0.000223	0.193	0.001	0.867	J	**mg/kg**	1.50	06	117.00
7440-66-6	**Zinc, Total**	**498 ***	0.000432	0.374	0.005	4.33		**mg/kg**	2400	06	117.00
				Analyzed:		***1072897***		7/20/23	01:48:00		
7440-47-3	**Chromium, Total**	**15.6 ***	0.000409	0.354	0.001	0.867		**mg/kg**	2400	06	117.00
7440-50-8	**Copper, Total**	**150 ***	0.000242	0.210	0.001	0.867		**mg/kg**	1000	06	117.00
7439-92-1	**Lead, Total**	**27.3 ***	0.000262	0.227	0.001	0.867		**mg/kg**	6.30	06	117.00
7440-02-0	**Nickel, Total**	**15.9 ***	0.000287	0.248	0.001	0.867		**mg/kg**	160	06	117.00
				Analyzed:		***1073213***		7/21/23	07:12:00		
7440-38-2	**Arsenic, Total**	**5.39 ***	0.000917	0.793	0.005	4.33		**mg/kg**	5.00	06	117.00

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515-G019382

CAS	Parameter	Results	MDL	SDL	MQL	MQLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials	**Metals**									**EPA 6020A**	
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*

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

Qualifiers:

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CAS	Parameter	Results	MDL	SDL	MQL	MQLAdj	Flag	Units	Target	Bottle	Dilute
Solid & Chemical Materials	**Organics**									**EPA 8082**	
2209731	**G019382-01**										
		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)
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QUALITY CONTROL

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Analytical Set 1070601 — EPA 350.1 2

Blank

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

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
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

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

ICV

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

LCS Dup

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

Mat. Spike

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

Unknown

Parameter
Ammonia Nitrogen

Analytical Set 1070840 — SM 2540 G-1997

ControlBlk

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Volatile Solids	1070840	0.0001			grams	125162288

Duplicate

Parameter	Sample	Result	Unknown	Unit	RPD	Limit%
Volatile Solids	2209366	63.7	63.9	%	0.313	20.0

Analytical Set 1070841 — SM 2540 G-1997

ControlBlk

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Total Solids	1070841	0.0001			grams	125162295

Duplicate

Parameter	Sample	Result	Unknown	Unit	RPD	Limit%
Total Solids	2209366	0.532	0.532	%	0	20.0

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Aqua-Tech Laboratories
John Brien
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Bryan, TX 77807-9104

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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*	*MQL*	*Units*	*File*
Chromium, Total	1071176	0.000435	0.000409	0.001	mg/kg	125223127

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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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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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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: abs(r1-r2) / mean(r1,r2) * 100%

Recover% is Recovery Percent: result / known * 100%

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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 (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

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(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

T104704371

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

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.

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	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
TS - SM2540 G 2015	TVS - SM2540 G 2015	PCB - SW846 8082	NO3N - SW-846 9056

2207731

CONTAINERS SUPPLIED: (ATL indicates cooler number in parentheses for each container - only required if more than one cooler listed below.)

( ) G019382-01 [A] - [SUB] ANA PGB 0.33LG (•) G019382-01 [B] - Sludge Nutrients 1LP

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

Relinquished by: (print & sign) [X] ATL-Austin [ ] ATL - Bryan [ ] Sampler Kaitlyn Johnson			Date 6/29/23	Time 1030 ~~13:49~~	[✓] Iced [✓] Custody Sealed [ ] Not Chilled
Carrier & Tracking Number: Fed Ex	Cooler 1: AQU1-901 FedEx 7724 9473 7385				Sample Info "X" all that apply
Received by (print & sign) [✓] Received in Lab Jennifer Garrett SPL, Inc.			Date 6/30/23	Time 1030	[ ] Received Iced [ ] CTU [ ] Condition Good [ ] Not Rec'd Iced
Line below documents condition of receipt in lab (shipped to) listed above.			Please email reports to: reporting@aqua-techlabs.com		
Cooler Temperature (°C)	Temp. Read (TR)	Corrected Temp. (CT)	Thermometer ID	Please return cooler(s) to: Austin Facility	
Cooler 1					
N/A	N/A	N/A			

Abbreviations: DW - Drinking Water; NP - Non-Potable Water; S - Solid; CTU - Custody Transfer Unbroken; STP - Sterile Plastic; LP - Liter Plastic; LG - Liter Glass

Aqua-Tech Comments and Special Instructions

5 DAY TAT

Need new 2010 MALs. Please J Flag metals < MRL & note all metals < MDL on reports.

AQUA-TECH LABORATORIES, INC.

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

C:\ELMNT\Print\sco_ATL 120522.rpt

T104704371

C-O-C #

515 - G019382

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
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 SW-846 9056
Nitrate as N

P EPA 6010B 1996
Phosphorus-Total

Pb SL EPA 6020A
Lead

PCB SW846 8082

PCB-1016	PCB-1221	PCB-1232	PCB-1242
PCB-1248	PCB-1254	PCB-1260	

AQUA-TECH LABORATORIES, INC.

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

Chain-of-Custody & Analysis Request

C:\ELMNT\Print\sco_ATL 120522.rpt

T104704571

C-O-C #

515 - G019382

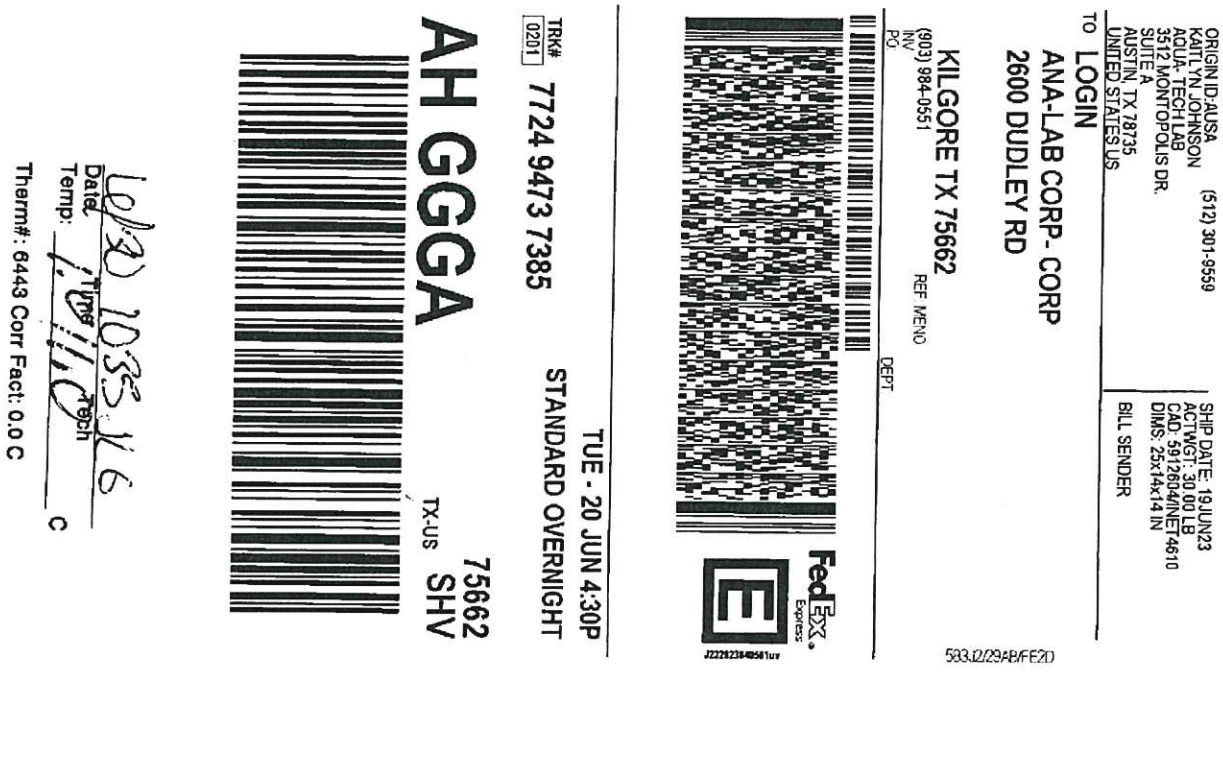
All analyses must be performed by a TNI approved method certified by the TCEQ. Contact ATL's sample custodian via voice and email if your methods do not meet this criteria.

Analytes Requested for Multiple Component Tests

Se SL EPA 6020A
Selenium

TVS SM2540 G 2015
Total Volatile Solids

Zn SL EPA 6020A
Zinc



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.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of 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, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized 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 ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

5

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 Driller/Pump Installer Program
P.O. Box 12157 Austin, Texas 78711 (512)463-7880 FAX (512)463-8616
Email address: water.well@license.state.tx.us

This form must be complete and filed with the departme within 30 days following th 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

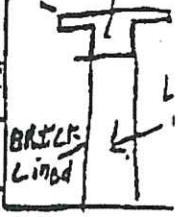
2) WELL LOCATION

County	Physical Address	City	State	Zip
Gonzales	1916 St. Joseph St	Gonzales	TX	786

3) Owner's Well No. N/A | Long. 97 | 24 | 10 | Lat. 29 | 31 | 1 | Grid # N/A

4) Type of Well ■ Water ☐ Monitor ☐ Injection ☐ De-Watering

5) 3' concrete circle



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.

B. HISTORICAL DATA (REQUIRED TO BE REPORTED)

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

7) Drilled Unknown | 8) Diameter of hole 24" inches | 9) Total depth of well 54 feet.

C. CURRENT PLUGGING DATA

10) Date well plugged 9 / 29 / 00

11) REMOVE ALL REMOVEABLE CASI
Please check box beside the method of plugging used

☐ Trommie pipe cement from bottom to top.

☐ Trommie pipe bentonite from bottom to 2 feet From surface, cement top 2 feet.

☐ Pour in 3/8 bentonite chips when standing wate well is less than 100 feet depth, cement top 2 fe

☐ Large diameter well filled with clay material fi top to bottom.

12) Name of Driller/Pump Installer or Well Owner performing the plugging
Raymond Zella JR / Director of Public Works
License No. N/A / City of Gonzales

FROM	TO	PLUGGING MATERIALS
NO CASING		
0'	3'	11 sacks
		2.5 yards

54' hand dug well. BRICK lined 24" diameter. local clay dirt to within 3' of top. Then 3' of Concr with a Box Deep of concrete 6'x6

D. VALIDATION OF INFORMATION

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 786

Signature of Driller/Pump Installer | Date | Signature Raymond Zella Jr | 9/29/

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

Regulated Entity: CITY OF GONZALES

Organization Type: CITY GOVERNMENT
County: GONZALES
Transport Waste into Texas: NO

Registered Since: July 15, 2002
Expiration Date: August 31, 2024
Status: ACTIVE

TCEQ Region: 14
Transport Waste out of Texas: NO

Physical Address:
END OF REMSCHEL
GONZALES, TX 78629

Mailing Address:
PO BOX 547
GONZALES, TX 78629-0547

Contact Information

Contact: RYAN WILKERSON

Phone: 830-672-3525

Fax: 830-672-3793

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

Print Date: July 06, 2022

For the Commission

Disposal Facility Information

Facility ID	Waste Type	Facility Name	Program
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

License Plate	Year	Vehicle Make	Sticker Issued	Vehicle Capacity
JS0972	2019	FREIGHTLINER	09/17/2019	16 CY

*UOM - Units of Measure

2600 Dudley Rd. Kilgore, Texas 75662
24 Waterway Avenue, Suite 375 The Woodlands, TX 77380
Office: 903-984-0551 * Fax: 903-984-5914

SPL The Science of Sure

SAMPLE CROSS REFERENCE

Project 1112989

Printed 8/15/2024 Page 1 of 1

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

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

Email: Kilgore.ProjectManagement@spllabs.com

2600 Dudley Rd. Kilgore, Texas 75662
24 Waterway Avenue, Suite 375 The Woodlands, TX 77380
Office: 903-984-0551 * Fax: 903-984-5914

AQU1-G

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

Project
1112989

Printed: 08/15/2024

H023382

RESULTS

Sample Results

2322000 **H023382-01** Received: 08/02/2024

Solid & Chemical Materials | Collected by: Client | AquaTech Laboratorie | PO: H023382
Taken: 08/01/2024 09:31:00

EPA 160.4	Prepared: 1131854	08/05/2024	13:06:00	Analyzed: 1131854	08/05/2024	13:06:00	BEK		
	Parameter	Results	Units	RL	Flags	CAS	Bottle		
NELAC	**Volatile Solids**	**37.1**	**%**	0.010			01		
EPA 350.1 2	Prepared: 1132646	08/09/2024	13:13:13	Analyzed: 1133033	08/13/2024	07:52:00	AMH		
	Parameter	Results	Units	RL	Flags	CAS	Bottle		
NELAC	**Ammonia Nitrogen**	**818 ***	**mg/kg**	28.2	P		08		
	* Dry Weight Basis								
EPA 6010C	Prepared: 1132804	08/12/2024	14:00:00	Analyzed: 1132975	08/13/2024	08:08:00	CAS		
	Parameter	Results	Units	RL	Flags	CAS	Bottle		
NELAC	**Phosphorus**	**8290 ***	**mg/kg**	47.4		7723-14-0	11		
EPA 6010C	Prepared: 1132804	08/12/2024	14:00:00	Analyzed: 1132993	08/13/2024	09:08:00	CAS		
	Parameter	Results	Units	RL	Flags	CAS	Bottle		
NELAC	**Potassium**	**2540 ***	**mg/kg**	237		7440-09-7	11		
	* Dry Weight Basis								
EPA 6020A	Prepared: 1132804	08/12/2024	14:00:00	Analyzed: 1133146	08/13/2024	13:44:00	JC2		
	Parameter	Results	Units	RL	Flags	CAS	Bottle		
NELAC	**Arsenic, Total**	**3.76 ***	**mg/kg**	0.947		7440-38-2	11		
NELAC	**Cadmium, Total**	**0.665 ***	**mg/kg**	0.474		7440-43-9	11		
NELAC	**Chromium, Total**	**11.6 ***	**mg/kg**	0.474		7440-47-3	11		
NELAC	**Molybdenum, Total**	**7.12 ***	**mg/kg**	1.42		7439-98-7	11		
NELAC	**Nickel, Total**	**7.53 ***	**mg/kg**	0.474		7440-02-0	11		
NELAC	**Selenium, Total**	**3.98 ***	**mg/kg**	1.42		7782-49-2	11		
NELAC	**Zinc, Total**	**340 ***	**mg/kg**	2.37		7440-66-6	11		

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

Project
1112989

Printed: 08/15/2024

2322000 **H023382-01** Received: 08/02/2024

Solid & Chemical Materials | Collected by: Client | AquaTech Laboratorie | PO: H023382
Taken: 08/01/2024 09:31:00

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 15:18:21 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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AQU1-G

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

Project
1112989

Printed: 08/15/2024

2322000 H023382-01 Received: 08/02/2024

Solid & Chemical Materials Collected by: Client AquaTech Laboratorie PO: H023382
Taken: 08/01/2024 09:31:00

SM2540 G-1997/MOD	*Prepared:*	*1132997*	*08/12/2024*	*08:42:00*	*Analyzed*	*1132997*	*08/12/2024*	*08:42:00*	*BEK*	
Parameter	*Results*	*Units*	*RL*	*Flags*	*CAS*					*Bottle*
NELAC **Total Solids for Dry Wt Conversi**	**17.0**	**%**	0.010							01

Sample Preparation

2322000 H023382-01 Received: 08/02/2024

H023382

08/01/2024

Calculation	*Prepared:*		*08/15/2024*	*14:13:58*	*Calculated*		*08/15/2024*	*14:13:58*	*CAL*	
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*	*TES*	
NELAC **Solid/Sludge/Soil/Sediment Metal**	**50/3.10**	**grams**								01
EPA 350.1 2	*Prepared:*	*1132043*	*08/07/2024*	*07:58:02*	*Analyzed*	*1132043*	*08/07/2024*	*07:58:02*	*MEG*	
NELAC **Ammonia Distillation**	**6/0.5186**	**grams**								01
EPA 350.1 2	*Prepared:*	*1132646*	*08/09/2024*	*13:12:12*	*Analyzed*	*1132646*	*08/09/2024*	*13:12:12*	*MEG*	
NELAC **Ammonia Distillation**	**6/0.5013**	**grams**								01
EPA 3550B	*Prepared:*	*1132165*	*08/07/2024*	*15:18:21*	*Analyzed*	*1132165*	*08/07/2024*	*15:18:21*	*PEV*	
NELAC **PCB Total Sonic Extr. W/Hex Exch**	**10/2.0**	**grams**								02

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Project
1112989

Printed: 08/15/2024

2322000 H023382-01 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
z -- 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 (PQL), 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.

2600 Dudley Rd. Kilgore, Texas 75662
24 Waterway Avenue, Suite 375 The Woodlands, TX 77380
Office: 903-984-0551 * Fax: 903-984-5914

Project
1112989

AQU1-G

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

Printed: 08/15/2024

Bill Peery

Bill Peery, MS, VP Technical Services

QUALITY CONTROL

SPL The Science of Sure

AQU1-G

AquaTech Laboratories
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635 Phil Gramm Blvd.
Bryan, TX 77807-9104

Project 1112989

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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

ControlBlk

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Total Solids	1131853	0.0002			grams	126625892

Duplicate

Parameter	Sample	Result	Unknown	Unit	RPD	Limit%
Total Solids	2322000	16.9	16.9	%	0	20.0

Analytical Set 1131854 — EPA 160.4

ControlBlk

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

ControlBlk

Parameter	PrepSet	Reading	MDL	MQL	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

ControlBlk

Parameter	PrepSet	Reading	MDL	MQL	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	MQL	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	MQL	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	MQL	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	Limit%
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	MQL	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	LCSD	Known	Limits%	LCS%	LCSD%	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

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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	MQL	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	Recovery%	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 abs(r1-r2) / mean(r1,r2) * 100%

Recover% is Recovery Percent result / known * 100%

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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 (same 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/ASQC E4 1994 Ref #4 TRADE QA Resources Guide.)

1112989 CoC Print Group 001 of 001

AQUA-TECH LABORATORIES, INC.

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

Chain-of-Custody & Analysis Request

SHIPPED TO:
SPL-Kilgore (T104704201)
2600 Dudley Road
Kilgore, TX 75662
Phone: (903) 984-0551
Fax: (903) 984-5914

C-O-C #
24 - H023382

T104704371

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.

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.

Relinquished by (print & sign): [X] ATL Austin [ ] ATL Bryan [ ] Sample — Date — Time — [X] Ice [X] Custody Seals [ ] Not Chilled

Suzanne Rudd

Carrier & Tracking Number: Fed Ex — Cooler 1: AQU1 777540583339 — Sample Info (Mark all that apply)

Abbreviations: DW - Drinking Water; NP - Non-Potable Water; S - Solid; GT - Glass Tube; DP - Plastic; LP - Large Plastic; JG - Jar Glass

Aqua-Tech Comments and Special Instructions

Use sample ID as PO#

Need new 2010 MALs. Please J Flag metals < MRL & note all metals < MDL on reports.

Relinquished by (print & sign): [X] Affiliated w/ Lab — Date: 8/2/24 — Time: 1530 — [X] Received — [X] Cold — [X] Broken/Leaked — [ ] Not Received

Rayshawn Thompson SPL, Inc.

Line below documents condition at receipt in lab (shipped to) listed above

Cooler Temperature (°C)	Temp. Read (°R)	Corrected Temp. (°C)	Thermometer ID
Cooler 1			
N/A	N/A	N/A	

Please email reports to: reporting@aqua-techlabs.com

Please return cooler(s) to: Austin Facility

Do not further sub-contract any analysis. Keep in house or call for further instructions.

1112989 CoC Print Group 001 of 001

AQUA-TECH LABORATORIES, INC.

ATL - Bryan Facility:
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Bryan, TX 77807
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Austin, TX 78744
(512) 301-9559
Fax (512) 301-9552

Chain-of-Custody & Analysis Request

C:\ELMNT\Print\coc_ATL 022924.rpt

T104704371

C-O-C #

24 - H023382

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

	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 8082	
PCB-1016	PCB-1221 PCB-1232 PCB-1242
PCB-1248	PCB-1254 PCB-1260

AQUA-TECH LABORATORIES, INC.

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

C:\ELMNT\Print\coc_ATL 022924.rpt

T104704371

C-O-C #

24 - H023382

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

ORIGIN ID AUSA (512) 301-9559
SUZANNE RUDD
AQUA-TECH LAB
3512 MONTOPOLIS DR.
SUITE A
AUSTIN, TX 78735
UNITED STATES US

SHIP DATE: 22JUL24
ACTWGT: 40.00 LB
CAD: 5912604/INET4730
DIMS: 23x14x14 IN

BILL SENDER

TO LOGIN - SAMPLES
ANA-LAB - SPL CORP
2600 DUDLEY RD

KILGORE TX 75662
(903) 984-0551 REF: MEMO
INV
PO DEPT

TUE - 23 JUL 5:00P
STANDARD OVERNIGHT

3 of 10
MPS# 7775 4058 2402
Mstr# 7775 4058 1851

75662
TX-US SHV

AH GGGA

4/2 1551 RT
Date Time Tech
Temp: 4.0 / 3.3 C

Therm#: 8444 Corr Fact: -0.7 C

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Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of $100 per package, whether the result of 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, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized 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 ServiceGuide. 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

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

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

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

Sample received on: 8/26/2024
Printed on: 9/11/2024
Area Represented: 22.2 acres

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.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	Fertilizer Recommended
pH	5.8	(5.8)	-	Mod. Acid	
Conductivity	338	(-)	umho/cm	None CL*	
Nitrate-N	35	(-)	ppm**		25 lbs N/acre
Phosphorus	21	(50)	ppm		70 lbs P2O5/acre
Potassium	102	(150)	ppm		75 lbs K20/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/ 2:1, 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

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

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

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

Sample received on: 8/26/2024
Printed on: 9/11/2024
Area Represented: 22.2 acres

Gonzales County
Laboratory Number: 666778
Customer Sample ID: C1 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	5.3	(5.8)	-	Mod. Acid	
Conductivity	228	(-)	umho/cm	None	Fertilizer Recommended
Nitrate-N	21	(-)	ppm**	CL*	55 lbs N/acre
Phosphorus	15	(50)	ppm		85 lbs P2O5/acre
Potassium	119	(150)	ppm		50 lbs K20/acre
Calcium	1,734	(180)	ppm		0 lbs Ca/acre
Magnesium	336	(50)	ppm		0 lbs Mg/acre
Sulfur	26	(13)	ppm		0 lbs S/acre
Sodium	118	(-)	ppm		
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	1443	ppm
TN	1626	ppm
Ammonium-N	5.0	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.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
http://soiltesting.tamu.edu

Methods: pH and conductivity(2:1), 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

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

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

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

Sample received on: 8/26/2024
Printed on: 9/11/2024
Area Represented: 11 acres

Gonzales County
Laboratory Number: 666779
Customer Sample ID: C2 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.	Fertilizer Recommended
pH	4.7	(5.8)	-	Strongly Acid	
Conductivity	181	(-)	umho/cm	None CL*	
Nitrate-N	2	(-)	ppm**		95 lbs N/acre
Phosphorus	6	(50)	ppm		110 lbs P2O5/acre
Potassium	149	(150)	ppm		0 lbs K20/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(1:2:1), 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

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

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

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

Sample received on: 8/26/2024
Printed on: 9/11/2024
Area Represented: 11 acres

Gonzales County
Laboratory Number: 666780
Customer Sample ID: C2 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	4.6	(5.8)	-	Strongly Acid							
Conductivity	193	(-)	umho/cm	None			CL*				Fertilizer Recommended
Nitrate-N	1	(-)	ppm**								95 lbs N/acre
Phosphorus	3	(50)	ppm								115 lbs P2O5/acre
Potassium	126	(150)	ppm								35 lbs K20/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 2:1, 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

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

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

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

Sample received on: 8/26/2024
Printed on: 9/11/2024
Area Represented: 9.9 acres

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.)

Analysis	Results	CL*	Units	ExLow VLow Low Mod High VHigh Excess.	
pH	5.1	(5.8)	-	Strongly Acid	
Conductivity	90	(-)	umho/cm	None CL*	Fertilizer Recommended
Nitrate-N	1	(-)	ppm**		95 lbs N/acre
Phosphorus	9	(50)	ppm		100 lbs P2O5/acre
Potassium	83	(150)	ppm		110 lbs K20/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/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

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

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

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

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 CL*	Fertilizer Recommended
Nitrate-N	0	(-)	ppm**		95 lbs N/acre
Phosphorus	8	(50)	ppm		100 lbs P2O5/acre
Potassium	79	(150)	ppm		115 lbs K20/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(1:2), 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

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

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

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 CL*	Fertilizer Recommended
Nitrate-N	1	(-)	ppm**		95 lbs N/acre
Phosphorus	38	(50)	ppm		25 lbs P2O5/acre
Potassium	198	(150)	ppm		0 lbs K20/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/ 2:1, 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

TEXAS A&M AGRILIFE EXTENSION

Soil Analysis Report

Soil, Water and Forage Testing Laboratory
Department of Soil and Crop Sciences
2478 TAMU
College Station, TX 77843-2478

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

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

Sample received on: 8/26/2024
Printed on: 9/11/2024
Area Represented: 2.4 acres

Gonzales County
Laboratory Number: 666784
Customer Sample ID: B 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	6.3	(5.8)	-	Slightly Acid	
Conductivity	233	(-)	umho/cm	None CL*	Fertilizer Recommended
Nitrate-N	2	(-)	ppm**		95 lbs N/acre
Phosphorus	6	(50)	ppm		105 lbs P2O5/acre
Potassium	185	(150)	ppm		0 lbs K20/acre
Calcium	2,361	(180)	ppm		0 lbs Ca/acre
Magnesium	708	(50)	ppm		0 lbs Mg/acre
Sulfur	19	(13)	ppm		0 lbs S/acre
Sodium	260	(-)	ppm		
Iron	12.70	(4.25)	ppm		
Zinc	0.19	(0.27)	ppm		2 lbs Zn/acre
Manganese	1.22	(1.00)	ppm		0 lbs Mn/acre
Copper	0.37	(0.16)	ppm		0 lbs Cu/acre
Boron					
Limestone Requirement					0.00 tons 100ECCE/acre

TKN	1150	ppm
TN	1296	ppm
Ammonium-N	0.7	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.

Zinc: Zinc recommendation is based on single broadcast application each 2-3 years.

Online fertilizer calculators to determine appropriate fertilizers and application rates.
http://soiltesting.tamu.edu

Methods: pH and conductivity (2:1 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

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 th winter. Field C1 has Klein grass as the warm season crop and will be overseeded with ryegrass in the winter. The plan 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 maimum 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 fro 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.

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.

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.

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 Lill 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 Availabilty
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) Permit #: WQ0004467000

LMU or Field No.	Acres	Crop and P Index Level	TCEQ Plan Type	Actual Crop Analysis or Default	Total Est. N Removal lbs/Ac/Yr	Total Est. P_2O_5 Removal lbs/Ac/Yr	Total Est. K_2O Removal lbs/Ac/Yr
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 Summe	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 Summe	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**

Waste Utilization and Nutrient Management Plan

Table 4 - Maximum Solids Application per Field Permit #: WQ0004467000

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 Summe	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 Summe	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 Summe	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 Summe	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

	Nutrients Applied When Application is at Maximum Rates			Supplemental Nutrients Needed When Application is at Maximum Rates			
LMU / Field #	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	Lime T/ Ac
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						YES
0				Tons to be used off-site at planned rates					0

Waste Utilization and Nutrient Management Plan

Table 7 - Nutrients Applied/Needed at Planned Solids Rates Permit #: WQ0004467000

Red cells? Proceed to adjustment page and fix.

	Nutrients Applied at Planned Rates			Supplemental Nutrients Needed at Planned Rates			
LMU / Field #	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	N Lb/ac	P_2O_5 Lb/ac	K_2O Lb/ac	Lime T/Ac
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:
Biosolid Type :	Other	Aerobically digested sludge produced
Analysis Date:	8/28/24	from City of Gonzales Wastewater
Nitrogen % From Biosolids Analysis:	0.72	Treatment Plant drying press.
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: rganic Nutrient Management Plan V 5.0
Printed on: 9/16/24 9:50 AM

Field and Buffer Entries

Permit #: WQ0004467000

Printed on: 9/16/24 9:50 AM

Plan is based on: 590 Organic Nutrient Management Plan V

FS = 393-Filter Strip, FB = 386-Field Border, RFB = 391-Riparian Forest Buffer, OLEA = Other Land Exclusion Areas or non-application areas (i.e. headquarters, freq. flooded areas, wooded areas, water bodies, etc)
NOTE: Field Border (FB) is expressed in ACRES on this spreadsheet, but as LINEAR FEET on the CPO.

Field No.	Total LMU or Field Acres	FS	FB	RFB	OLEA	Total Buffer Acres	Actual Application Acres	This Column Intentionally Left Blank
A Summer	65		5.1		50	55.1	9.9	
A Winter	65		5.1		50	55.1	9.9	
B Summer	15		1		11.6	12.6	2.4	
B Winter	15		1		11.6	12.6	2.4	
C1 Summe	56		2.7		31.1	33.8	22.2	
C1 Winter	56		2.7		31.1	33.8	22.2	
C2 Summe	14		3		0	3.0	11.0	
C2 Winter	14		3		0	3.0	11.0	

Soil Test, Crop Information and Plant Analysis Data Entries

Printed on: 9/16/24 9:50 AM Plan is based on: 590 Organic Nutrient Management Plan V 5.0 Permit #: WQ0004467000

Soil Test Analysis				This column only for Dry Poultry	LMU or Field #	Appl. Area Acres	Crop/Land-Use and Index Runoff Potential VL - L; M; H; or VH P		Plant Analysis (Y / N)	Plant Analysis & Yield (optional) Use Only When Crop Removal is Required			
N (ppm)	P (ppm)	K (ppm)	Lime (enter amt or leave blank)							% N	% P	% K	Yield Air Dry Production(lbs/ac/yr)
1	9	83	1		A Summer	9.9	Coastal 3 Cut Hay M	S	N				
1	9	83	1		A Winter	9.9	Ryegrass Hay 6000 M	S	N				
1	38	198	1		B Summer	2.4	Coastal 3 Cut Hay M	S	N				
1	38	198	1		B Winter	2.4	Ryegrass Hay 6000 M	S	N				
35	21	102	0		C1 Summe	22.2	Klein 3 Cut Hay 7200 # M	S	N				
35	21	102	0		C1 Winter	22.2	Ryegrass Hay 6000 M	S	N				
2	6	149	1.5		C2 Summe	11.0	Coastal 3 Cut Hay M	S	N				
2	6	149	1.5		C2 Winter	11.0	Ryegrass Hay 6000 M	S	N				

Solids Application Rate Entries

Solids - Set the Planned Application Rates Permit #: WQ0004467000

150 "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_2O_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)
A Summe	9.9	Coastal 3 Cut Hay M	9	125	Annual	6.6	100.0	6.6	65.2
A Winte	9.9	Ryegrass Hay 6000 M	9	55	Annual	2.9	100.0	2.9	28.7
B Summe	2.4	Coastal 3 Cut Hay M	38	125	Annual	6.6	100.0	6.6	15.8
B Winte	2.4	Ryegrass Hay 6000 M	38	55	Annual	2.9	100.0	2.9	7.0
1 Summ	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 Summ	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_2O_5 Appl Rate	Organic P_2O_5 Appl Rate	Inorganic Method & Timing	Organic Method & Timing	Proximity of Appl to Named Stream	Runoff Class	Soil Erosion	Total Index Points	P Runoff Potential	Soil Test Date:
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

USDA NRCS

Natural Resources Conservation Service

Conservation Across America

Waste Utilization

Bryan Zone Job Sheet - 633

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 X 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/

L-5175
11-98

Texas Agricultural Extension Service
The Texas A&M University System

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)

[1]Adapted 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_2O_5)	Potassium (K_2O)
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

[1] Adapted 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 ACIDITY	NITROGEN	PHOSPHORUS	POTASSIUM	CALCIUM	MAGNESIUM	SALINITY	ZINC	IRON	MANGANESE	COPPER	SODIUM	SULPHUR
6.6 MILDLY ACIDIC	3. VERY LOW	3. VERY LOW	40. VERY LOW	820 HIGH	41. LOW	260. NONE	.22 MOD	5.2 MOD	1.2 MOD	.12 MOD	16. VERY LOW	3 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: $\frac{95 - 50 - 110}{N \quad P_2O_5 \quad K_2O}$

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:

Manure and Effluent Testing

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.

To obtain samples for manure analysis, take 5 to 7 random core samples from various locations in the manure stockpile using a spade or shovel. Be certain to dig into the stockpile to collect the samples since weathering of the outside layer can change nutrient 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.

Effluent samples can be obtained by collecting 5 to 10 samples from various locations around the lagoon. These samples can be taken using a plastic bottle attached to a long pole (Figure 2). Mix the samples in a clean container and submit a minimum of eight ounces of the mixture in a tightly sealed 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.

Figure 2. Lagoon effluent samples being collected with a bottle attached to a pole extension.

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.

Literature Cited

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Sweeten, J.M. and M.L. Wolfe. 1993. Manure and wastewater management systems for open lot dairy operations in Texas. District 6 Dairy Conference, May 20.

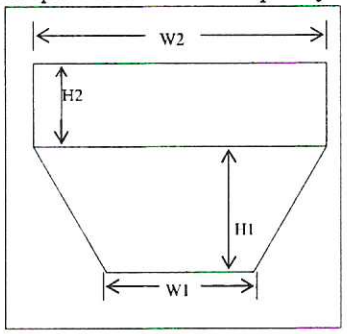
Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics, Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Chester P. Fehlis, Deputy Director, Texas Agricultural Extension Service, The Texas A&M University System.

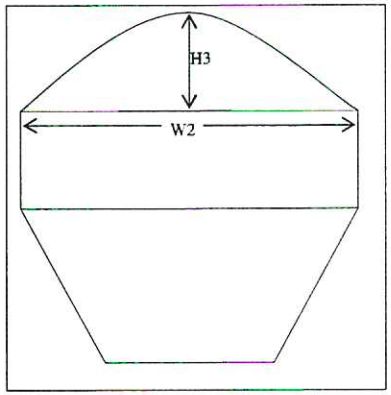
2.5M, Reprint AGR 13

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): Add these values for Cu.Ft. of Piled Load

$$\left(\frac{W2}{2} \times H3\right) \times \left(L - W2\right) = \_\_\_\_\_ \text{ Additional cubic feet in piled section}$$

_____ Cubic feet in level load

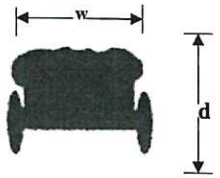
_____ Total Cu.Ft. in Piled Load

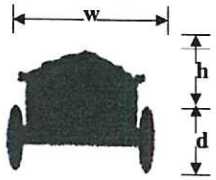
B. Spreader Capacity

(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

Table of Contents

Waste Utilization and Nutrient Management Plan

Signature Page Permit #WQ0004467000

Plan Prepared by: Baoxin Chang Date: 9/16/2024

Baoxin Chang

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 Date: 9-17-24

Ryan Wilkerson, Water Plant Manager

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.

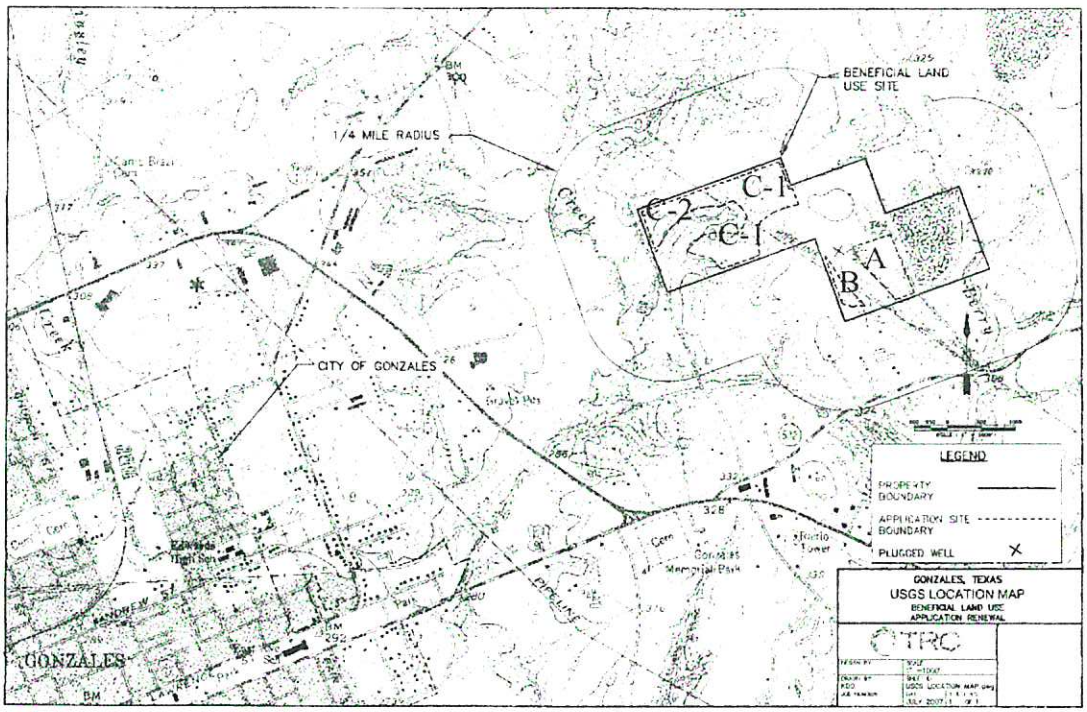


Figure 1. USGS topographical map showing the overall Benficial Land Use Site and Waste Application Areas A, B, C1 and C2.

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.

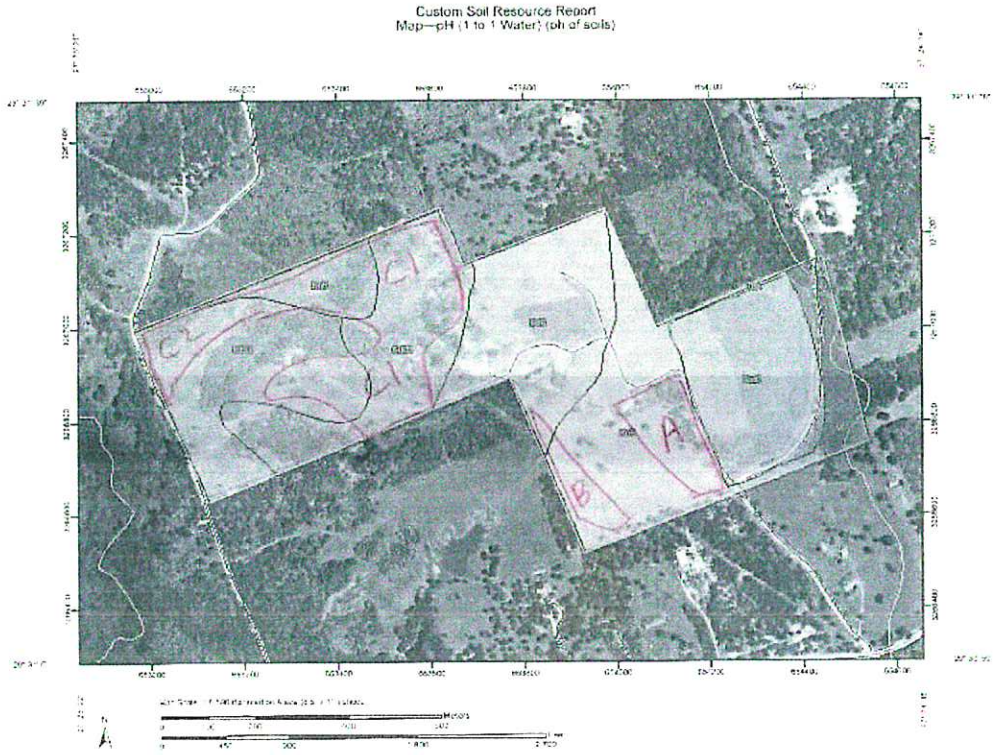


Figure 2. Map of the Land Application Site Showing the Waste Application Areas and Soil Series present.

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	
	Acres	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.

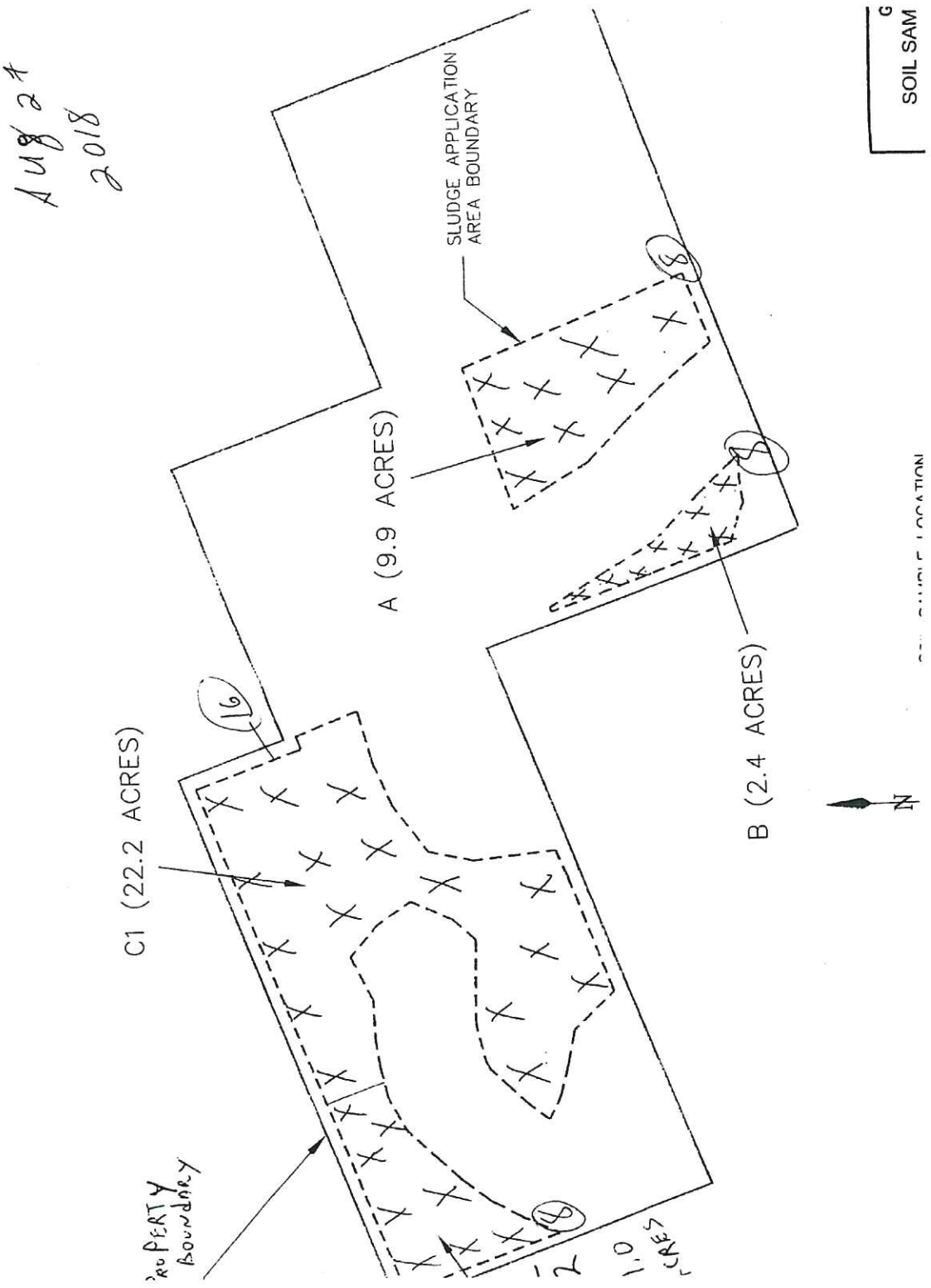


Figure 5. Soil sampling locations for 2024 followed the same sampling map used in August 2018.

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

National Cooperative Soil Survey
U.S.A.

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 sightly 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. There 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

National Cooperative Soil Survey
U.S.A.

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 form 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, indiangrass, 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.

National Cooperative Soil Survey
U.S.A.

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@aqua-techlabs.com (Bryan area)
samplingaustin@aqua-techlabs.com (Austin area)

reporting@aqua-techlabs.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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AQUA-TECH LABORATORIES

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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.

Certificate: T104704371-23-27

TCEQ Lab ID T104704371

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, Technical Director

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Analytical Report

GONZALES, CITY OF

Report Printed: 8/28/24 13:08

H023382

Gonzales WWTP Sludge

Collected: 08/01/24 09:31 by CLIENT
Received: 08/01/24 15:07 by Mitchell Mindieta

Type Grab | *Matrix* Solid | *C-O-C #* H023382

Lab ID# H023382-01	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
Total Kjeldahl Nitrogen as N	7240	mg/kg dry		0.13	187	288	*Bryan*	08/21/24 11:01 KMA	SM4500-NH3 G 2011	M181629	ANR
Microbiological Analyses											
Fecal Coliform Geometric Mean (7 prt)	129000	CFU/g			5280	5280	*Calc*	08/15/24 11:11 AOG	SM9222 D 2015	M181437	NEL
Metals (Total)											
Mercury	0.206	mg/kg dry	MS-01	0.0002	0.038	0.099	*Brynn*	08/07/24 14:52 ABM	EPA 7471A 1994	M181046	NEL

Please see the attached subcontract report for subcontracted data.

Gonzales WWTP Sludge Part 1

Collected: 08/01/24 09:36 by CLIENT
Received: 08/01/24 15:07 by Mitchell Mindieta

Type Grab | *Matrix* Solid | *C-O-C #* H023382

Lab ID# H023382-02	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	16.6	g/100g (%)		0.10	0.10	0.10	*Austin*	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
Microbiological Analyses											
Fecal Coliform	122000	CFU/g dry		1	5320	5320	*Austin*	08/02/24 08:58 BLJ	SM9222 D 2015	M180864	NEL

Gonzales WWTP Sludge Part 2

Collected: 08/01/24 09:38 by CLIENT
Received: 08/01/24 15:07 by Mitchell Mindieta

Type Grab | *Matrix* Solid | *C-O-C #* H023382

Lab ID# H023382-03	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	16.9	g/100g (%)		0.10	0.10	0.10	*Austin*	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
Microbiological Analyses											
Fecal Coliform	136000	CFU/g dry		1	5230	5230	*Austin*	08/02/24 08:58 BLJ	SM9222 D 2015	M180864	NEL

Gonzales WWTP Sludge Part 3

Collected: 08/01/24 09:40 by CLIENT
Received: 08/01/24 15:07 by Mitchell Mindieta

Type Grab | *Matrix* Solid | *C-O-C #* H023382

Lab ID# H023382-04	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	16.8	g/100g (%)		0.10	0.10	0.10	*Austin*	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
Microbiological Analyses											
Fecal Coliform	163000	CFU/g dry		1	5250	5250	*Austin*	08/02/24 08:58 BLJ	SM9222 D 2015	M180864	NEL

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Analytical Report

GONZALES, CITY OF

Report Printed: 8/28/24 13:08

H023382

Gonzales WWTP Sludge Part 4		Collected: 08/01/24 09:42 by CLIENT Received: 08/01/24 15:07 by Mitchell Mindieta				Type Grab			Matrix Solid	C-O-C # H023382	
Lab ID# H023382-05	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	16.6	g/100g (%)		0.10	0.10	0.10	*Austin*	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
Microbiological Analyses											
Fecal Coliform	122000	CFU/g dry		1	5310	5310	*Austin*	08/02/24 08:58 BLJ	SM9222 D 2015	M180864	NEL

Gonzales WWTP Sludge Part 5		Collected: 08/01/24 09:44 by CLIENT Received: 08/01/24 15:07 by Mitchell Mindieta				Type Grab			Matrix Solid	C-O-C # H023382	
Lab ID# H023382-06	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	16.7	g/100g (%)		0.10	0.10	0.10	*Austin*	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
Microbiological Analyses											
Fecal Coliform	111000	CFU/g dry		1	5290	5290	*Austin*	08/02/24 08:58 BLJ	SM9222 D 2015	M180864	NEL

Gonzales WWTP Sludge Part 6		Collected: 08/01/24 09:46 by CLIENT Received: 08/01/24 15:07 by Mitchell Mindieta				Type Grab			Matrix Solid	C-O-C # H023382	
Lab ID# H023382-07	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	16.8	g/100g (%)		0.10	0.10	0.10	*Austin*	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
Microbiological Analyses											
Fecal Coliform	102000	CFU/g dry	M5	1	5360	5360	*Austin*	08/02/24 08:58 BLJ	SM9222 D 2015	M180864	NEL

Gonzales WWTP Sludge Part 7		Collected: 08/01/24 09:48 by CLIENT Received: 08/01/24 15:07 by Mitchell Mindieta				Type Grab			Matrix Solid	C-O-C # H023382	
Lab ID# H023382-08	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	16.8	g/100g (%)		0.10	0.10	0.10	*Austin*	08/03/24 06:10 SR	SM2540 G 2015	M180926	NEL
Microbiological Analyses											
Fecal Coliform	156000	CFU/g dry		1	5210	5210	*Austin*	08/02/24 09:06 BLJ	SM9222 D 2015	M180864	NEL

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Analytical Report

GONZALES, CITY OF

Report Printed: **8/28/24** **13:08**

H023382

Gonzales WWTP WAS

Collected: 08/01/24 09:50 by CLIENT
Received: 08/01/24 15:07 by Mitchell Mindieta

Type: Grab
Matrix: Solid
C-O-C #: H023382

Lab ID# H023382-09

	Result	Units	Notes	MDL	Adj MDL	SQL	Lab	Analyzed	Method	Batch	
General Chemistry											
% Solids	**16.8**	g/100g (%)		0.10	0.10	0.10	*Austin*	08/03/24 06:36 KHA	SM2540 G 2015	M180927	NEL
Total Volatile Solids	**39**	%		0.1	0.1	0.1	*Austin*	08/03/24 06:36 KHA	SM2540 G 2015	M180927	ANH

Explanation of Notes

M5	This result is estimated as no plates contained colony counts within the method-specified range.
MS-01	The MS and/or MSD recovery was outside acceptance 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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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														*Austin*
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			0.0595	10	M180927	
Total Kjeldahl Nitrogen as N - SM4500-NH3 G 2011														*Bryan*
Initial Cal Check	3.34	mg/L				08/21/24 11:01 KMA	3.38		98.7	90 - 110			2408273	
Low Cal Check	0.19	mg/L				08/21/24 11:01 KMA	0.200		97.0	70 - 130			2408273	
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	92.3	88.2 - 119			M181629	
Matrix Spike Dup	2880	mg/kg dry		75.7	116	08/21/24 11:01 KMA	2330	708	93.2	88.2 - 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														*Austin*
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														*Bryan*
Initial Cal Check	6.46	ug/L				08/07/24 14:52 ABM	6.88		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	0.596	mg/kg dry	*MS-01*	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	Log10 Comparison Range	Log10 Comparison Control Limit	Batch

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

AQUA-TECH LABORATORIES

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

Microbiological Analyses - Quality Control

	Result	Units	Notes	MDL	SQL	Analyzed	Spike Amount	Source Result	%R	%R Limits	Log10 Comparison Range	Log10 Comparison Control Limit	Batch	
Fecal Coliform - SM9222 D 2015														*Austin*
Blank	<1	CFU/g wet		1	1	08/02/24 08:58 BLJ							M160864	
Dup Log10 Range		CFU/g wet		1	1	08/02/24 08:58 BLJ					0.083		M160864	
Duplicate	101000	CFU/g dry	*M5*	5320	5320	08/02/24 08:58 BLJ		122000				0.774	M160864	
Blank	<1	CFU/g wet		1	1	08/02/24 09:06 BLJ							M160864	

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

Analytical Report

GONZALES, CITY OF

Report Printed: 8/28/24 13:08

H023382

Sample Preparation Summary

Sample	Method	Prepared	Lab	Bottle	Initial	Units	Final	Units	External Dilution Factor	Batch
H023382-01										
% Solids	% calculation	8/5/24 13:23 SPL	Bryan	-	-	-	-	-	-	M181993
Fecal Coliform Geometric Mean (7 prt)	SM9222 D 2015	8/15/24 11:11 AOG	Austin	-	-	-	-	-	-	M181437
Mercury	EPA 7471A 1994	8/7/24 9:45 ABM	Bryan	C	0.298	g	10.0	mL	1	M181046
Subcontract	Sub Contract Data Entry	8/26/24 12:27 PMY	Bryan	-	-	-	-	-	-	M181897
Total Kjeldahl Nitrogen as N	SM4500-NH3 G 2011	8/20/24 7:59 CTG	Bryan	C	0.103	g	25.0	mL	1	M181629
H023382-02										
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	1	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	1	M180864
H023382-03										
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	1	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	1	M180864
H023382-04										
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	1	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	1	M180864
H023382-05										
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	1	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	1	M180864
H023382-06										
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	1	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00113	g	1.00	mL	1	M180864
H023382-07										
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	1	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:30 BLJ	Austin	A	0.00111	g	1.00	mL	1	M180864
H023382-08										
% Solids	SM2540 G 2015	8/3/24 6:10 SR	Austin	B	10.0	g	10.0	mL	1	M180926
Fecal Coliform	SM9222 D 2015	8/2/24 8:59 BLJ	Austin	A	0.00114	g	1.00	mL	1	M180864
H023382-09										
% Solids	SM2540 G 2015	8/3/24 6:36 SR	Austin	A	10.0	g	10.0	mL	1	M180927
Total Volatile Solids	SM2540 G 2015	8/3/24 6:36 SR	Austin	A	10.0	g	10.0	mL	1	M180927

Chain-of-Custody and Analysis Request

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.

TCEQ LAB ID: T104704371

C-O-C # H023382

Page 1 of 2

rte_ATL COC 012723.rpt

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:

- LAB RECEIPT - 1030

Temperature - CT (C):	5.6
Preservation Correct:	Yes
Post-Preservatives:	N/A
Thermometer ID:	0811655
pH Paper ID:	0816272

eg. A COC MULTI 043020.rpt

Sample Custody

Relinquished (print & sign)	JAMIE BAZAN / Jamie Bazan	☑ Sampler ☐ Client ☐ ATL Field	Date 08/01/24 Time 1006	☐ Iced / Refrig ☐ Custody Sealed
Received (print & sign)	Mitchell Mindieta	☐ Client ☑ ATL Field	Date 8-1-24 Time 1020	☑ Iced / Refrig ☐ CM / CTU
Relinquished (print & sign)	NA	☐ Client ☐ ATL Field	Date Time	☐ Iced / Refrig ☐ CM / CTU
Received (print & sign)	CMM	☐ Client ☐ ATL Field	Date Time	☐ Iced / Refrig ☐ CM / CTU
Relinquished (print & sign)	Mitchell Mindieta	☐ Client ☐ ATL Field	Date 08/01/24 Time 15:07	☑ Iced / Refrig ☐ CM / CTU / Sealed
Received (print & sign)	Mitchell Mindieta	X Lab	Date 08/01/24 Time 15:07	X Cond Good X ced / Refrig CM / CTU

Field Sample ID	Start Date	Start Time	End Date	End Time	Composite Type	Sample Matrix	Container (Checked box indicates bottle arrived in lab) (Volume - Type - Preservative)	Lab ID
Gonzales WWTP Sludge	08-01-24	0931	- N/A -	- N/A -	Grab	S	☑ A [SUB] ANA PCB 0.33LG ☑ B Sludge Nutrients 1LP ☑ C Sludge Metals & Hg 1LP ☐ D PCB 0.33LG	H023382-01
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 Tit 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]	A TS SL Grav SM20 2540 G [SUB] Cr SL ICP SW846 6020 A [SUB] K SL ICP SW846 6010 B [SUB] Ni SL ICP SW846 6020 A [SUB] Pb SL ICP SW846 6020 A [SUB] Solids, Dry Weight Y Billing Digest, Metals Hg			As SL ICP SW846 6020 A [SUB] Cu SL ICP SW846 6020 A [SUB] Mo SL ICP SW846 6010 B [SUB] NO3N SL IC SW846 9056 [SUB] PCB GC-ECD EPA 8082 [SUB] TKN SL AUTO SM4500 NH3 G [CNR] Y Billing Digest, Metals Solid			
Gonzales WWTP Sludge Part 1	08-01-24	0936	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☑ B TS 0.1LP	H023382-02
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]			Solids, Dry Weight				
Gonzales WWTP Sludge Part 2	08-01-24	0938	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☑ B TS 0.1LP	H023382-03
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]			Solids, Dry Weight				
Gonzales WWTP Sludge Part 3	08-01-24	0940	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☐ B TS 0.1LP	H023382-04
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]			Solids, Dry Weight				
Gonzales WWTP Sludge Part 4	08-01-24	0942	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L StP Na2S2O3 ☐ B TS 0.1LP	H023382-05
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]			Solids, Dry Weight				

AQUA-TECH LABORATORIES, INC.

Chain-of-Custody and Analysis Request

C-O-C # **H023382**

Page 2 of 2

Client : GONZALES, CITY OF

Field Sample ID	Start Date	Start Time	End 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	08.01.24	0941	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L SIP Na2S2O3 ☑ B TS 0.1LP	**H023382-06**
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]		Solids, Dry Weight					
Gonzales WWTP Sludge Part 6	08.01.24	0946	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L SIP Na2S2O3 ☑ B TS 0.1LP	**H023382-07**
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]		Solids, Dry Weight					
Gonzales WWTP Sludge Part 7	08.01.24	0948	- N/A -	- N/A -	Grab	S	☑ A Fecal 0.15L SIP Na2S2O3 ☐ B TS 0.1LP	**H023382-08**
A Fecal SL Membrane SM 9222 D [NEL]	A TS SL Grav SM2540 G [NEL]		Solids, Dry Weight					
Gonzales WWTP WAS	08.01.24	0950	- N/A -	- N/A -	Grab	S	☐ A TS VS 0.5LP	**H023382-09**
A TS SL Grav SM2540 G [NEL]	A TVS SL Grav SM2540 G [CNR]							

2600 Dudley Rd. Kilgore, Texas 75662
24 Waterway Avenue, Suite 375 The Woodlands, TX 77380
Office: 903-984-0551 * Fax: 903-984-5914

Project
1112989

AQU1-G

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

Printed 08/15/2024
14:21

TABLE OF CONTENTS

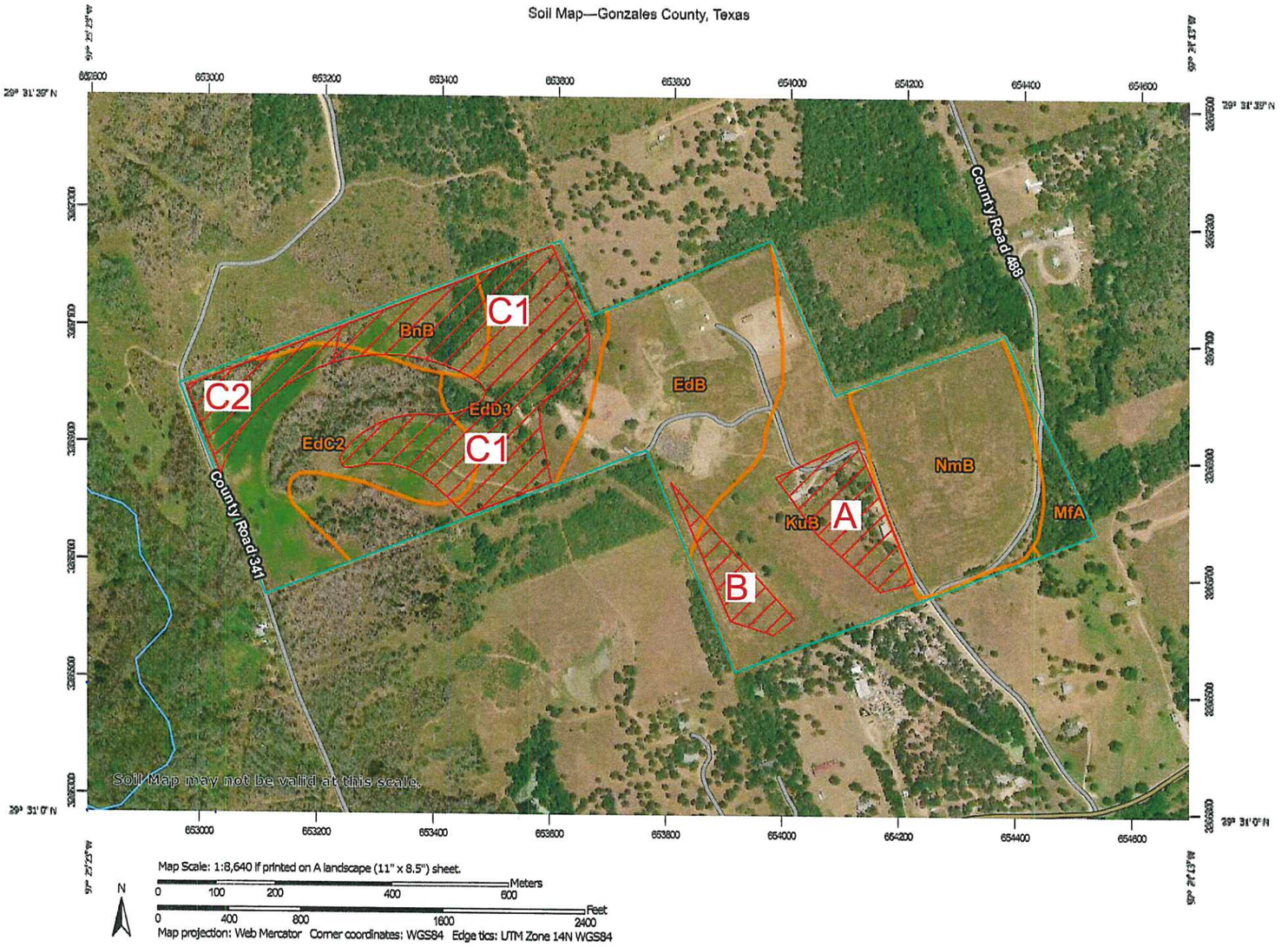
H023382

This report consists of this Table of Contents and the following pages:

DOUCET

Attachment F

USDA-NRCS Soil Map



Map Scale: 1:8,640 if printed on A landscape (11" x 8.5") sheet.

N

0 100 200 400 600 Meters

0 400 800 1600 2400 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

DOUCET

Attachment A

Landowner Map

TBPLS Firm No. 10194551
TBPE Firm No. F-3937

¼ MILE OFFSET
FROM PROPERTY BOUNDARY

28
9
22
33
10
23
8
24
32
25
11
31
7
12
26
5
30
13
21
27
14
6
16
4
3
2
1
15
29
17
20
19
18

E Sarah Dewitt Dr
St Louis St
90
146
Park Pl
Park St

Gonzales, Texas

LANDOWNER MAP (ATTACHMENT A)

BENEFICIAL LAND USE APPLICATION RENEWAL

LEGEND

- PROPERTY BOUNDARY
- LAND OWNER BOUNDARY
- (1) LANDOWNER NUMBER
- PROPOSED LAND APPLICATION AREA

DOUCET
A Kleinfelder Company
phone 512.583.2600
www.doucetengineers.com

375 0 375 750
(IN FEET)
GRAPHIC SCALE 1"=750'

DOUCET

Attachment D

General Highway (County) Map

TBPLS Firm No. 10194551
TBPE Firm No. F-3937

SITE

Gonzales

Lampkin

Haschke

McKeller

Greenwood

Camp Brazil

Hodge

Denton Creek

Evans

Mule Creek

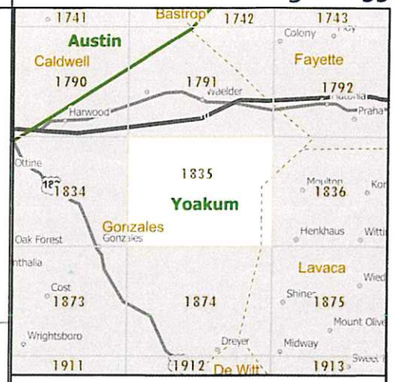
TXGN

N COLLEG ST

PAUL ST

ANDREW ST

ST LAWRENCE



Texas Department of Transportation

- 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

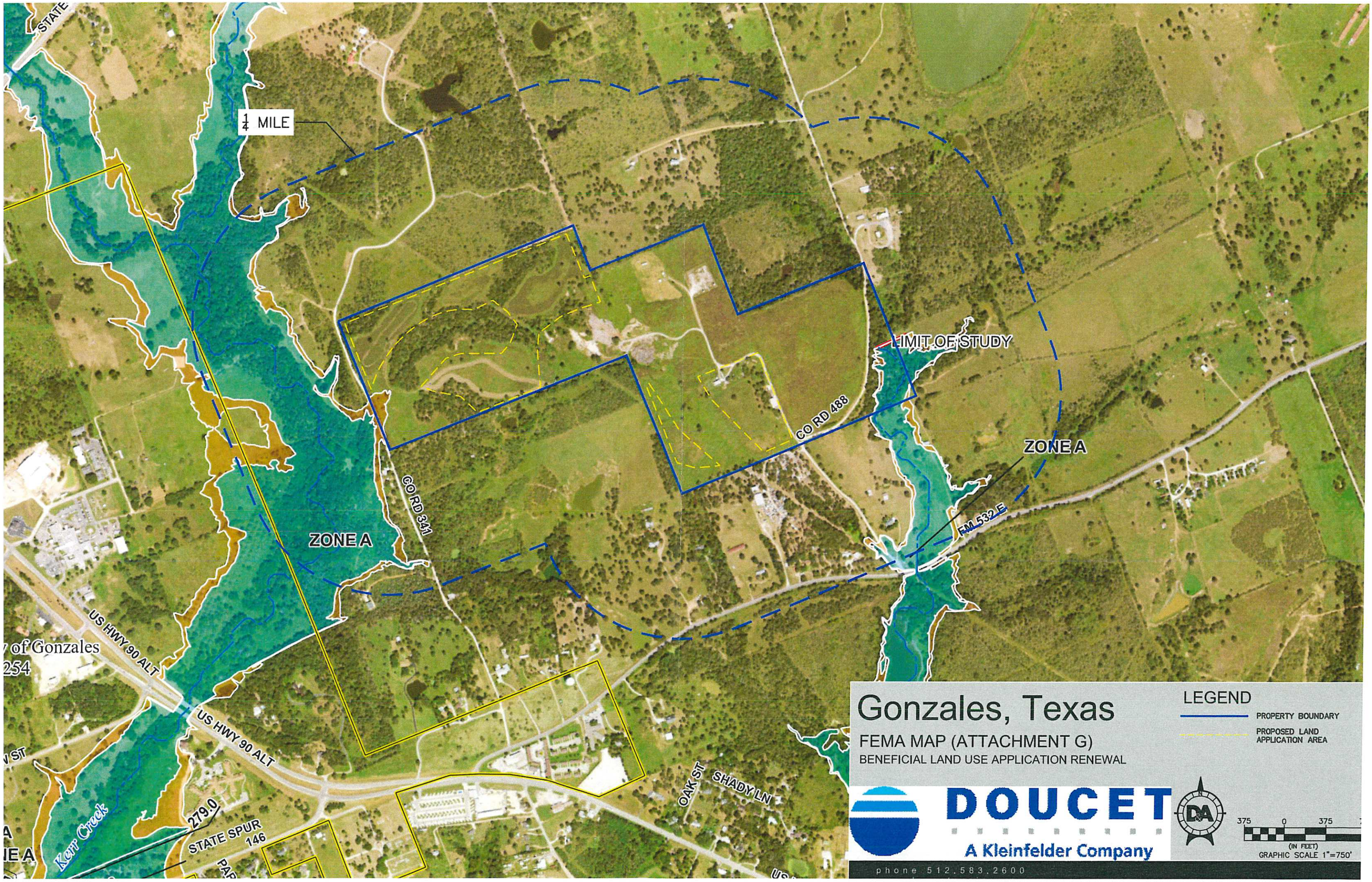
Scale 1:72,224

DOUCET

Attachment G

FEMA Map

TBPLS Firm No. 10194551
TBPE Firm No. F-3937


STATE
1/4 MILE
LIMIT OF STUDY
CO RD 488
ZONE A
CO RD 341
ZONE A
FM 532 E
US HWY 90 ALT
US HWY 90 ALT
of Gonzales
254
279.0
STATE SPUR 146
Kerr Creek
OAK ST
SHADY LN
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
375 0 375
(IN FEET)
GRAPHIC SCALE 1"=750'

DOUCET

Attachment E

USGS Topo Map

TBPLS Firm No. 10194551
TBPE Firm No. F-3937

Gonzales, Texas

USGS TOPO MAP (ATTACHMENT E)

BENEFICIAL LAND USE APPLICATION RENEWAL

LEGEND

- PROPERTY BOUNDARY
- PROPOSED LAND APPLICATION AREA
- WATER WELL
- PLUGGED WATER WELL

DOUCET

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phone 512.583.2600

375 0 375

(IN FEET)

GRAPHIC SCALE 1"=750'