Technical 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. Second notice (NAPD-Notice of Preliminary Decision)
   - English
   - Alternative Language (Spanish)
4. Application materials *
5. Draft permit *
6. Technical summary or fact sheet *

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS DOMESTIC WASTEWATER/STORMWATER

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

City of Yoakum (CN600625529) operates Yoakum Wastewater Treatment Plant (RN102805389), an activated sludge extended aeration treatment plant. The facility is located at Dunn Street, approximately 1 mile southwest of intersection of ALT 77 and Highway 111, in Yoakum, Dewitt County, Texas 77995. This application is for a renewal to discharge 0.95 MGD of treated domestic wastewater into Big Brushy Creek.

Discharges from the facility are expected to contain carbon monoxide, total suspended solids, ammonia nitrogen, nitrate nitrogen, total kjeldahl nitrogen, sulfate, chloride, total phosphorus, pH, dissolved oxygen, chlorine residual, and alkalinity. Treated domestic wastewater flowing into Big Brushy Creek is treated by an activated sludge extended aeration treatment process which consists of headworks, lift station, grit removal, RAS mix box, aeration basins, final clarifiers, chlorine contact chambers, gravity sludge thickener, and belt filter press.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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

PERMIT NO. WQ0010463001

APPLICATION. City of Yoakum, P.O. Box 738, Yoakum, Texas 77995, has applied to the Texas Commission on Environmental Quality (TCEQ) to renew Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0010463001 (EPA I.D. No. TX0026034) to authorize the discharge of treated wastewater at a volume not to exceed a daily average flow of 950,000 gallons per day. The domestic wastewater treatment facility is located approximately 1 mile southwest of the intersection of Dunn Street and State Highway 111, near the city of Yoakum, in Dewitt County, Texas 77995. The discharge route is from the plant site to Big Brushy Creek; thence to Clarks Creek; thence to Lavaca River Above Tidal. TCEQ received this application on August 6, 2024. The permit application will be available for viewing and copying at Yoakum City Hall, City Clerk's Office, 808 U.S. Highway 77A South, Yoakum, in Dewitt County, Texas prior to the date this notice is published in the newspaper. The application, including any updates, and associated notices are available electronically at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-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=-97.155,29.274166&level=18

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

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

OPPORTUNITY FOR A CONTESTED CASE HEARING. After the deadline for submitting public comments, the Executive Director will consider all timely comments and prepare a

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

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

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

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

TCEQ may act on an application to renew a permit for discharge of wastewater 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 **https://www14.tceq.texas.gov/epic/eComment/**, or in

writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC-105, P.O. Box 13087, Austin, Texas 78711-3087. Please be aware that any contact information you provide, including your name, phone number, email address and physical address will become part of the agency's public record. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from City of Yoakum at the address stated above or by calling Mr. Michael Mitchell, City Manager, at 361-293-6321.

Issuance Date: August 21, 2024

Texas Commission on Environmental Quality

NOTICE OF APPLICATION AND PRELIMINARY DECISION FOR TPDES PERMIT FOR MUNICIPAL WASTEWATER

RENEWAL

PERMIT NO. WQ0010463001

APPLICATION AND PRELIMINARY DECISION. City of Yoakum, P.O. Box 738, Yoakum, Texas 77995, has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0010463001 which authorizes the discharge of treated domestic wastewater at a daily average flow not to exceed 950,000 gallons per day. TCEQ received this application on August 6, 2024.

The facility is located approximately 1 mile southwest of the intersection of Dunn Street and State Highway 111, near the City of Yoakum, in Dewitt County, Texas 77995. The treated effluent is discharged to Big Brushy Creek, thence to Clarks Creek; thence to Lavaca River Above Tidal in Segment No. 1602 of the Lavaca River Basin. The unclassified receiving water use is high aquatic life use for Big Brushy Creek. The designated uses for Segment No. 1602 are primary contact recreation, public water supply, and high aquatic life use. All determinations are preliminary and subject to additional review and/or revisions. This link to an electronic map of the site or facility's general location is provided as a public courtesy and is not part of the application or notice. For the exact location, refer to the application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-97.155,29.274166&level=18

The TCEQ Executive Director has completed the technical review of the application and prepared a draft permit. The draft permit, if approved, would establish the conditions under which the facility must operate. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Yoakum City Hall, City Clerk's Office, 808 U.S. Highway 77A South, Yoakum, in Dewitt County, Texas. The application, including any updates, and associated notices are available electronically at the following webpage: https://www.tceq.texas.gov/permitting/wastewater/pending-permits/tpdes-applications.

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

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

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

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

The Commission may only grant a request for a contested case hearing on issues the requestor submitted in their timely comments that were not subsequently withdrawn. **If a hearing is granted, the subject of a hearing will be limited to disputed issues of fact or mixed questions of fact and law relating to relevant and material water quality concerns submitted during the comment period. TCEQ may act on an application to renew a permit for discharge of wastewater without providing an opportunity for a contested case hearing if certain criteria are met.**

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

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

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

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

AGENCY CONTACTS AND INFORMATION. Public comments and requests must be submitted either electronically at www.tceq.texas.gov/goto/comment, or in writing to the Texas Commission on Environmental Quality, Office of the Chief Clerk, MC 105, P.O. Box 13087, Austin, Texas 78711-3087. Any personal information you submit to the TCEQ will become part of the agency's record; this includes email addresses. For more information about this permit application or the permitting process, please call the TCEQ Public Education Program, Toll Free, at 1-800-687-4040 or visit their website at www.tceq.texas.gov/goto/pep. Si desea información en Español, puede llamar al 1-800-687-4040.

Further information may also be obtained from City of Yoakum at the address stated above or by calling Mr. Michael Mitchell, City Manager, at 361-293-6321.

Issuance Date: April 3, 2025

TPDES PERMIT NO.
WQ0010463001
[For TCEQ office use only - EPA I.D. No. TX0026034]

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

This is a renewal that replaces TPDES Permit No. WQ0010463001 issued on February 11, 2020.

PERMIT TO DISCHARGE WASTES
under provisions of
Section 402 of the Clean Water Act
and Chapter 26 of the Texas Water Code

City of Yoakum

whose mailing address is

P.O. Box 738
Yoakum, Texas 77995

is authorized to treat and discharge wastes from the City of Yoakum Wastewater Treatment Facility, SIC Code 4952

located approximately 1 mile southwest of the intersection of Dunn Street and State Highway 111, in Dewitt County, Texas 77995

to Big Brushy Creek, thence to Clarks Creek; thence to Lavaca River Above Tidal in Segment No. 1602 of the Lavaca River Basin

only according to effluent limitations, monitoring requirements, and other conditions set forth in this permit, as well as the rules of the Texas Commission on Environmental Quality (TCEQ), the laws of the State of Texas, and other orders of the TCEQ. The issuance of this permit does not grant to the permittee the right to use private or public property for conveyance of wastewater along the discharge route described in this permit. This includes, but is not limited to, property belonging to any individual, partnership, corporation or other entity. Neither does this permit authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire property rights as may be necessary to use the discharge route.

This permit shall expire at midnight, **five years from the date of issuance**.

ISSUED DATE:

For the Commission

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS Outfall Number 001

1. During the period beginning upon the date of issuance and lasting through the date of expiration, the permittee is authorized to discharge subject to the following effluent limitations:

   The daily average flow of effluent shall not exceed 0.95 million gallons per day (MGD), nor shall the average discharge during any two-hour period (2-hour peak) exceed 3,472 gallons per minute.

Effluent Characteristic	Discharge Limitations				Min. Self-Monitoring Requirements	
	Daily Avg mg/l (lbs/day)	7-day Avg mg/l	Daily Max mg/l	Single Grab mg/l	Report Daily Avg. & Daily Max. Measurement Frequency	Sample Type
Flow, MGD	Report	N/A	Report	N/A	Continuous	Totalizing Meter
Carbonaceous Biochemical Oxygen Demand (5-day)	10 (79)	15	25	35	One/week	Composite
Total Suspended Solids	15 (119)	25	40	60	One/week	Composite
Ammonia Nitrogen	3 (24)	6	10	15	One/week	Composite
E. coli, colony-forming units or most probable number per 100 ml	126	N/A	399	N/A	Two/month	Grab

2. The effluent shall contain a total chlorine residual of at least 1.0 mg/l and shall not exceed a total chlorine residual of 4.0 mg/l after a detention time of at least 20 minutes (based on peak flow), and shall be monitored daily by grab sample. An equivalent method of disinfection may be substituted only with prior approval of the Executive Director.

3. The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored twice per month by grab sample.

4. There shall be no discharge of floating solids or visible foam in other than trace amounts and no discharge of visible oil.

5. Effluent monitoring samples shall be taken at the following location(s): Following the final treatment unit.

6. The effluent shall contain a minimum dissolved oxygen of 5.0 mg/l and shall be monitored once per week by grab sample.

DEFINITIONS AND STANDARD PERMIT CONDITIONS

As required by Title 30 Texas Administrative Code (TAC) Chapter 305, certain regulations appear as standard conditions in waste discharge permits. 30 TAC § 305.121 - 305.129 (relating to Permit Characteristics and Conditions) as promulgated under the Texas Water Code (TWC) §§ 5.103 and 5.105, and the Texas Health and Safety Code (THSC) §§ 361.017 and 361.024(a), establish the characteristics and standards for waste discharge permits, including sewage sludge, and those sections of 40 Code of Federal Regulations (CFR) Part 122 adopted by reference by the Commission. The following text includes these conditions and incorporates them into this permit. All definitions in TWC § 26.001 and 30 TAC Chapter 305 shall apply to this permit and are incorporated by reference. Some specific definitions of words or phrases used in this permit are as follows:

1. Flow Measurements

    a. Annual average flow - the arithmetic average of all daily flow determinations taken within the preceding 12 consecutive calendar months. The annual average flow determination shall consist of daily flow volume determinations made by a totalizing meter, charted on a chart recorder and limited to major domestic wastewater discharge facilities with one million gallons per day or greater permitted flow.

    b. Daily average flow - the arithmetic average of all determinations of the daily flow within a period of one calendar month. The daily average flow determination shall consist of determinations made on at least four separate days. If instantaneous measurements are used to determine the daily flow, the determination shall be the arithmetic average of all instantaneous measurements taken during that month. Daily average flow determination for intermittent discharges shall consist of a minimum of three flow determinations on days of discharge.

    c. Daily maximum flow - the highest total flow for any 24-hour period in a calendar month.

    d. Instantaneous flow - the measured flow during the minimum time required to interpret the flow measuring device.

    e. 2-hour peak flow (domestic wastewater treatment plants) - the maximum flow sustained for a two-hour period during the period of daily discharge. The average of multiple measurements of instantaneous maximum flow within a two-hour period may be used to calculate the 2-hour peak flow.

    f. Maximum 2-hour peak flow (domestic wastewater treatment plants) - the highest 2-hour peak flow for any 24-hour period in a calendar month.

2. Concentration Measurements

    a. Daily average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar month, consisting of at least four separate representative measurements.

        i. For domestic wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values in the previous four consecutive month period consisting of at least four measurements shall be utilized as the daily average concentration.

ii. For all other wastewater treatment plants - When four samples are not available in a calendar month, the arithmetic average (weighted by flow) of all values taken during the month shall be utilized as the daily average concentration.

b. 7-day average concentration - the arithmetic average of all effluent samples, composite or grab as required by this permit, within a period of one calendar week, Sunday through Saturday.

c. Daily maximum concentration - the maximum concentration measured on a single day, by the sample type specified in the permit, within a period of one calendar month.

d. Daily discharge - the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the sampling day.

The daily discharge determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the daily discharge determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that day.

e. Bacteria concentration (*E. coli* or Enterococci) - Colony Forming Units (CFU) or Most Probable Number (MPN) of bacteria per 100 milliliters effluent. The daily average bacteria concentration is a geometric mean of the values for the effluent samples collected in a calendar month. The geometric mean shall be determined by calculating the nth root of the product of all measurements made in a calendar month, where n equals the number of measurements made; or, computed as the antilogarithm of the arithmetic mean of the logarithms of all measurements made in a calendar month. For any measurement of bacteria equaling zero, a substituted value of one shall be made for input into either computation method. If specified, the 7-day average for bacteria is the geometric mean of the values for all effluent samples collected during a calendar week.

f. Daily average loading (lbs/day) - the arithmetic average of all daily discharge loading calculations during a period of one calendar month. These calculations must be made for each day of the month that a parameter is analyzed. The daily discharge, in terms of mass (lbs/day), is calculated as (Flow, MGD x Concentration, mg/l x 8.34).

g. Daily maximum loading (lbs/day) - the highest daily discharge, in terms of mass (lbs/day), within a period of one calendar month.

3. Sample Type

a. Composite sample - For domestic wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (a). For industrial wastewater, a composite sample is a sample made up of a minimum of three effluent portions collected in a continuous 24-hour period or during the period of daily discharge if less than 24 hours, and combined in volumes proportional to flow, and collected at the intervals required by 30 TAC § 319.9 (b).

b. Grab sample - an individual sample collected in less than 15 minutes.

4. Treatment Facility (facility) - wastewater facilities used in the conveyance, storage, treatment, recycling, reclamation and/or disposal of domestic sewage, industrial wastes, agricultural wastes, recreational wastes, or other wastes including sludge handling or disposal facilities under the jurisdiction of the Commission.

5. The term “sewage sludge” is defined as solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in 30 TAC Chapter 312. This includes the solids that have not been classified as hazardous waste separated from wastewater by unit processes.

6. The term “biosolids” is defined as sewage sludge that has been tested or processed to meet Class A, Class AB, or Class B pathogen standards in 30 TAC Chapter 312 for beneficial use.

7. Bypass - the intentional diversion of a waste stream from any portion of a treatment facility.

MONITORING AND REPORTING REQUIREMENTS

1. Self-Reporting

Monitoring results shall be provided at the intervals specified in the permit. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall conduct effluent sampling and reporting in accordance with 30 TAC §§ 319.4 - 319.12. Unless otherwise specified, effluent monitoring data shall be submitted each month, to the Enforcement Division (MC 224), by the 20th day of the following month for each discharge which is described by this permit whether or not a discharge is made for that month. Monitoring results must be submitted online using the NetDMR reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. Monitoring results must be signed and certified as required by Monitoring and Reporting Requirements No. 10.

As provided by state law, the permittee is subject to administrative, civil and criminal penalties, as applicable, for negligently or knowingly violating the Clean Water Act (CWA); TWC §§ 26, 27, and 28; and THSC § 361, including but not limited to knowingly making any false statement, representation, or certification on any report, record, or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, or falsifying, tampering with or knowingly rendering inaccurate any monitoring device or method required by this permit or violating any other requirement imposed by state or federal regulations.

2. Test Procedures

a. Unless otherwise specified in this permit, test procedures for the analysis of pollutants shall comply with procedures specified in 30 TAC §§ 319.11 - 319.12. Measurements, tests, and calculations shall be accurately accomplished in a representative manner.

b. All laboratory tests submitted to demonstrate compliance with this permit must meet the requirements of 30 TAC § 25, Environmental Testing Laboratory Accreditation and Certification.

3. Records of Results

a. Monitoring samples and measurements shall be taken at times and in a manner so as to be representative of the monitored activity.

b. Except for records of monitoring information required by this permit related to the permittee's sewage sludge or biosolids use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), monitoring and reporting records, including strip charts and records of calibration and maintenance, copies of all records required by this permit, records of all data used to complete the application for this permit, and the certification required by 40 CFR § 264.73(b)(9) shall be retained at the facility site, or shall be readily available for review by a TCEQ representative for a period of three years from the date of the record or sample, measurement, report, application or certification. This period shall be extended at the request of the Executive Director.

c. Records of monitoring activities shall include the following:

i. date, time and place of sample or measurement;

ii. identity of individual who collected the sample or made the measurement.

iii. date and time of analysis;

iv. identity of the individual and laboratory who performed the analysis;

v. the technique or method of analysis; and

vi. the results of the analysis or measurement and quality assurance/quality control records.

The period during which records are required to be kept shall be automatically extended to the date of the final disposition of any administrative or judicial enforcement action that may be instituted against the permittee.

4. Additional Monitoring by Permittee

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit using approved analytical methods as specified above, all results of such monitoring shall be included in the calculation and reporting of the values submitted on the approved self-report form. Increased frequency of sampling shall be indicated on the self-report form.

5. Calibration of Instruments

All automatic flow measuring or recording devices and all totalizing meters for measuring flows shall be accurately calibrated by a trained person at plant start-up and as often thereafter as necessary to ensure accuracy, but not less often than annually unless authorized by the Executive Director for a longer period. Such person shall verify in writing that the device is operating properly and giving accurate results. Copies of the verification shall be retained at the facility site and/or shall be readily available for review by a TCEQ representative for a period of three years.

6. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of the permit shall be submitted no later than 14 days following each schedule date to the Regional Office and the Enforcement

Division (MC 224).

7. Noncompliance Notification

   a. In accordance with 30 TAC § 305.125(9) any noncompliance which may endanger human health or safety, or the environment shall be reported by the permittee to the TCEQ. Except as allowed by 30 TAC § 305.132, report of such information shall be provided orally or by facsimile transmission (FAX) to the Regional Office within 24 hours of becoming aware of the noncompliance. A written submission of such information shall also be provided by the permittee to the Regional Office and the Enforcement Division (MC 224) within five working days of becoming aware of the noncompliance. For Publicly Owned Treatment Works (POTWs), effective December 21, 2025, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver. The written submission shall contain a description of the noncompliance and its cause; the potential danger to human health or safety, or the environment; the period of noncompliance, including exact dates and times; if the noncompliance has not been corrected, the time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance, and to mitigate its adverse effects.

   b. The following violations shall be reported under Monitoring and Reporting Requirement 7.a.:

      i. Unauthorized discharges as defined in Permit Condition 2(g).

      ii. Any unanticipated bypass that exceeds any effluent limitation in the permit.

      iii. Violation of a permitted maximum daily discharge limitation for pollutants listed specifically in the Other Requirements section of an Industrial TPDES permit.

   c. In addition to the above, any effluent violation which deviates from the permitted effluent limitation by more than 40% shall be reported by the permittee in writing to the Regional Office and the Enforcement Division (MC 224) within 5 working days of becoming aware of the noncompliance.

   d. Any noncompliance other than that specified in this section, or any required information not submitted or submitted incorrectly, shall be reported to the Enforcement Division (MC 224) as promptly as possible. For effluent limitation violations, noncompliances shall be reported on the approved self-report form.

8. In accordance with the procedures described in 30 TAC §§ 35.301 - 35.303 (relating to Water Quality Emergency and Temporary Orders) if the permittee knows in advance of the need for a bypass, it shall submit prior notice by applying for such authorization.

9. Changes in Discharges of Toxic Substances

   All existing manufacturing, commercial, mining, and silvicultural permittees shall notify the Regional Office, orally or by facsimile transmission within 24 hours, and both the Regional Office and the Enforcement Division (MC 224) in writing within five (5) working days, after becoming aware of or having reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant listed at 40 CFR Part 122, Appendix D, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   i. One hundred micrograms per liter (100 μg/L);

   ii. Two hundred micrograms per liter (200 μg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 μg/L) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

   iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application; or

   iv. The level established by the TCEQ.

b. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

   i. Five hundred micrograms per liter (500 μg/L);

   ii. One milligram per liter (1 mg/L) for antimony;

   iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application; or

   iv. The level established by the TCEQ.

10. Signatories to Reports

    All reports and other information requested by the Executive Director shall be signed by the person and in the manner required by 30 TAC § 305.128 (relating to Signatories to Reports).

11. All POTWs must provide adequate notice to the Executive Director of the following:

    a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to CWA § 301 or § 306 if it were directly discharging those pollutants;

    b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit; and

    c. For the purpose of this paragraph, adequate notice shall include information on:

       i. The quality and quantity of effluent introduced into the POTW; and

       ii. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

PERMIT CONDITIONS

1. General

    a. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application or in any report to the Executive Director, it shall promptly submit such facts or information.

    b. This permit is granted on the basis of the information supplied and representations made by the permittee during action on an application, and relying upon the accuracy and completeness of that information and those representations. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked, in whole or in part, in accordance with 30 TAC Chapter 305, Subchapter D, during its term for good cause including, but not limited to, the following:

        i. Violation of any terms or conditions of this permit;

        ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

        iii. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

    c. The permittee shall furnish to the Executive Director, upon request and within a reasonable time, any information to determine whether cause exists for amending, revoking, suspending or terminating the permit. The permittee shall also furnish to the Executive Director, upon request, copies of records required to be kept by the permit.

2. Compliance

    a. Acceptance of the permit by the person to whom it is issued constitutes acknowledgment and agreement that such person will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the Commission.

    b. The permittee has a duty to comply with all conditions of the permit. Failure to comply with any permit condition constitutes a violation of the permit and the Texas Water Code or the Texas Health and Safety Code, and is grounds for enforcement action, for permit amendment, revocation, or suspension, or for denial of a permit renewal application or an application for a permit for another facility.

    c. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit.

    d. The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal or other permit violation that has a reasonable likelihood of adversely affecting human health or the environment.

    e. Authorization from the Commission is required before beginning any change in the permitted facility or activity that may result in noncompliance with any permit requirements.

    f. A permit may be amended, suspended and reissued, or revoked for cause in accordance with 30 TAC §§ 305.62 and 305.66 and TWC§ 7.302. The filing of a request by the

permittee for a permit amendment, suspension and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

g. There shall be no unauthorized discharge of wastewater or any other waste. For the purpose of this permit, an unauthorized discharge is considered to be any discharge of wastewater into or adjacent to water in the state at any location not permitted as an outfall or otherwise defined in the Other Requirements section of this permit.

h. In accordance with 30 TAC § 305.535(a), the permittee may allow any bypass to occur from a TPDES permitted facility which does not cause permitted effluent limitations to be exceeded or an unauthorized discharge to occur, but only if the bypass is also for essential maintenance to assure efficient operation.

i. The permittee is subject to administrative, civil, and criminal penalties, as applicable, under TWC §§ 7.051 - 7.075 (relating to Administrative Penalties), 7.101 - 7.111 (relating to Civil Penalties), and 7.141 - 7.202 (relating to Criminal Offenses and Penalties) for violations including, but not limited to, negligently or knowingly violating the federal CWA §§ 301, 302, 306, 307, 308, 318, or 405, or any condition or limitation implementing any sections in a permit issued under the CWA § 402, or any requirement imposed in a pretreatment program approved under the CWA §§ 402 (a)(3) or 402 (b)(8).

3. Inspections and Entry

a. Inspection and entry shall be allowed as prescribed in the TWC Chapters 26, 27, and 28, and THSC § 361.

b. The members of the Commission and employees and agents of the Commission are entitled to enter any public or private property at any reasonable time for the purpose of inspecting and investigating conditions relating to the quality of water in the state or the compliance with any rule, regulation, permit or other order of the Commission. Members, employees, or agents of the Commission and Commission contractors are entitled to enter public or private property at any reasonable time to investigate or monitor or, if the responsible party is not responsive or there is an immediate danger to public health or the environment, to remove or remediate a condition related to the quality of water in the state. Members, employees, Commission contractors, or agents acting under this authority who enter private property shall observe the establishment's rules and regulations concerning safety, internal security, and fire protection, and if the property has management in residence, shall notify management or the person then in charge of his presence and shall exhibit proper credentials. If any member, employee, Commission contractor, or agent is refused the right to enter in or on public or private property under this authority, the Executive Director may invoke the remedies authorized in TWC § 7.002. The statement above, that Commission entry shall occur in accordance with an establishment's rules and regulations concerning safety, internal security, and fire protection, is not grounds for denial or restriction of entry to any part of the facility, but merely describes the Commission's duty to observe appropriate rules and regulations during an inspection.

4. Permit Amendment and/or Renewal

a. The permittee shall give notice to the Executive Director as soon as possible of any

planned physical alterations or additions to the permitted facility if such alterations or additions would require a permit amendment or result in a violation of permit requirements. Notice shall also be required under this paragraph when:

i. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in accordance with 30 TAC § 305.534 (relating to New Sources and New Dischargers); or

ii. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements in Monitoring and Reporting Requirements No. 9; or

iii. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

b. Prior to any facility modifications, additions, or expansions that will increase the plant capacity beyond the permitted flow, the permittee must apply for and obtain proper authorization from the Commission before commencing construction.

c. The permittee must apply for an amendment or renewal at least 180 days prior to expiration of the existing permit in order to continue a permitted activity after the expiration date of the permit. If an application is submitted prior to the expiration date of the permit, the existing permit shall remain in effect until the application is approved, denied, or returned. If the application is returned or denied, authorization to continue such activity shall terminate upon the effective date of the action. If an application is not submitted prior to the expiration date of the permit, the permit shall expire and authorization to continue such activity shall terminate.

d. Prior to accepting or generating wastes which are not described in the permit application or which would result in a significant change in the quantity or quality of the existing discharge, the permittee must report the proposed changes to the Commission. The permittee must apply for a permit amendment reflecting any necessary changes in permit conditions, including effluent limitations for pollutants not identified and limited by this permit.

e. In accordance with the TWC § 26.029(b), after a public hearing, notice of which shall be given to the permittee, the Commission may require the permittee, from time to time, for good cause, in accordance with applicable laws, to conform to new or additional conditions.

f. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under CWA § 307(a) for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, this permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition. The permittee shall comply with effluent standards or prohibitions established under CWA § 307(a) for toxic pollutants within the time provided in the regulations that established those standards or prohibitions, even if the permit has not

yet been modified to incorporate the requirement.

5. Permit Transfer

   a. Prior to any transfer of this permit, Commission approval must be obtained. The Commission shall be notified in writing of any change in control or ownership of facilities authorized by this permit. Such notification should be sent to the Applications Review and Processing Team (MC 148) of the Water Quality Division.

   b. A permit may be transferred only according to the provisions of 30 TAC § 305.64 (relating to Transfer of Permits) and 30 TAC § 50.133 (relating to Executive Director Action on Application or WQMP update).

6. Relationship to Hazardous Waste Activities

   This permit does not authorize any activity of hazardous waste storage, processing, or disposal that requires a permit or other authorization pursuant to the Texas Health and Safety Code.

7. Relationship to Water Rights

   Disposal of treated effluent by any means other than discharge directly to water in the state must be specifically authorized in this permit and may require a permit pursuant to TWC Chapter 11.

8. Property Rights

   A permit does not convey any property rights of any sort, or any exclusive privilege.

9. Permit Enforceability

   The conditions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

10. Relationship to Permit Application

    The application pursuant to which the permit has been issued is incorporated herein; provided, however, that in the event of a conflict between the provisions of this permit and the application, the provisions of the permit shall control.

11. Notice of Bankruptcy

    a. Each permittee shall notify the Executive Director, in writing, immediately following the filing of a voluntary or involuntary petition for bankruptcy under any chapter of Title 11 (Bankruptcy) of the United States Code (11 USC) by or against:

       i. the permittee;

       ii. an entity (as that term is defined in 11 USC, § 101(14)) controlling the permittee or listing the permit or permittee as property of the estate; or

       iii. an affiliate (as that term is defined in 11 USC, § 101(2)) of the permittee.

b. This notification must indicate:

i. the name of the permittee;

ii. the permit number(s);

iii. the bankruptcy court in which the petition for bankruptcy was filed; and

iv. the date of filing of the petition.

OPERATIONAL REQUIREMENTS

1. The permittee shall at all times ensure that the facility and all of its systems of collection, treatment, and disposal are properly operated and maintained. This includes, but is not limited to, the regular, periodic examination of wastewater solids within the treatment plant by the operator in order to maintain an appropriate quantity and quality of solids inventory as described in the various operator training manuals and according to accepted industry standards for process control. Process control, maintenance, and operations records shall be retained at the facility site, or shall be readily available for review by a TCEQ representative, for a period of three years.

2. Upon request by the Executive Director, the permittee shall take appropriate samples and provide proper analysis in order to demonstrate compliance with Commission rules. Unless otherwise specified in this permit or otherwise ordered by the Commission, the permittee shall comply with all applicable provisions of 30 TAC Chapter 312 concerning sewage sludge or biosolids use and disposal and 30 TAC §§ 319.21 - 319.29 concerning the discharge of certain hazardous metals.

3. Domestic wastewater treatment facilities shall comply with the following provisions:

   a. The permittee shall notify the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, in writing, of any facility expansion at least 90 days prior to conducting such activity.

   b. The permittee shall submit a closure plan for review and approval to the Municipal Permits Team, Wastewater Permitting Section (MC 148) of the Water Quality Division, for any closure activity at least 90 days prior to conducting such activity. Closure is the act of permanently taking a waste management unit or treatment facility out of service and includes the permanent removal from service of any pit, tank, pond, lagoon, surface impoundment and/or other treatment unit regulated by this permit.

4. The permittee is responsible for installing prior to plant start-up, and subsequently maintaining, adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, and/or retention of inadequately treated wastewater.

5. Unless otherwise specified, the permittee shall provide a readily accessible sampling point and, where applicable, an effluent flow measuring device or other acceptable means by which effluent flow may be determined.

6. The permittee shall remit an annual water quality fee to the Commission as required by 30 TAC Chapter 21. Failure to pay the fee may result in revocation of this permit under TWC §

7.302(b)(6).

7. Documentation

   For all written notifications to the Commission required of the permittee by this permit, the permittee shall keep and make available a copy of each such notification under the same conditions as self-monitoring data are required to be kept and made available. Except for information required for TPDES permit applications, effluent data, including effluent data in permits, draft permits and permit applications, and other information specified as not confidential in 30 TAC §§ 1.5(d), any information submitted pursuant to this permit may be claimed as confidential by the submitter. Any such claim must be asserted in the manner prescribed in the application form or by stamping the words confidential business information on each page containing such information. If no claim is made at the time of submission, information may be made available to the public without further notice. If the Commission or Executive Director agrees with the designation of confidentiality, the TCEQ will not provide the information for public inspection unless required by the Texas Attorney General or a court pursuant to an open records request. If the Executive Director does not agree with the designation of confidentiality, the person submitting the information will be notified.

8. Facilities that generate domestic wastewater shall comply with the following provisions; domestic wastewater treatment facilities at permitted industrial sites are excluded.

   a. Whenever flow measurements for any domestic sewage treatment facility reach 75% of the permitted daily average or annual average flow for three consecutive months, the permittee must initiate engineering and financial planning for expansion and/or upgrading of the domestic wastewater treatment and/or collection facilities. Whenever the flow reaches 90% of the permitted daily average or annual average flow for three consecutive months, the permittee shall obtain necessary authorization from the Commission to commence construction of the necessary additional treatment and/or collection facilities. In the case of a domestic wastewater treatment facility which reaches 75% of the permitted daily average or annual average flow for three consecutive months, and the planned population to be served or the quantity of waste produced is not expected to exceed the design limitations of the treatment facility, the permittee shall submit an engineering report supporting this claim to the Executive Director of the Commission.

      If in the judgment of the Executive Director the population to be served will not cause permit noncompliance, then the requirement of this section may be waived. To be effective, any waiver must be in writing and signed by the Director of the Enforcement Division (MC 219) of the Commission, and such waiver of these requirements will be reviewed upon expiration of the existing permit; however, any such waiver shall not be interpreted as condoning or excusing any violation of any permit parameter.

   b. The plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Commission and failure to secure approval before commencing construction of such works or making a discharge is a violation of this permit and each day is an additional violation until approval has been secured.

   c. Permits for domestic wastewater treatment plants are granted subject to the policy of the

Commission to encourage the development of area-wide waste collection, treatment, and disposal systems. The Commission reserves the right to amend any domestic wastewater permit in accordance with applicable procedural requirements to require the system covered by this permit to be integrated into an area-wide system, should such be developed; to require the delivery of the wastes authorized to be collected in, treated by or discharged from said system, to such area-wide system; or to amend this permit in any other particular to effectuate the Commission's policy. Such amendments may be made when the changes required are advisable for water quality control purposes and are feasible on the basis of waste treatment technology, engineering, financial, and related considerations existing at the time the changes are required, exclusive of the loss of investment in or revenues from any then existing or proposed waste collection, treatment or disposal system.

9. Domestic wastewater treatment plants shall be operated and maintained by sewage plant operators holding a valid certificate of competency at the required level as defined in 30 TAC Chapter 30.

10. For Publicly Owned Treatment Works (POTWs), the 30-day average (or monthly average) percent removal for BOD and TSS shall not be less than 85%, unless otherwise authorized by this permit.

11. Facilities that generate industrial solid waste as defined in 30 TAC § 335.1 shall comply with these provisions:

    a. Any solid waste, as defined in 30 TAC § 335.1 (including but not limited to such wastes as garbage, refuse, sludge from a waste treatment, water supply treatment plant or air pollution control facility, discarded materials, discarded materials to be recycled, whether the waste is solid, liquid, or semisolid), generated by the permittee during the management and treatment of wastewater, must be managed in accordance with all applicable provisions of 30 TAC Chapter 335, relating to Industrial Solid Waste Management.

    b. Industrial wastewater that is being collected, accumulated, stored, or processed before discharge through any final discharge outfall, specified by this permit, is considered to be industrial solid waste until the wastewater passes through the actual point source discharge and must be managed in accordance with all applicable provisions of 30 TAC Chapter 335.

    c. The permittee shall provide written notification, pursuant to the requirements of 30 TAC § 335.8(b)(1), to the Corrective Action Section (MC 127) of the Remediation Division informing the Commission of any closure activity involving an Industrial Solid Waste Management Unit, at least 90 days prior to conducting such an activity.

    d. Construction of any industrial solid waste management unit requires the prior written notification of the proposed activity to the Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division. No person shall dispose of industrial solid waste, including sludge or other solids from wastewater treatment processes, prior to fulfilling the deed recordation requirements of 30 TAC § 335.5.

    e. The term "industrial solid waste management unit" means a landfill, surface impoundment, waste-pile, industrial furnace, incinerator, cement kiln, injection well, container, drum, salt dome waste containment cavern, or any other structure vessel,

appurtenance, or other improvement on land used to manage industrial solid waste.

f. The permittee shall keep management records for all sludge (or other waste) removed from any wastewater treatment process. These records shall fulfill all applicable requirements of 30 TAC § 335 and must include the following, as it pertains to wastewater treatment and discharge:

   i. Volume of waste and date(s) generated from treatment process;
   ii. Volume of waste disposed of on-site or shipped off-site;
   iii. Date(s) of disposal;
   iv. Identity of hauler or transporter;
   v. Location of disposal site; and
   vi. Method of final disposal.

   The above records shall be maintained on a monthly basis. The records shall be retained at the facility site, or shall be readily available for review by authorized representatives of the TCEQ for at least five years.

12. For industrial facilities to which the requirements of 30 TAC § 335 do not apply, sludge and solid wastes, including tank cleaning and contaminated solids for disposal, shall be disposed of in accordance with THSC § 361.

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SLUDGE PROVISIONS

The permittee is authorized to dispose of sludge only at a Texas Commission on Environmental Quality (TCEQ) authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge. **The disposal of sludge or biosolids by land application on property owned, leased or under the direct control of the permittee is a violation of the permit unless the site is permitted or registered with the TCEQ.**

This provision authorizes Distribution and Marketing of Class A or Class AB Biosolids. This provision does authorize the permittee to land apply Class A bulk biosolids on property owned, leased, or under the direct control of the permittee. This provision does not authorize the permittee to land apply Class B biosolids on property owned, leased or under the direct control of the permittee.

SECTION I. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE OR BIOSOLIDS LAND APPLICATION

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge or biosolids in accordance with 30 TAC § 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge or biosolids.

2. In all cases, if the person (permit holder) who prepares the sewage sludge supplies the sewage sludge to another person for land application use or to the owner or lease holder of the land, the permit holder shall provide necessary information to the parties who receive the sludge to assure compliance with these regulations.

3. The land application of processed or unprocessed chemical toilet waste, grease trap waste, grit trap waste, milk solids, or similar non-hazardous municipal or industrial solid wastes, or any of the wastes listed in this provision combined with biosolids, WTP residuals or domestic septage is prohibited unless the grease trap waste is added at a fats, oil and grease (FOG) receiving facility as part of an anaerobic digestion process.

B. Testing Requirements

1. Sewage sludge or biosolids shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I [Toxicity Characteristic Leaching Procedure (TCLP)] or other method that receives the prior approval of the TCEQ for the contaminants listed in 40 CFR Part 261.24, Table 1. Sewage sludge or biosolids failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal. Following failure of any TCLP test, the management or disposal of sewage sludge or biosolids at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge or biosolids no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP

tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 14) within seven (7) days after failing the TCLP Test.

The report shall contain test results, certification that unauthorized waste management has stopped, and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P.O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. The permittee must submit this annual report by September 30th of each year using the online electronic reporting system available through TCEQ's website. If the pemittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 14) and the Enforcement Division (MC 224).

2. Biosolids shall not be applied to the land if the concentration of the pollutants exceeds the pollutant concentration criteria in Table 1. The frequency of testing for pollutants in Table 1 is found in Section I.C. of this permit.

TABLE 1

Pollutant	Ceiling Concentration (Milligrams per kilogram)*
Arsenic	75
Cadmium	85
Chromium	3000
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
PCBs	49
Selenium	100
Zinc	7500

* Dry weight basis

3. Pathogen Control

All sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site must be treated by one of the following methods to ensure that the sludge meets either the Class A, Class AB or Class B biosolids pathogen requirements.

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

Alternative 1 - The temperature of the sewage sludge that is used or disposed shall be maintained at or above a specific value for a period of time. See 30 TAC § 312.82(a)(2)(A) for specific information;

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

Alternative 6 (PFRP Equivalent) - Sewage sludge that is used or disposed of must be treated in a process that has been approved by the U. S. Environmental Protection Agency as being equivalent to those in Alternative 5.

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

Alternative 2 - The pH of the sewage sludge that is used or disposed shall be raised to above 12 std. units and shall remain above 12 std. units for 72 hours.

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

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

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

Alternative 4 - The density of enteric viruses in the sewage sludge shall be less than one Plaque-forming Unit per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed. The density of viable helminth ova in the sewage sludge shall be less than one per four grams of total solids (dry weight basis) at the time the sewage sludge is used or disposed.

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

d. Three alternatives are available to demonstrate compliance with Class B biosolids criteria.

Alternative 1

i. A minimum of seven random samples of the sewage sludge shall be collected within 48 hours of the time the sewage sludge is used or disposed of during each monitoring episode for the sewage sludge.

ii. The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 MPN per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis).

Alternative 2 - Sewage sludge that is used or disposed of shall be treated in one of the Processes to Significantly Reduce Pathogens (PSRP) described in 40 CFR Part 503, Appendix B, so long as all of the following requirements are met by the generator of the sewage sludge.

i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;

ii. An independent Texas Licensed Professional Engineer must make a certification to the generator of a sewage sludge that the wastewater treatment facility generating the sewage sludge is designed to achieve one of the PSRP at the permitted design loading of the facility. The certification need only be repeated if the design loading of the facility is increased. The certification shall include a statement indicating the design meets all the applicable standards specified in Appendix B of 40 CFR Part 503;

iii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance;

iv. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review; and

v. If the sewage sludge is generated from a mixture of sources, resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the PSRP, and shall meet the certification, operation, and record keeping requirements of this paragraph.

Alternative 3 - Sewage sludge shall be treated in an equivalent process that has been approved by the U.S. Environmental Protection Agency, so long as all of the following requirements are met by the generator of the sewage sludge.

i. Prior to use or disposal, all the sewage sludge must have been generated from a single location, except as provided in paragraph v. below;

ii. Prior to any off-site transportation or on-site use or disposal of any sewage sludge generated at a wastewater treatment facility, the chief certified operator of the wastewater treatment facility or other responsible official who manages the processes to significantly reduce pathogens at the wastewater treatment facility for the permittee, shall certify that the sewage sludge underwent at least the minimum operational requirements necessary in order to meet one of the PSRP. The acceptable processes and the minimum operational and record keeping requirements shall be in accordance with established U.S. Environmental Protection Agency final guidance;

iii. All certification records and operational records describing how the requirements of this paragraph were met shall be kept by the generator for a minimum of three years and be available for inspection by commission staff for review;

iv. The Executive Director will accept from the U.S. Environmental Protection Agency a finding of equivalency to the defined PSRP; and

v. If the sewage sludge is generated from a mixture of sources resulting from a person who prepares sewage sludge from more than one wastewater treatment facility, the resulting derived product shall meet one of the Processes to Significantly Reduce Pathogens, and shall meet the certification, operation, and record keeping requirements of this paragraph.

In addition to the Alternatives 1 – 3, the following site restrictions must be met if Class B biosolids are land applied:

i. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of biosolids.

ii. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of biosolids when the biosolids remain on the land surface for 4 months or longer prior to incorporation into the soil.

iii. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of biosolids when the biosolids remain on the land surface for less than 4 months prior to incorporation into the soil.

iv. Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of biosolids.

v. Domestic livestock shall not be allowed to graze on the land for 30 days after application of biosolids.

vi. Turf grown on land where biosolids are applied shall not be harvested for 1 year after application of the biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn.

vii. Public access to land with a high potential for public exposure shall be restricted for 1 year after application of biosolids.

viii. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of biosolids.

ix. Land application of biosolids shall be in accordance with the buffer zone requirements found in 30 TAC § 312.44.

4. Vector Attraction Reduction Requirements

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, or a reclamation site shall be treated by one of the following Alternatives 1 through 10 for vector attraction reduction.

Alternative 1 - The mass of volatile solids in the sewage sludge shall be reduced by a minimum of 38%.

Alternative 2 - If Alternative 1 cannot be met for an anaerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30° and 37° Celsius. Volatile solids must be reduced by less than 17% to demonstrate compliance.

Alternative 3 - If Alternative 1 cannot be met for an aerobically digested sludge, demonstration can be made by digesting a portion of the previously digested sludge with percent solids of two percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20° Celsius. Volatile solids must be reduced by less than 15% to demonstrate compliance.

Alternative 4 - The specific oxygen uptake rate (SOUR) for sewage sludge treated in an aerobic process shall be equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20° Celsius.

Alternative 5 - Sewage sludge shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the sewage sludge shall be higher than 40° Celsius and the average temperature of the sewage sludge shall be higher than 45° Celsius.

Alternative 6 - The pH of sewage sludge shall be raised to 12 or higher by alkali addition and, without the addition of more alkali shall remain at 12 or higher for two hours and then remain at a pH of 11.5 or higher for an additional 22 hours at the time the sewage sludge is prepared for sale or given away in a bag or other container.

Alternative 7 - The percent solids of sewage sludge that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75% based on the moisture content and total solids prior to mixing with other materials. Unstabilized solids are

defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 8 - The percent solids of sewage sludge that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90% based on the moisture content and total solids prior to mixing with other materials at the time the sludge is used. Unstabilized solids are defined as organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Alternative 9 -

i. Biosolids shall be injected below the surface of the land.

ii. No significant amount of the biosolids shall be present on the land surface within one hour after biosolids are injected.

iii. When sewage sludge that is injected below the surface of the land is Class A or Class AB with respect to pathogens, the biosolids shall be injected below the land surface within eight hours after being discharged from the pathogen treatment process.

Alternative 10-

i. Biosolids applied to the land surface or placed on a surface disposal site shall be incorporated into the soil within six hours after application to or placement on the land.

ii. When biosolids that are incorporated into the soil is Class A or Class AB with respect to pathogens, the biosolids shall be applied to or placed on the land within eight hours after being discharged from the pathogen treatment process.

C. Monitoring Requirements

Toxicity Characteristic Leaching Procedure (TCLP) Test	- once during the term of this permit
PCBs	- once during the term of this permit

All metal constituents and fecal coliform or *Salmonella* sp. bacteria shall be monitored at the appropriate frequency shown below, pursuant to 30 TAC § 312.46(a)(1):

Amount of biosolids (*) metric tons per 365-day period	Monitoring Frequency
0 to less than 290	Once/Year
290 to less than 1,500	Once/Quarter
1,500 to less than 15,000	Once/Two Months
15,000 or greater	Once/Month

(*) *The amount of bulk biosolids applied to the land (dry wt. basis).*

Representative samples of sewage sludge shall be collected and analyzed in accordance with the methods referenced in 30 TAC § 312.7

Identify each of the analytic methods used by the facility to analyze enteric viruses, fecal coliforms, helminth ova, *Salmonella* sp., and other regulated parameters.

Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.

Identify the nature of material generated by the facility (such as a biosolid for beneficial use or land-farming, or sewage sludge or biosolids for disposal at a monofill) and whether the material is ultimately conveyed off-site in bulk or in bags.

SECTION II. REQUIREMENTS SPECIFIC TO BULK SEWAGE SLUDGE FOR APPLICATION TO THE LAND MEETING CLASS A, CLASS AB or B BIOSOLIDS PATHOGEN REDUCTION AND THE CUMULATIVE LOADING RATES IN TABLE 2, OR CLASS B PATHOGEN REDUCTION AND THE POLLUTANT CONCENTRATIONS IN TABLE 3

For those permittees meeting Class A, Class AB or B pathogen reduction requirements and that meet the cumulative loading rates in Table 2 below, or the Class B pathogen reduction requirements and contain concentrations of pollutants below listed in Table 3, the following conditions apply:

A. Pollutant Limits

Table 2

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

Table 3

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

*Dry weight basis

B. Pathogen Control

All bulk sewage sludge that is applied to agricultural land, forest, a public contact site, a reclamation site, shall be treated by either Class A, Class AB or Class B biosolids pathogen reduction requirements as defined above in Section I.B.3.

C. Management Practices

1. Bulk biosolids shall not be applied to agricultural land, forest, a public contact site, or a reclamation site that is flooded, frozen, or snow-covered so that the bulk biosolids enters a wetland or other waters in the State.

2. Bulk biosolids not meeting Class A biosolids requirements shall be land applied in a manner which complies with Applicability in accordance with 30 TAC §312.41 and the Management Requirements in accordance with 30 TAC § 312.44.

3. Bulk biosolids shall be applied at or below the agronomic rate of the cover crop.

4. An information sheet shall be provided to the person who receives bulk Class A or AB biosolids sold or given away. The information sheet shall contain the following information:

   a. The name and address of the person who prepared the Class A or AB biosolids that are sold or given away in a bag or other container for application to the land.

   b. A statement that application of the biosolids to the land is prohibited except in accordance with the instruction on the label or information sheet.

   c. The annual whole sludge application rate for the biosolids application rate for the biosolids that does not cause any of the cumulative pollutant loading rates in Table 2 above to be exceeded, unless the pollutant concentrations in Table 3 found in Section II above are met.

D. Notification Requirements

1. If bulk biosolids are applied to land in a State other than Texas, written notice shall be provided prior to the initial land application to the permitting authority for the State in which the bulk biosolids are proposed to be applied. The notice shall include:

   a. The location, by street address, and specific latitude and longitude, of each land application site.

   b. The approximate time period bulk biosolids will be applied to the site.

   c. The name, address, telephone number, and National Pollutant Discharge Elimination System permit number (if appropriate) for the person who will apply the bulk biosolids.

2. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the biosolids disposal practice.

E. Record Keeping Requirements

The documents will be retained at the facility site and/or shall be readily available for review by a TCEQ representative. The person who prepares bulk sewage sludge or a biosolids material shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative for a period

of five years. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply.

1. The concentration (mg/kg) in the sludge of each pollutant listed in Table 3 above and the applicable pollutant concentration criteria (mg/kg), or the applicable cumulative pollutant loading rate and the applicable cumulative pollutant loading rate limit (lbs/ac) listed in Table 2 above.

2. A description of how the pathogen reduction requirements are met (including site restrictions for Class AB and Class B biosolids, if applicable).

3. A description of how the vector attraction reduction requirements are met.

4. A description of how the management practices listed above in Section II.C are being met.

5. The following certification statement:

   "I certify, under penalty of law, that the applicable pathogen requirements in 30 TAC § 312.82(a) or (b) and the vector attraction reduction requirements in 30 TAC § 312.83(b) have been met for each site on which bulk biosolids are applied. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the management practices have been met. I am aware that there are significant penalties for false certification including fine and imprisonment."

6. The recommended agronomic loading rate from the references listed in Section II.C.3. above, as well as the actual agronomic loading rate shall be retained. The person who applies bulk biosolids shall develop the following information and shall retain the information at the facility site and/or shall be readily available for review by a TCEQ representative indefinitely. If the permittee supplies the sludge to another person who land applies the sludge, the permittee shall notify the land applier of the requirements for record keeping found in 30 TAC § 312.47 for persons who land apply:

   a. A certification statement that all applicable requirements (specifically listed) have been met, and that the permittee understands that there are significant penalties for false certification including fine and imprisonment. See 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii), as applicable, and to the permittee's specific sludge treatment activities.

   b. The location, by street address, and specific latitude and longitude, of each site on which biosolids are applied.

   c. The number of acres in each site on which bulk biosolids are applied.

   d. The date and time biosolids are applied to each site.

e. The cumulative amount of each pollutant in pounds/acre listed in Table 2 applied to each site.

f. The total amount of biosolids applied to each site in dry tons.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

F. Reporting Requirements

The permittee shall submit the following information in an annual report to the TCEQ by September 30th of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permitee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 14) and Enforcement Division (MC 224).

1. Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.

2. Identify the nature of material generated by the facility (such as a biosolid for beneficial use or land-farming, or sewage sludge for disposal at a monofill) and whether the material is ultimately conveyed off-site in bulk or in bags.

3. Results of tests performed for pollutants found in either Table 2 or 3 as appropriate for the permittee's land application practices.

4. The frequency of monitoring listed in Section I.C. that applies to the permittee.

5. Toxicity Characteristic Leaching Procedure (TCLP) results.

6. PCB concentration in sludge or biosolids in mg/kg.

7. Identity of hauler(s) and TCEQ transporter number.

8. Date(s) of transport.

9. Texas Commission on Environmental Quality registration number, if applicable.

10. Amount of sludge or biosolids disposal dry weight (lbs/acre) at each disposal site.

11. The concentration (mg/kg) in the sludge of each pollutant listed in Table 1 (defined as a monthly average) as well as the applicable pollutant concentration criteria (mg/kg) listed in Table 3 above, or the applicable pollutant loading rate limit (lbs/acre) listed in Table 2 above if it exceeds 90% of the limit.

12. Level of pathogen reduction achieved (Class A, Class AB or Class B).

13. Alternative used as listed in Section I.B.3.(a. or b.). Alternatives describe how the pathogen reduction requirements are met. If Class B biosolids, include information on how site restrictions were met.

14. Identify each of the analytic methods used by the facility to analyze enteric viruses, fecal coliforms, helminth ova, *Salmonella* sp., and other regulated parameters.

15. Vector attraction reduction alternative used as listed in Section I.B.4.

16. Amount of sludge or biosolids transported in dry tons/year.

17. The certification statement listed in either 30 TAC § 312.47(a)(4)(A)(ii) or 30 TAC § 312.47(a)(5)(A)(ii) as applicable to the permittee's sludge or biosolids treatment activities, shall be attached to the annual reporting form.

18. When the amount of any pollutant applied to the land exceeds 90% of the cumulative pollutant loading rate for that pollutant, as described in Table 2, the permittee shall report the following information as an attachment to the annual reporting form.

    a. The location, by street address, and specific latitude and longitude.

    b. The number of acres in each site on which bulk biosolids are applied.

    c. The date and time bulk biosolids are applied to each site.

    d. The cumulative amount of each pollutant (i.e., pounds/acre) listed in Table 2 in the bulk biosolids applied to each site.

    e. The amount of biosolids (i.e., dry tons) applied to each site.

    The above records shall be maintained on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

SECTION III. REQUIREMENTS APPLYING TO ALL SEWAGE SLUDGE OR BIOSOLIDS DISPOSED IN A MUNICIPAL SOLID WASTE LANDFILL

A. The permittee shall handle and dispose of sewage sludge or biosolids in accordance with 30 TAC § 330 and all other applicable state and federal regulations to protect public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present. The permittee shall ensure that the sewage sludge or biosolids meets the requirements in 30 TAC § 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.

B. If the permittee generates sewage sludge or biosolids and supplies that sewage sludge or biosolids to the owner or operator of a municipal solid waste landfill (MSWLF) for disposal, the permittee shall provide to the owner or operator of the MSWLF appropriate information needed to be in compliance with the provisions of this permit.

C. The permittee shall give 180 days prior notice to the Executive Director in care of the Wastewater Permitting Section (MC 148) of the Water Quality Division of any change planned in the sewage sludge or biosolids disposal practice.

D. Sewage sludge or biosolids shall be tested once during the term of this permit in accordance with the method specified in both 40 CFR Part 261, Appendix II and 40 CFR Part 268, Appendix I (Toxicity Characteristic Leaching Procedure) or other method, which receives the prior approval of the TCEQ for contaminants listed in Table 1 of 40 CFR § 261.24. Sewage sludge or biosolids failing this test shall be managed according to RCRA standards for generators of hazardous waste, and the waste's disposition must be in accordance with all applicable requirements for hazardous waste processing, storage, or disposal.

   Following failure of any TCLP test, the management or disposal of sewage sludge or biosolids at a facility other than an authorized hazardous waste processing, storage, or disposal facility shall be prohibited until such time as the permittee can demonstrate the sewage sludge or biosolids no longer exhibits the hazardous waste toxicity characteristics (as demonstrated by the results of the TCLP tests). A written report shall be provided to both the TCEQ Registration and Reporting Section (MC 129) of the Permitting and Registration Support Division and the Regional Director (MC Region 14) of the appropriate TCEQ field office within 7 days after failing the TCLP Test.

   The report shall contain test results, certification that unauthorized waste management has stopped, and a summary of alternative disposal plans that comply with RCRA standards for the management of hazardous waste. The report shall be addressed to: Director, Permitting and Registration Support Division (MC 129), Texas Commission on Environmental Quality, P. O. Box 13087, Austin, Texas 78711-3087. In addition, the permittee shall prepare an annual report on the results of all sludge toxicity testing. This annual report shall be submitted to the TCEQ Regional Office (MC Region 14) and the Enforcement Division (MC 224) by September 30 of each year.

E. Sewage sludge or biosolids shall be tested as needed, in accordance with the requirements of 30 TAC Chapter 330.

F. Record Keeping Requirements

   The permittee shall develop the following information and shall retain the information for five years.

1. The description (including procedures followed and the results) of all liquid Paint Filter Tests performed.

2. The description (including procedures followed and results) of all TCLP tests performed.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

G. Reporting Requirements

The permittee shall submit the following information in an annual report to the TCEQ by September 30th of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 14) and Enforcement Division (MC 224).

1. Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.

2. Toxicity Characteristic Leaching Procedure (TCLP) results.

3. Annual sludge or biosolids production in dry tons/year.

4. Amount of sludge or biosolids disposed in a municipal solid waste landfill in dry tons/year.

5. Amount of sludge or biosolids transported interstate in dry tons/year.

6. A certification that the sewage sludge or biosolids meets the requirements of 30 TAC § 330 concerning the quality of the sludge disposed in a municipal solid waste landfill.

7. Identity of hauler(s) and transporter registration number.

8. Owner of disposal site(s).

9. Location of disposal site(s).

10. Date(s) of disposal.

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

SECTION IV. REQUIREMENTS FOR MARKETING AND/OR DISTRIBUTING BIOSOLIDS AND BIOSOLIDS DERIVED MATERIALS.

A. General Requirements

All biosolids, derived materials or materials sold or given away in bulk, bag or a container for application to the land shall meet the metal concentrations in Section II.A. Table 3, the pathogen requirements in 30 TAC §312.82, and the vector attraction reduction requirements in 30 TAC §312.83(b)(1) - §312.83(b)(8).

The product of the concentration of each pollutant in the biosolids and the annual whole application rate for biosolids shall not cause the annual metal loading rate for the metal in Table 4 below to be exceeded. The procedure used to determine the annual whole application rate is presented in §312.49.

Table 4 - ANNUAL METAL LOADING RATES

Pollutant	Annual Metal Loading Rate ** (pounds per acre) *
Arsenic	1.8
Cadmium	1.7
Chromium	134.0
Copper	67.0
Lead	13.0
Mercury	0.76
Molybdenum	Report Only
Nickel	18.7
Selenium	4.5
Zinc	125.0

* Dry weight basis
** Per 365-day period

B. Marketing and Distribution Management Practices

1. Biosolids may be stockpiled and stored on site under semi-dry conditions for a period not to exceed 24 months.

2. The whole biosolids application rate shall not exceed the agronomic rate for any site.

3. The biosolids processing site location shall be selected and operated in a manner to prevent public health nuisances. Where nuisance conditions exist, the operator shall take necessary action to abate such nuisances.

4. Either a label shall be affixed to the bag or similar enclosure in which biosolids are sold or given away for application to the land or an information sheet shall be provided to the person who receives biosolids sold or given away in a similar enclosure for application to the land. The label or information sheet shall contain the following information:

   a. the name and address of the person who prepared the biosolids for sale or give away in a bag or similar enclosure for application to the land;
   b. a statement that prohibits the application of the biosolids to the land except in accordance with the instructions on the label or information sheet;

c. the annual whole sludge application rate for the biosolids that does not cause the annual metal loading rates in Table 4 to be exceeded.

5. If composting, the Biosolids Processing Pad Area shall be protected from storm water run-on and runoff. Storm water from the pad shall be routed through the headworks of the Wastewater Treatment Facility. The Biosolids Processing Pad shall be constructed of concrete or Executive Director approved material meeting the following requirements:

   a. More than 30% passing a No. 200 mesh sieve
   b. Liquid limit greater than 30%
   c. Plasticity index greater than 15
   d. A minimum thickness of 2 feet
   e. Permeability equal to or less than 1x10-7 cm/sec
   f. Soil compaction will be 95% standard proctor at optimum moisture content

   The permittee shall furnish certification by a Texas Licensed Professional Engineer that the completed lining meets the appropriate criteria above prior to utilization of the facilities. The certification shall be sent to the TCEQ Regional Office (MC Region 14) and the Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division.

6. This permit does not authorize the composting of grease or grease trap waste. Any such authorization shall be in accordance with Commission regulations in 30 TAC Chapter 332.

7. The following is a list of site management restrictions for Class A and Class AB bulk biosolids agricultural land, forest, or a reclamation sites:

   a. A bulk biosolids agricultural land, forest, or a reclamation site may not be applied during rainstorms or during periods in which surface soils are water-saturated, and when pooling of water is evident on the land application site.

   b. The operator shall manage a bulk biosolids agricultural land, forest, or a reclamation site according to the Adverse Weather and Alternative Plan. This plan details procedures to address times when the bulk biosolids cannot be applied to the land application site due to adverse weather or other conditions such as wind, precipitation, field preparation delays, and access road limitations.

   c. A bulk biosolids agricultural land, forest, or a reclamation site location must be selected and operated in a manner to prevent public health nuisances.

   d. An operator of a bulk biosolids agricultural land, forest, or a reclamation site may not accept bulk biosolids, unless the biosolids are transported to the land application unit in a covered container with the covering firmly secured at the front and back.

   e. If the bulk biosolids are Class AB as per the pathogen reduction alternatives in 30 TAC §312.82(a)(2), then the management practices under 30 TAC §312.44 shall be met in addition to the section V.B.7 (a-d) of this permit.

C. Monitoring Requirements

Toxicity Characteristic Leaching Procedure (TCLP) Test	-	Once/Year
PCBs	-	Once/Year

All metal constituents, pathogen density requirements and vector attraction reduction requirements shall be monitored at the appropriate frequency pursuant to 30 TAC §312.46(a)(1).

D. Notification Requirements

The permittee shall inform TCEQ through a letter whenever the biosolids are given to a new bulk biosolids agricultural land, forest, or a reclamation site recipient directly by the generator. The notification letter shall include:

1. The recipient's name, address, phone number, the longitude and latitude of the site, and the number of acres the intended to be used.
2. If Class AB, a site map showing the buffer zone areas required under §312.44(c)(2)(D) and (E)
3. Authorization number and biosolids source name.
4. Must be signed and dated by the responsible person.
5. Complete name and title, telephone number and the address of the person signing the letter.

E. Recordkeeping Requirements

The person who prepares bulk biosolids in 30 TAC §312.41(b)(1) or in 30 TAC §312.41(e) shall develop the following information and shall retain the information on-site for five years.

1. The concentration (mg/kg) in the biosolids of each pollutant listed in Section II. A. (30 TAC §312.43(b)(3) Table 3).
2. A description of how the pathogen reduction requirements are met.
3. A description of how the vector attraction reduction requirements are met.
4. The annual whole application rate for the biosolids that does not cause the annual pollutant loading rates in Table 4 to be exceeded.
5. The following certification statement: "I certify, under penalty of law, that the pathogen requirements in 30 TAC §312.82 and the vector attraction reduction requirement in (insert one of the vector attraction reduction requirements in §312.83(b)(1)-(8)) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

The above records shall be maintained on-site on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

F. Reporting Requirements

The permittee shall report annually to the TCEQ Regional Office (MC Region 14) and the Water Quality Compliance Monitoring Team (MC 224) of the Enforcement Division by September 30th of each year the following information:

1. Results of tests performed for pollutants found in 30 TAC §312.43(b)(3) Table 3.
2. The frequency of monitoring listed in Section I.C. which applies to the permittee.
3. Toxicity Characteristic Leaching Procedure (TCLP) results.
4. PCB concentration in sludge in mg/kg.
5. Documentation of the level of pathogen reduction achieved.
6. As listed in Section I.B.3.(a), describe how the pathogen reduction requirements were met.
7. Vector attraction reduction alternative used as listed in Section I.B.4.
8. Annual biosolids production in dry tons/year.
9. Amount of biosolids land applied in dry tons/year.
10. The following certification statement: "I certify, under penalty of law, that the pathogen requirements in 30 TAC §312.82 and the vector attraction reduction requirement in (insert one of the vector attraction reduction requirements in §312.83(b)(1)-(8)) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen requirements and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment." The certification statement shall be attached to the annual reporting form.

    The above records shall be maintained on a monthly basis and shall be made available to the Texas Commission on Environmental Quality upon request.

SECTION V. REQUIREMENTS APPLYING TO SLUDGE OR BIOSOLIDS TRANSPORTED TO ANOTHER FACILITY FOR FURTHER PROCESSING

These provisions apply to sludge or biosolids that is transported to another wastewater treatment facility or facility that further processes sludge or biosolids. These provisions are intended to allow transport of sludge or biosolids to facilities that have been authorized to accept sludge or biosolids. These provisions do not limit the ability of the receiving facility to determine whether to accept the sludge or biosolids, nor do they limit the ability of the receiving facility to request additional testing or documentation.

A. General Requirements

1. The permittee shall handle and dispose of sewage sludge or biosolids in accordance with 30 TAC Chapter 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.

2. Sludge or biosolids may only be transported using a registered transporter or using an approved pipeline.

B. Record Keeping Requirements

1. For sludge or biosolids transported by an approved pipeline, the permittee must maintain records of the following:

   a. the amount of sludge or biosolids transported;

   b. the date of transport;

   c. the name and TCEQ permit number of the receiving facility or facilities;

   d. the location of the receiving facility or facilities;

   e. the name and TCEQ permit number of the facility that generated the waste; and

   f. copy of the written agreement between the permittee and the receiving facility to accept sludge or biosolids.

2. For sludge or biosolids transported by a registered transporter, the permittee must maintain records of the completed trip tickets in accordance with 30 TAC § 312.145(a)(1)-(7) and amount of sludge or biosolids transported.

3. The above records shall be maintained on-site on a monthly basis and shall be made available to the TCEQ upon request. These records shall be retained for at least five years.

C. Reporting Requirements

The permittee shall submit the following information in an annual report to the TCEQ by September 30th of each year. The permittee must submit this annual report using the online electronic reporting system available through TCEQ's website. If the permittee requests and obtains an electronic reporting waiver, the annual report can be submitted in hard copy to the TCEQ Regional Office (MC Region 14) and Enforcement Division (MC 224).

1. Identify in the following categories (as applicable) the sewage sludge or biosolids treatment process or processes at the facility: preliminary operations (e.g., sludge or biosolids grinding and degritting), thickening (concentration), stabilization, anaerobic digestion, aerobic digestion, composting, conditioning, disinfection (e.g., beta ray irradiation, gamma ray irradiation, pasteurization), dewatering (e.g., centrifugation, sludge drying beds, sludge lagoons), heat drying, thermal reduction, and methane or biogas capture and recovery.

2. the annual sludge or biosolids production;

3. the amount of sludge or biosolids transported;

4. the owner of each receiving facility;

5. the location of each receiving facility; and

6. the date(s) of disposal at each receiving facility.

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OTHER REQUIREMENTS

1. The permittee shall employ or contract with one or more licensed wastewater treatment facility operators or wastewater system operations companies holding a valid license or registration according to the requirements of 30 TAC Chapter 30, Occupational Licenses and Registrations, and in particular 30 TAC Chapter 30, Subchapter J, Wastewater Operators and Operations Companies.

   This Category C facility must be operated by a chief operator or an operator holding a Class C license or higher. The facility must be operated a minimum of five days per week by the licensed chief operator or an operator holding the required level of license or higher. The licensed chief operator or operator holding the required level of license or higher must be available by telephone or pager seven days per week. Where shift operation of the wastewater treatment facility is necessary, each shift that does not have the on-site supervision of the licensed chief operator must be supervised by an operator in charge who is licensed not less than one level below the category for the facility.

2. The facility is not located in the Coastal Management Program boundary.

3. The permittee shall comply with the requirements of 30 TAC § 309.13(a) through (d). In addition, by ownership of the required buffer zone area, the permittee shall comply with the requirements of 30 TAC § 309.13(e).

4. The permittee shall provide facilities for the protection of its wastewater treatment facility from a 100-year flood.

5. In accordance with 30 TAC § 319.9, a permittee that has at least twelve months of uninterrupted compliance with its bacteria limit may notify the commission in writing of its compliance and request a less frequent measurement schedule. To request a less frequent schedule, the permittee shall submit a written request to the TCEQ Wastewater Permitting Section (MC 148) for each phase that includes a different monitoring frequency. The request must contain all of the reported bacteria values (Daily Avg. and Daily Max/Single Grab) for the twelve consecutive months immediately prior to the request. If the Executive Director finds that a less frequent measurement schedule is protective of human health and the environment, the permittee may be given a less frequent measurement schedule. For this permit, 2/month may be reduced to 1/month. **A violation of any bacteria limit by a facility that has been granted a less frequent measurement schedule will require the permittee to return to the standard frequency schedule and submit written notice to the TCEQ Wastewater Permitting Section (MC 148).** The permittee may not apply for another reduction in measurement frequency for at least 24 months from the date of the last violation. The Executive Director may establish a more frequent measurement schedule if necessary to protect human health or the environment.

CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

1. The following pollutants may not be introduced into the treatment facility:

    a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, waste streams with a closed-cup flash point of less than 140° Fahrenheit (60° Celsius) using the test methods specified in 40 CFR § 261.21;

    b. Pollutants which will cause corrosive structural damage to the POTW, but in no case shall there be discharges with a pH lower than 5.0 standard units, unless the works are specifically designed to accommodate such discharges;

    c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference;

    d. Any pollutant, including oxygen-demanding pollutants (e.g., biochemical oxygen demand or BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW;

    e. Heat in amounts which will inhibit biological activity in the POTW, resulting in Interference, but in no case shall there be heat in such quantities that the temperature at the POTW treatment plant exceeds 104° Fahrenheit (40° Celsius) unless the Executive Director, upon request of the POTW, approves alternate temperature limits;

    f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause Interference or Pass Through;

    g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and

    h. Any trucked or hauled pollutants except at discharge points designated by the POTW.

2. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Clean Water Act, including any requirements established under 40 CFR Part 403 *[rev. Federal Register/ Vol. 70/ No. 198/ Friday, October 14, 2005/ Rules and Regulations, pages 60134-60798].*

3. The permittee shall provide adequate notification to the Executive Director, care of the Wastewater Permitting Section (MC 148) of the Water Quality Division, within 30 days subsequent to the permittee's knowledge of either of the following:

    a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Clean Water Act if it were directly discharging those pollutants; and

    b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.

    Any notice shall include information on the quality and quantity of effluent to be introduced into the treatment works and any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

Revised July 2007

STATEMENT OF BASIS/TECHNICAL SUMMARY
AND EXECUTIVE DIRECTOR'S PRELIMINARY DECISION

DESCRIPTION OF APPLICATION

Applicant:	City of Yoakum Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0010463001, EPA ID No. TX0026034
Regulated Activity:	Domestic Wastewater Permit
Type of Application:	Renewal
Request:	Renewal with no changes
Authority:	Federal Clean Water Act (CWA) § 402; Texas Water Code (TWC) § 26.027; 30 Texas Administrative Code (TAC) Chapters 30, 305, 307, 309, 312, and 319; Commission policies; and United States Environmental Protection Agency (EPA) guidelines.

EXECUTIVE DIRECTOR RECOMMENDATION

The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The draft permit includes an expiration date of **five years from the date of issuance**.

REASON FOR PROJECT PROPOSED

The applicant has applied to the Texas Commission on Environmental Quality (TCEQ) for a renewal of the existing permit that authorizes the discharge of treated domestic wastewater at a daily average flow not to exceed 0.95 million gallons per day (MGD). The existing wastewater treatment facility serves the City of Yoakum, Lavaca County, and Dewitt County, Texas.

PROJECT DESCRIPTION AND LOCATION

The City of Yoakum Wastewater Treatment Facility is an activated sludge process plant operated in the extended aeration mode. Treatment units include two bar screens, an on-site lift station, an emergency holding pond, a grit chamber, two aeration basins, two final clarifiers, a gravity sludge thickener, an aerobic sludge holding tank, a belt filter press, and two chlorine contact chambers. The facility is in operation.

Sludge generated from the treatment facility is transported on-site to a sludge composting facility, where it is periodically mixed with tree brush and is then marketed and distributed. The draft permit authorizes for Distribution and Marketing of sludge. The draft permit does authorize the permittee to land apply Class A or Class AB bulk sludge on property owned, leased, or under the direct control of the permittee. The draft permit does not authorize the permittee to land apply Class B sludge on property owned, leased or under the direct control of the permittee. The draft permit also authorizes the disposal of sludge at a TCEQ-authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge.

The plant site is located approximately 1 mile southwest of the intersection of Dunn Street and State Highway 111, near the City of Yoakum, in Dewitt County, Texas 77995.

Outfall Location:

Outfall Number	Latitude	Longitude
001	29.273063 N	97.157809 W

The treated effluent is discharged to Big Brushy Creek, thence to Clarks Creek; thence to Lavaca River Above Tidal in Segment No. 1602 of the Lavaca River Basin. The unclassified receiving water use is high aquatic life use for Big Brushy Creek. The designated uses for Segment No. 1602 are primary contact recreation, public water supply, and high aquatic life use. The effluent limitations in the draft permit will maintain and protect the existing instream uses. All determinations are preliminary and subject to additional review and/or revisions.

Effluent limitations for the conventional effluent parameters (i.e., Five-Day Biochemical Oxygen Demand or Five-Day Carbonaceous Biochemical Oxygen Demand, Ammonia Nitrogen, etc.) are based on stream standards and waste load allocations for water-quality limited streams as established in the Texas Surface Water Quality Standards (TSWQS) and the State of Texas Water Quality Management Plan (WQMP).

In a case such as this, end-of-pipe compliance with pH limits between 6.0 and 9.0 standard units reasonably assures instream compliance with the TSWQS for pH when the discharge authorized is from a minor facility. This technology-based approach reasonably assures instream compliance with TSWQS criteria due to the relatively smaller discharge volumes authorized by these permits. This conservative assumption is based on TCEQ sampling conducted throughout the state which indicates that instream buffering quickly restores pH levels to ambient conditions. Similarly, this approach has been historically applied within EPA issued NPDES general permits where technology-based pH limits were established to be protective of water quality criteria.

The effluent limitations in the draft permit have been reviewed for consistency with the WQMP. The proposed effluent limitations are contained in the approved WQMP.

The discharge from this permit action is not expected to have an effect on any federal endangered or threatened aquatic or aquatic-dependent species or proposed species or their critical habitat. This determination is based on the United States Fish and Wildlife Service's (USFWS's) biological opinion on the State of Texas authorization of the TPDES (September 14, 1998; October 21, 1998, update). To make this determination for TPDES permits, TCEQ and EPA only considered aquatic or aquatic-dependent species occurring in watersheds of critical concern or high priority as listed in Appendix A of the USFWS biological opinion. The determination is subject to reevaluation due to subsequent updates or amendments to the biological opinion. The permit does not require EPA review with respect to the presence of endangered or threatened species.

Segment No. 1602 is currently listed on the state's inventory of impaired and threatened waters (the 2022 CWA § 303(d) list). The list if for elevated levels of bacteria from the confluence of Beard Branch upstream to the upper end of segment at the confluence of Campbell Branch in Hallettsville (AU 1602_02). This facility is designed to provide adequate disinfection and, when

operated properly, should not add to the bacterial impairment of the segment. In addition, in order to ensure that the proposed discharge meets the stream bacterial standard, an effluent limitation of 126 colony-forming units (CFU) or most probable number (MPN) of *Escherichia coli* (*E. coli*) per 100 ml has been added to the draft permit.

SUMMARY OF EFFLUENT DATA

The following is a summary of the applicant's effluent monitoring data for the period July 2022 through July 2024. The average of Daily Average value is computed by the averaging of all 30-day average values for the reporting period for each parameter: flow, five-day carbonaceous biochemical oxygen demand ($CBOD_5$), total suspended solids (TSS), and ammonia nitrogen (NH_3-N). The average of Daily Average value for *E. coli* in colony-forming units (CFU) or most probable number (MPN) per 100 ml is calculated via geometric mean.

Parameter	Average of Daily Average
Flow, MGD	0.56
$CBOD_5$, mg/l	2.0
TSS, mg/l	3.0
NH_3-N, mg/l	0.46
E. coli, CFU or MPN per 100 ml	1

DRAFT PERMIT CONDITIONS

The draft permit authorizes a discharge of treated domestic wastewater at a volume not to exceed a daily average flow of 0.95 MGD.

The effluent limitations in the draft permit, based on a 30-day average, are 10 mg/l $CBOD_5$, 15 mg/l TSS, 3 mg/l NH_3-N, 126 CFU or MPN of *E. coli* per 100 ml, and 5.0 mg/l minimum dissolved oxygen (DO). The effluent shall contain a total chlorine residual of at least 1.0 mg/l and shall not exceed a total chlorine residual of 4.0 mg/l after a detention time of at least 20 minutes based on peak flow.

The City of Yoakum WWTP does not appear to receive significant industrial wastewater contributions. The WWTP receives process wastewater from one significant industrial user (SIU) and one Categorical Industrial User (CIU). The combined process wastewater flow from the SIU and CIU contribute less than 1.056526% of the WWTP current maximum hydraulic capacity. The POTW has not experienced any instances of pass through or interference, therefore, at this time, the TCEQ is not requiring the permittee to develop a pretreatment program. Permit requirements for pretreatment are based on TPDES regulations contained in 30 TAC Chapter 305 which references 40 CFR Part 403, General Pretreatment Regulations for Existing and New Sources of Pollution *[rev. Federal Register/ Vol. 70/ No. 198/ Friday, October 14, 2005/ Rules and Regulations, pages 60134-60798].* The permit includes specific requirements that establish responsibilities of local government, industry, and the public to implement the standards to control pollutants which pass through or interfere with treatment processes in publicly owned treatment works or which may contaminate the sewage sludge. This permit has appropriate pretreatment language for a facility of this size and complexity.

The draft permit includes Sludge Provisions according to the requirements of 30 TAC Chapter 312, Sludge Use, Disposal, and Transportation. Sludge generated from the treatment facility is

transported on-site to a sludge composting facility, where it is periodically mixed with tree brush and is then marketed and distributed. The draft permit authorizes for Distribution and Marketing of sludge. The draft permit does authorize the permittee to land apply Class A or Class AB bulk sludge on property owned, leased, or under the direct control of the permittee. The draft permit does not authorize the permittee to land apply Class B sludge on property owned, leased or under the direct control of the permittee. The draft permit also authorizes the disposal of sludge at a TCEQ-authorized land application site, co-disposal landfill, wastewater treatment facility, or facility that further processes sludge.

SUMMARY OF CHANGES FROM APPLICATION

None.

SUMMARY OF CHANGES FROM EXISTING PERMIT

Effluent limitations and monitoring requirements in the draft permit remain the same as the existing permit requirements.

The Standard Permit Conditions, Sludge Provisions, and Other Requirements sections of the draft permit have been updated. The pretreatment language has not been updated from the current permit. The pretreatment requirements will continue until permit expiration.

For Publicly Owned Treatment Works (POTWs), effective December 21, 2025, the permittee must submit the written report for unauthorized discharges and unanticipated bypasses that exceed any effluent limit in the permit using the online electronic reporting system available through the TCEQ website unless the permittee requests and obtains an electronic reporting waiver.

Certain accidental discharges or spills of treated or untreated wastewater from wastewater treatment facilities or collection systems owned or operated by a local government may be reported on a monthly basis in accordance with 30 TAC § 305.132.

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

BASIS FOR DRAFT PERMIT

The following items were considered in developing the draft permit:

1. Application received on August 6, 2024, and additional information received on August 23, 2024.

2. TPDES Permit No. WQ0010463001 issued on February 11, 2020.

3. The effluent limitations and conditions in the draft permit comply with EPA-approved portions of the 2018 Texas Surface Water Quality Standards (TSWQS), 30 TAC §§ 307.1 - 307.10, effective March 1, 2018; 2014 TSWQS, effective March 6, 2014; 2010 TSWQS, effective July 22, 2010; and 2000 TSWQS, effective July 26, 2000.

4. The effluent limitations in the draft permit meet the requirements for secondary treatment and the requirements for disinfection according to 30 TAC Chapter 309, Subchapter A: Effluent Limitations.

5. Interoffice Memoranda from the Water Quality Assessment Section of the TCEQ Water Quality Division. Interoffice Memorandum from the Pretreatment Team of the TCEQ Water Quality Division.

6. Consistency with the Coastal Management Plan: The facility is not located in the Coastal Management Program boundary.

7. *Procedures to Implement the Texas Surface Water Quality Standards* (IP), Texas Commission on Environmental Quality, June 2010, as approved by EPA, and the IP, January 2003, for portions of the 2010 IP not approved by EPA.

8. Texas 2022 Clean Water Act Section 303(d) List, Texas Commission on Environmental Quality, June 1, 2022; approved by the U.S. Environmental Protection Agency on July 7, 2022.

9. Texas Natural Resource Conservation Commission, Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits, Document No. 98-001.000-OWR-WQ, May 1998.

10. Total Maximum Daily Load (TMDL) project 108C: *Two Total Maximum Daily Loads for Indicator Bacteria in Lavaca River Above Tidal and Rocky Creek* has been approved for this segment. An addendum to the original Project No. 108C TMDL subsequently added additional assessment units to the original TMDL project.

PROCEDURES FOR FINAL DECISION

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

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

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

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

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

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

For additional information about this application, contact Kimberly Kendall, P.E. at (512) 239-4540.

Kimberly Kendall, P.E.
Municipal Permits Team
Wastewater Permitting Section (MC 148)

Date

CITY OF YOAKUM
WASTEWATER TREATMENT PLANT

TCEQ DOMESTIC WASTEWATER PERMIT APPLICATION

(RENEWAL)

TPDES Permit No. WQ0010463001

August 2024

Prepared by:

TRC Engineers, Inc.
505 E. Huntland Drive, Suite 250
Austin, Texas 78752
512-454-8716

TBPE Firm Registration #F-8632

YOAKUM WASTWATER TREAMENT FACILITY
TCEQ DOMESTIC WASTEWATER PERMIT RENEWAL APPLICATION
TPDES PERMIT NO. WQ0010463001

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APPLICATION DOCUMENTS

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ATTACHMENTS

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION CHECKLIST

Complete and submit this checklist with the application.

APPLICANT NAME: City of Yoakum

PERMIT NUMBER (If new, leave blank): WQ00 10463001

Indicate if each of the following items is included in your application.

	Y	N		Y	N
Administrative Report 1.0	☒	☐	Original USGS Map	☒	☐
Administrative Report 1.1	☐	☒	Affected Landowners Map	☐	☒
SPIF	☒	☐	Landowner Disk or Labels	☐	☒
Core Data Form	☒	☐	Buffer Zone Map	☐	☒
Public Involvement Plan Form	☒	☐	Flow Diagram	☒	☐
Technical Report 1.0	☒	☐	Site Drawing	☒	☐
Technical Report 1.1	☐	☒	Original Photographs	☐	☒
Worksheet 2.0	☒	☐	Design Calculations	☐	☒
Worksheet 2.1	☐	☒	Solids Management Plan	☐	☒
Worksheet 3.0	☐	☒	Water Balance	☐	☒
Worksheet 3.1	☐	☒			
Worksheet 3.2	☐	☒			
Worksheet 3.3	☐	☒			
Worksheet 4.0	☐	☒			
Worksheet 5.0	☐	☒			
Worksheet 6.0	☒	☐			
Worksheet 7.0	☐	☒			

For TCEQ Use Only

Segment Number _____County _____
Expiration Date _____Region_____
Permit Number _____

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION ADMINISTRATIVE REPORT 1.0

For any questions about this form, please contact the Applications Review and Processing Team at 512-239-4671.

Section 1. Application Fees (Instructions Page 26)

Indicate the amount submitted for the application fee (check only one).

Flow	New/Major Amendment	Renewal
<0.05 MGD	$350.00 ☐	$315.00 ☐
≥0.05 but <0.10 MGD	$550.00 ☐	$515.00 ☐
≥0.10 but <0.25 MGD	$850.00 ☐	$815.00 ☐
≥0.25 but <0.50 MGD	$1,250.00 ☐	$1,215.00 ☐
≥0.50 but <1.0 MGD	$1,650.00 ☐	$1,615.00 ☒
≥1.0 MGD	$2,050.00 ☐	$2,015.00 ☐

Minor Amendment (for any flow) $150.00 ☐

Payment Information:

Mailed — Check/Money Order Number: 093210

Check/Money Order Amount: $1,615.00

Name Printed on Check: City of Yoakum

EPAY — Voucher Number: Click to enter text.

Copy of Payment Voucher enclosed? Yes ☐

Section 2. Type of Application (Instructions Page 26)

a. Check the box next to the appropriate authorization type.

☒ Publicly-Owned Domestic Wastewater

☐ Privately-Owned Domestic Wastewater

☐ Conventional Wastewater Treatment

b. Check the box next to the appropriate facility status.

☒ Active ☐ Inactive

c. Check the box next to the appropriate permit type.

- ☒ TPDES Permit
- ☐ TLAP
- ☐ TPDES Permit with TLAP component
- ☐ Subsurface Area Drip Dispersal System (SADDS)

d. Check the box next to the appropriate application type

- ☐ New
- ☐ Major Amendment *with* Renewal
- ☐ Major Amendment *without* Renewal
- ☒ Renewal without changes
- ☐ Minor Amendment *with* Renewal
- ☐ Minor Amendment *without* Renewal
- ☐ Minor Modification of permit

e. For amendments or modifications, describe the proposed changes: Click to enter text.

f. For existing permits:

Permit Number: WQ00 10463001

EPA I.D. (TPDES only): TX 0026034

Expiration Date: 02/11/2025

Section 3. Facility Owner (Applicant) and Co-Applicant Information (Instructions Page 26)

A. The owner of the facility must apply for the permit.

What is the Legal Name of the entity (applicant) applying for this permit?

City of Yoakum

(The legal name must be spelled exactly as filed with the Texas Secretary of State, County, or in the legal documents forming the entity.)

If the applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at http://www15.tceq.texas.gov/crpub/

CN: 600625529

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in *30 TAC § 305.44*.

Prefix: Mr. Last Name, First Name: Mitchell, Michael

Title: City Manager Credential: Click to enter text.

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

What is the Legal Name of the co-applicant applying for this permit?

Click to enter text.

(The legal name must be spelled exactly as filed with the TX SOS, with the County, or in the legal documents forming the entity.)

If the co-applicant is currently a customer with the TCEQ, what is the Customer Number (CN)? You may search for your CN on the TCEQ website at: http://www15.tceq.texas.gov/crpub/

CN: Click to enter text.

What is the name and title of the person signing the application? The person must be an executive official meeting signatory requirements in *30 TAC § 305.44*.

Prefix: Click to enter text. Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Provide a brief description of the need for a co-permittee: Click to enter text.

C. Core Data Form

Complete the Core Data Form for each customer and include as an attachment. If the customer type selected on the Core Data Form is **Individual**, complete **Attachment 1** of Administrative Report 1.0. Attachment 1

Section 4. Application Contact Information (Instructions Page 27)

This is the person(s) TCEQ will contact if additional information is needed about this application. Provide a contact for administrative questions and technical questions.

A. Prefix: Mr. Last Name, First Name: Mitchell, Michael

Title: City Manager Credential: Click to enter text.

Organization Name: City of Yoakum

Mailing Address: P.O. Box 738 City, State, Zip Code: Yoakum, TX 77995

Phone No.: 361-293-6321 E-mail Address: citymanager@cityofyoakum.org

Check one or both: ☒ Administrative Contact ☐ Technical Contact

B. Prefix: Mr. Last Name, First Name: Wachel, William

Title: Vice President Credential: P.E.

Organization Name: TRC Engineers, Inc.

Mailing Address: 505 E. Huntland Dr., Suite 250 City, State, Zip Code: Austin, TX 78752

Phone No.: 512-201-1207 E-mail Address: Wwachel@trccompanies.com

Check one or both: ☐ Administrative Contact ☒ Technical Contact

Section 5. Permit Contact Information (Instructions Page 27)

Provide the names and contact information for two individuals that can be contacted throughout the permit term.

A. Prefix: Mr. Last Name, First Name: Mitchell, Michael

Title:City Manager Credential: Click to enter text.

Organization Name: City of Yoakum

Mailing Address: P.O. Box 738 City, State, Zip Code: Yoakum, TX, 77995

Phone No.: 361-293-6321 E-mail Address: citymanager@cityofyoakum.org

B. Prefix: Mr. Last Name, First Name: Wachel, William

Title: Vice President Credential: P.E.

Organization Name: TRC Engineers, Inc.

Mailing Address: 505 E. Huntland Dr., Suite 250 City, State, Zip Code: Austin, TX, 78752

Phone No.: 512-201-1207 E-mail Address: Wwachel@trccompanies.com

Section 6. Billing Contact Information (Instructions Page 27)

The permittee is responsible for paying the annual fee. The annual fee will be assessed to permits ***in effect on September 1 of each year***. The TCEQ will send a bill to the address provided in this section. The permittee is responsible for terminating the permit when it is no longer needed (using form TCEQ-20029).

Prefix: Mr. Last Name, First Name: Mitchell, Michael

Title: City Manager Credential: Click to enter text.

Organization Name: City of Yoakum

Mailing Address: P.O. Box 738 City, State, Zip Code: Yoakum, TX, 77995

Phone No.: 361-293-6321 E-mail Address: citymanager@cityofyoakum.org

Section 7. DMR/MER Contact Information (Instructions Page 27)

Provide the name and complete mailing address of the person delegated to receive and submit Discharge Monitoring Reports (DMR) (EPA 3320-1) or maintain Monthly Effluent Reports (MER).

Prefix: Mr. Last Name, First Name: Foutz, Jonathan

Title: Water and Wastewater Superintendent Credential: Click to enter text.

Organization Name: City of Yoakum

Mailing Address: P.O. Box 738 City, State, Zip Code: Yoakum, TX, 77995

Phone No.: 361-293-6321 E-mail Address: jfoutz@cityofyoakum.org

Section 8. Public Notice Information (Instructions Page 27)

A. Individual Publishing the Notices

Prefix: Ms. Last Name, First Name: Bowe, Theresa

Title: City Clerk/Personnel Director/Local Registrar Credential: Click to enter text.

Organization Name: City of Yoakum

Mailing Address: P.O. Box 738 City, State, Zip Code: Yoakum, TX, 77995

Phone No.: 361-293-6321 E-mail Address: tbowe@cityofyoakum.org

B. Method for Receiving Notice of Receipt and Intent to Obtain a Water Quality Permit Package

Indicate by a check mark the preferred method for receiving the first notice and instructions:

☐ E-mail Address

☐ Fax

☒ Regular Mail

C. Contact permit to be listed in the Notices

Prefix: Mr. Last Name, First Name: Mitchell, Michael

Title: City Manager Credential: Click to enter text.

Organization Name: City of Yoakum

Mailing Address: P.O. Box 738 City, State, Zip Code: Yoakum, TX, 77995

Phone No.: 361-293-6321 E-mail Address: citymanager@cityofyoakum.org

D. Public Viewing Information

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

Public building name: City Hall

Location within the building: City Clerk's Office

Physical Address of Building: 808 U.S. Highway 77A South

City: Yoakum County: Dewitt

Contact (Last Name, First Name): Mitchell, Michael

Phone No.: 361-293-6321 Ext.: Click to enter text.

E. Bilingual Notice Requirements

This information **is required** for **new, major amendment, minor amendment or minor modification, and renewal** applications.

This section of the application is only used to determine if alternative language notices will be needed. Complete instructions on publishing the alternative language notices will be in your public notice package.

Please call the bilingual/ESL coordinator at the nearest elementary and middle schools and obtain the following information to determine whether an alternative language notices are required.

1. Is a bilingual education program required by the Texas Education Code at the elementary or middle school nearest to the facility or proposed facility?

   ☐ Yes ☒ No

   If **no**, publication of an alternative language notice is not required; **skip to** Section 9 below.

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 **question 1, 2, 3, or 4**, public notices in an alternative language are required. Which language is required by the bilingual program? Click to enter text.

F. Plain Language Summary Template

Complete the Plain Language Summary (TCEQ Form 20972) and include as an attachment.

Attachment: Attachment 2

G. Public Involvement Plan Form

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

Attachment: Click to enter text.

Section 9. Regulated Entity and Permitted Site Information (Instructions Page 29)

A. If the site is currently regulated by TCEQ, provide the Regulated Entity Number (RN) issued to this site. **RN** 102805389

Search the TCEQ's Central Registry at http://www15.tceq.texas.gov/crpub/ to determine if the site is currently regulated by TCEQ.

B. Name of project or site (the name known by the community where located):

City of Yoakum WWTP

C. Owner of treatment facility: City of Yoakum

Ownership of Facility: ☒ Public ☐ Private ☐ Both ☐ Federal

D. Owner of land where treatment facility is or will be:

Prefix: Click to enter text. Last Name, First Name: City of Yoakum

Title: Click to enter text. Credential: Click to enter text.

Organization Name: City of Yoakum

Mailing Address: P.O. Box 738 City, State, Zip Code: Yoakum, TX, 77995

Phone No.: 361-293-6321 E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

E. Owner of effluent disposal site:

Prefix: Click to enter text. Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City, State, Zip Code: Click to enter text.

Phone No.: Click to enter text. E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

F. Owner sewage sludge disposal site (if authorization is requested for sludge disposal on property owned or controlled by the applicant)::

Prefix: Click to enter text. Last Name, First Name: Click to enter text.

Title: Click to enter text. Credential: Click to enter text.

Organization Name: Click to enter text.

Mailing Address: Click to enter text. City, State, Zip Code: Click to enter text.

Phone No.: Click to enter text. E-mail Address: Click to enter text.

If the landowner is not the same person as the facility owner or co-applicant, attach a lease agreement or deed recorded easement. See instructions.

Attachment: Click to enter text.

Section 10. TPDES Discharge Information (Instructions Page 31)

A. Is the wastewater treatment facility location in the existing permit accurate?

☒ Yes ☐ No

If **no**, **or a new permit application**, please give an accurate description:

Click to enter text.

B. Are the point(s) of discharge and the discharge route(s) in the existing permit correct?

☒ Yes ☐ No

If **no**, **or a new or amendment permit application**, provide an accurate description of the point of discharge and the discharge route to the nearest classified segment as defined in 30 TAC Chapter 307:

Click to enter text.

City nearest the outfall(s): Yoakum

County in which the outfalls(s) is/are located: Dewitt

C. Is or will the treated wastewater discharge to a city, county, or state highway right-of-way, or a flood control district drainage ditch?

☐ Yes ☒ No

If **yes**, indicate by a check mark if:

☐ Authorization granted ☐ Authorization pending

For **new and amendment** applications, provide copies of letters that show proof of contact and the approval letter upon receipt.

Attachment: Click to enter text.

D. For all applications involving an average daily discharge of 5 MGD or more, provide the names of all counties located within 100 statute miles downstream of the point(s) of discharge: Click to enter text.

Section 11. TLAP Disposal Information (Instructions Page 32)

A. For TLAPs, is the location of the effluent disposal site in the existing permit accurate?

☐ Yes ☐ No

If **no, or a new or amendment permit application**, provide an accurate description of the disposal site location:

Click to enter text.

B. City nearest the disposal site: Click to enter text.

C. County in which the disposal site is located: Click to enter text.

D. For **TLAPs**, describe the routing of effluent from the treatment facility to the disposal site:

Click to enter text.

E. For **TLAPs**, please identify the nearest watercourse to the disposal site to which rainfall runoff might flow if not contained: Click to enter text.

Section 12. Miscellaneous Information (Instructions Page 32)

A. Is the facility located on or does the treated effluent cross American Indian Land?

☐ Yes ☒ No

B. If the existing permit contains an onsite sludge disposal authorization, is the location of the sewage sludge disposal site in the existing permit accurate?

☒ Yes ☐ No ☐ Not Applicable

If No, or if a new onsite sludge disposal authorization is being requested in this permit application, provide an accurate location description of the sewage sludge disposal site.

Click to enter text.

C. Did any person formerly employed by the TCEQ represent your company and get paid for service regarding this application?

☐ Yes ☒ No

If yes, list each person formerly employed by the TCEQ who represented your company and was paid for service regarding the application: Click to enter text.

D. Do you owe any fees to the TCEQ?

☐ Yes ☒ No

If **yes**, provide the following information:

Account number: Click to enter text.

Amount past due: Click to enter text.

E. Do you owe any penalties to the TCEQ?

☐ Yes ☒ No

If **yes**, please provide the following information:

Enforcement order number: Click to enter text.

Amount past due: Click to enter text.

Section 13. Attachments (Instructions Page 33)

Indicate which attachments are included with the Administrative Report. Check all that apply:

☐ Lease agreement or deed recorded easement, if the land where the treatment facility is located or the effluent disposal site are not owned by the applicant or co-applicant.

☒ Original full-size USGS Topographic Map with the following information:

Attachment 3

- Applicant's property boundary
- Treatment facility boundary
- Labeled point of discharge for each discharge point (TPDES only)
- Highlighted discharge route for each discharge point (TPDES only)
- Onsite sewage sludge disposal site (if applicable)
- Effluent disposal site boundaries (TLAP only)
- New and future construction (if applicable)
- 1 mile radius information
- 3 miles downstream information (TPDES only)
- All ponds.

☐ Attachment 1 for Individuals as co-applicants

☐ Other Attachments. Please specify: Click to enter text.

Section 14. Signature Page (Instructions Page 34)

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

Permit Number: WQ0010463001

Applicant: City of Yoakum

Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

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 (typed or printed):

Signatory title: C. MGR

Signature: Michael Mitchell Date: 7-25-2024

(Use blue ink)

Subscribed and Sworn to before me by the said_____

on this_____day of_____, 20_____.

My commission expires on the_____day of_____, 20_____.

_____

Notary Public *[SEAL]*

_____

County, Texas

DOMESTIC WASTEWATER PERMIT APPLICATION

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

This form applies to TPDES permit applications only. Complete and attach the Supplemental Permit information Form (SPIF) (TCEQ Form 20971).

Attachment: Attachment 4

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DOMESTIC WASTEWATER PERMIT APPLICATION TECHNICAL REPORT 1.0

For any questions about this form, please contact the Domestic Wastewater Permitting Team at 512-239-4671.

The following information is required for all renewal, new, and amendment applications.

Section 1. Permitted or Proposed Flows (Instructions Page 43)

A. Existing/Interim I Phase

Design Flow (MGD): 0.95

2-Hr Peak Flow (MGD): 5.00

Estimated construction start date: N/A

Estimated waste disposal start date: N/A

B. Interim II Phase

Design Flow (MGD): N/A

2-Hr Peak Flow (MGD): N/A

Estimated construction start date: N/A

Estimated waste disposal start date: N/A

C. Final Phase

Design Flow (MGD): 0.95

2-Hr Peak Flow (MGD): 5.00

Estimated construction start date: N/A

Estimated waste disposal start date: N/A

D. Current Operating Phase

Provide the startup date of the facility: 04/27/1998

Section 2. Treatment Process (Instructions Page 43)

A. Current Operating Phase

Provide a detailed description of the treatment process. **Include the type of treatment plant, mode of operation, and all treatment units.** Start with the plant's head works and

finish with the point of discharge. Include all sludge processing and drying units. **If more than one phase exists or is proposed, a description of *each phase* must be provided**.

The Yoakum WWTP operates as an activated sludge extended aeration treatment plant. Treatment units include headworks, lift station, grit removal, RAS mix box, aeration basins, final clarifiers, chlorine contact chambers, gravity sludge thickener, and belt filter press.

B. Treatment Units

In Table 1.0(1), provide the treatment unit type, the number of units, and dimensions (length, width, depth) **of each treatment unit, accounting for *all* phases of operation.**

Table 1.0(1) - Treatment Units

Treatment Unit Type	Number of Units	Dimensions (L x W x D)
See Attachment 6 - Treatment Units		

C. Process Flow Diagram

Provide flow diagrams for the existing facilities and **each** proposed phase of construction.

Attachment: Attachment 7

Section 3. Site Information and Drawing (Instructions Page 44)

Provide the TPDES discharge outfall latitude and longitude. Enter N/A if not applicable.

- Latitude: 29.27436
- Longitude: -97.15613

Provide the TLAP disposal site latitude and longitude. Enter N/A if not applicable.

- Latitude: N/A
- Longitude: N/A

Provide a site drawing for the facility that shows the following:

- The boundaries of the treatment facility;
- The boundaries of the area served by the treatment facility;
- If land disposal of effluent, the boundaries of the disposal site and all storage/holding ponds; and
- If sludge disposal is authorized in the permit, the boundaries of the land application or disposal site.

Attachment: Attachment 8

Provide the name **and** a description of the area served by the treatment facility.

N/A

Collection System Information **for wastewater TPDES permits only**: Provide information for each **uniquely owned** collection system, existing and new, served by this facility, including satellite collection systems. **Please see the instructions for a detailed explanation and examples.**

Collection System Information

Collection System Name	Owner Name	Owner Type	Population Served
		Choose an item.	
		Choose an item.	
		Choose an item.	
		Choose an item.	

Section 4. Unbuilt Phases (Instructions Page 45)

Is the application for a renewal of a permit that contains an unbuilt phase or phases?

☐ Yes ☒ No

If yes, does the existing permit contain a phase that has not been constructed **within five years** of being authorized by the TCEQ?

☐ Yes ☐ No

If yes, provide a detailed discussion regarding the continued need for the unbuilt phase. **Failure to provide sufficient justification may result in the Executive Director recommending denial of the unbuilt phase or phases**.

Click to enter text.

Section 5. Closure Plans (Instructions Page 45)

Have any treatment units been taken out of service permanently, or will any units be taken out of service in the next five years?

☐ Yes ☒ No

If yes, was a closure plan submitted to the TCEQ?

☐ Yes ☐ No

If yes, provide a brief description of the closure and the date of plan approval.

Click to enter text.

Section 6. Permit Specific Requirements (Instructions Page 45)

For applicants with an existing permit, check the Other Requirements or Special Provisions of the permit.

A. Summary transmittal

Have plans and specifications been approved for the existing facilities and each proposed phase?

☒ Yes ☐ No

If yes, provide the date(s) of approval for each phase: Click to enter text.

Provide information, including dates, on any actions taken to meet a *requirement or provision* pertaining to the submission of a summary transmittal letter. **Provide a copy of an approval letter from the TCEQ, if applicable**.

Click to enter text.

B. Buffer zones

Have the buffer zone requirements been met?

☒ Yes ☐ No

Provide information below, including dates, on any actions taken to meet the conditions of the buffer zone. If available, provide any new documentation relevant to maintaining the buffer zones.

Click to enter text.

C. Other actions required by the current permit

Does the *Other Requirements* or *Special Provisions* section in the existing permit require submission of any other information or other required actions? Examples include Notification of Completion, progress reports, soil monitoring data, etc.

☐ Yes ☒ No

If yes, provide information below on the status of any actions taken to meet the conditions of an *Other Requirement* or *Special Provision*.

Click to enter text.

D. Grit and grease treatment

1. Acceptance of grit and grease waste

Does the facility have a grit and/or grease processing facility onsite that treats and decants or accepts transported loads of grit and grease waste that are discharged directly to the wastewater treatment plant prior to any treatment?

☐ Yes ☒ No

If No, stop here and continue with Subsection E. Stormwater Management.

2. Grit and grease processing

Describe below how the grit and grease waste is treated at the facility. In your description, include how and where the grit and grease is introduced to the treatment works and how it is separated or processed. Provide a flow diagram showing how grit and grease is processed at the facility.

Click to enter text.

3. Grit disposal

Does the facility have a Municipal Solid Waste (MSW) registration or permit for grit disposal?

☐ Yes ☐ No

If No, contact the TCEQ Municipal Solid Waste team at 512-239-2335. Note: A registration or permit is required for grit disposal. Grit shall not be combined with treatment plant sludge. See the instruction booklet for additional information on grit disposal requirements and restrictions.

Describe the method of grit disposal.

Click to enter text.

4. *Grease and decanted liquid disposal*

Note: A registration or permit is required for grease disposal. Grease shall not be combined with treatment plant sludge. For more information, contact the TCEQ Municipal Solid Waste team at 512-239-2335.

Describe how the decant and grease are treated and disposed of after grit separation.

Click to enter text.

E. Stormwater management

1. *Applicability*

Does the facility have a design flow of 1.0 MGD or greater in any phase?

☐ Yes ☒ No

Does the facility have an approved pretreatment program, under 40 CFR Part 403?

☐ Yes ☒ No

If no to both of the above, then skip to Subsection F, Other Wastes Received.

2. *MSGP coverage*

Is the stormwater runoff from the WWTP and dedicated lands for sewage disposal currently permitted under the TPDES Multi-Sector General Permit (MSGP), TXR050000?

☐ Yes ☐ No

If yes, please provide MSGP Authorization Number and skip to Subsection F, Other Wastes Received:

TXR05 Click to enter text. or TXRNE Click to enter text.

If no, do you intend to seek coverage under TXR050000?

☐ Yes ☐ No

3. *Conditional exclusion*

Alternatively, do you intend to apply for a conditional exclusion from permitting based TXR050000 (Multi Sector General Permit) Part II B.2 or TXR050000 (Multi Sector General Permit) Part V, Sector T 3(b)?

☐ Yes ☐ No

If yes, please explain below then proceed to Subsection F, Other Wastes Received:

Click to enter text.

4. ***Existing coverage in individual permit***

Is your stormwater discharge currently permitted through this individual TPDES or TLAP permit?

☐ Yes ☐ No

If yes, provide a description of stormwater runoff management practices at the site that are authorized in the wastewater permit then skip to Subsection F, Other Wastes Received.

Click to enter text.

5. ***Zero stormwater discharge***

Do you intend to have no discharge of stormwater via use of evaporation or other means?

☐ Yes ☐ No

If yes, explain below then skip to Subsection F. Other Wastes Received.

Click to enter text.

Note: If there is a potential to discharge any stormwater to surface water in the state as the result of any storm event, then permit coverage is required under the MSGP or an individual discharge permit. This requirement applies to all areas of facilities with treatment plants or systems that treat, store, recycle, or reclaim domestic sewage, wastewater or sewage sludge (including dedicated lands for sewage sludge disposal located within the onsite property boundaries) that meet the applicability criteria of above. You have the option of obtaining coverage under the MSGP for direct discharges, (recommended), or obtaining coverage under this individual permit.

6. ***Request for coverage in individual permit***

Are you requesting coverage of stormwater discharges associated with your treatment plant under this individual permit?

☐ Yes ☐ No

If yes, provide a description of stormwater runoff management practices at the site for which you are requesting authorization in this individual wastewater permit and describe whether you intend to comingle this discharge with your treated effluent or discharge it via a separate dedicated stormwater outfall. Please also indicate if you

intend to divert stormwater to the treatment plant headworks and indirectly discharge it to water in the state.

Click to enter text.

Note: Direct stormwater discharges to waters in the state authorized through this individual permit will require the development and implementation of a stormwater pollution prevention plan (SWPPP) and will be subject to additional monitoring and reporting requirements. Indirect discharges of stormwater via headworks recycling will require compliance with all individual permit requirements including 2-hour peak flow limitations. All stormwater discharge authorization requests will require additional information during the technical review of your application.

F. Discharges to the Lake Houston Watershed

Does the facility discharge in the Lake Houston watershed?

☐ Yes ☒ No

If yes, attach a Sewage Sludge Solids Management Plan. See Example 5 in the instructions.
Click to enter text.

G. Other wastes received including sludge from other WWTPs and septic waste

1. *Acceptance of sludge from other WWTPs*

Does or will the facility accept sludge from other treatment plants at the facility site?

☐ Yes ☒ No

If yes, attach sewage sludge solids management plan. See Example 5 of instructions.

In addition, provide the date the plant started or is anticipated to start accepting sludge, an estimate of monthly sludge acceptance (gallons or millions of gallons), an estimate of the BOD_5 concentration of the sludge, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Click to enter text.

Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.

2. *Acceptance of septic waste*

Is the facility accepting or will it accept septic waste?

☐ Yes ☒ No

If yes, does the facility have a Type V processing unit?

☐ Yes ☐ No

If yes, does the unit have a Municipal Solid Waste permit?

☐ Yes ☐ No

If yes to any of the above, provide the date the plant started or is anticipated to start accepting septic waste, an estimate of monthly septic waste acceptance (gallons or millions of gallons), an estimate of the BOD_5 concentration of the septic waste, and the design BOD_5 concentration of the influent from the collection system. Also note if this information has or has not changed since the last permit action.

Click to enter text.

Note: Permits that accept sludge from other wastewater treatment plants may be required to have influent flow and organic loading monitoring.

3. ***Acceptance of other wastes (not including septic, grease, grit, or RCRA, CERCLA or as discharged by IUs listed in Worksheet 6)***

Is or will the facility accept wastes that are not domestic in nature excluding the categories listed above?

☐ Yes ☒ No

If yes, provide the date that the plant started accepting the waste, an estimate how much waste is accepted on a monthly basis (gallons or millions of gallons), a description of the entities generating the waste, and any distinguishing chemical or other physical characteristic of the waste. Also note if this information has or has not changed since the last permit action.

Click to enter text.

Section 7. Pollutant Analysis of Treated Effluent (Instructions Page 50)

Is the facility in operation?

☒ Yes ☐ No

If no, this section is not applicable. Proceed to Section 8. **Attachment 14**

If yes, provide effluent analysis data for the listed pollutants. ***Wastewater treatment facilities*** complete Table 1.0(2). **W*ater treatment facilities*** discharging filter backwash water, complete Table 1.0(3). Provide copies of the laboratory results sheets. **These tables are not applicable for a minor amendment without renewal.** See the instructions for guidance.

Note: The sample date must be within 1 year of application submission.

Table1.0(2) – Pollutant Analysis for Wastewater Treatment Facilities

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
$CBOD_5$, mg/l	2.0	2.0	4	Grab	05/07/24, 05/14/24, 05/21/24, 05/26/24
Total Suspended Solids, mg/l	4.5	5.0	4	Grab	05/07/24, 05/14/24, 05/21/24, 05/26/24
Ammonia Nitrogen, mg/l	0.3	0.45	4	Grab	05/07/24, 05/14/24, 05/21/24, 05/26/24
Nitrate Nitrogen, mg/l					
Total Kjeldahl Nitrogen, mg/l					
Sulfate, mg/l					
Chloride, mg/l					
Total Phosphorus, mg/l	4.32	4.55	1x Month	EFF	4/3/24, 5/1/24, 6/12/24
pH, standard units	8.3	8.4	4	Grab	05/07/24, 05/14/24, 05/21/24, 05/26/24
Dissolved Oxygen*, mg/l	8.0	8.2	Daily & weekly	Grab	05/06/24, 05/13/24, 05/20/24, 05/27/24 (5/1 - 5/31)
Chlorine Residual, mg/l	1.4	1.8	Daily	Grab	05/01/24-05/31/24
E.coli (CFU/100ml) freshwater	<1	<1	2	Grab	05/01/24, 05/15/24
Entercocci (CFU/100ml) saltwater	N/A	N/A	N/A	N/A	N/A
Total Dissolved Solids, mg/l	937	937	1	Grab	10am 7/14/24
Electrical Conductivity, µmohs/cm, †	N/A	N/A	N/A	N/A	N/A
Oil & Grease, mg/l	N/A	N/A	N/A	N/A	N/A
Alkalinity ($CaCO_3$)*, mg/l	204	214	1x Month	EFF	4/3/24, 5/1/24, 6/12/24

*TPDES permits only
†TLAP permits only

Table1.0(3) – Pollutant Analysis for Water Treatment Facilities

Pollutant	Average Conc.	Max Conc.	No. of Samples	Sample Type	Sample Date/Time
Total Suspended Solids, mg/l					
Total Dissolved Solids, mg/l					
pH, standard units					
Fluoride, mg/l					
Aluminum, mg/l					
Alkalinity ($CaCO_3$), mg/l					

Section 8. Facility Operator (Instructions Page 50)

Facility Operator Name: Jonathan Foutz

Facility Operator's License Classification and Level: Wastewater Treatment Operator C

Facility Operator's License Number: WW0070298

Section 9. Sludge and Biosolids Management and Disposal (Instructions Page 51)

A. WWTP's Biosolids Management Facility Type

Check all that apply. See instructions for guidance

- ☒ Design flow>= 1 MGD
- ☐ Serves >= 10,000 people
- ☐ Class I Sludge Management Facility (per 40 CFR § 503.9)
- ☐ Biosolids generator
- ☐ Biosolids end user – land application (onsite)
- ☐ Biosolids end user – surface disposal (onsite)
- ☐ Biosolids end user – incinerator (onsite)

B. WWTP's Biosolids Treatment Process

Check all that apply. See instructions for guidance.

- ☒ Aerobic Digestion
- ☐ Air Drying (or sludge drying beds)
- ☐ Lower Temperature Composting
- ☐ Lime Stabilization
- ☐ Higher Temperature Composting
- ☐ Heat Drying
- ☐ Thermophilic Aerobic Digestion

- ☐ Beta Ray Irradiation
- ☐ Gamma Ray Irradiation
- ☐ Pasteurization
- ☐ Preliminary Operation (e.g. grinding, de-gritting, blending)
- ☐ Thickening (e.g. gravity thickening, centrifugation, filter press, vacuum filter)
- ☐ Sludge Lagoon
- ☐ Temporary Storage (< 2 years)
- ☐ Long Term Storage (>= 2 years)
- ☐ Methane or Biogas Recovery
- ☐ Other Treatment Process: Click to enter text.

C. Biosolids Management

Provide information on the *intended* biosolids management practice. Do not enter every management practice that you want authorized in the permit, as the permit will authorize all biosolids management practices listed in the instructions. Rather indicate the management practice the facility plans to use.

Biosolids Management

Management Practice	Handler or Preparer Type	Bulk or Bag Container	Amount (dry metric tons)	Pathogen Reduction Options	Vector Attraction Reduction Option
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.
Choose an item.	Choose an item.	Choose an item.		Choose an item.	Choose an item.

If "Other" is selected for Management Practice, please explain (e.g. monofill or transport to another WWTP): Click to enter text.

D. Disposal site

Disposal site name: N/A

TCEQ permit or registration number: Click to enter text.

County where disposal site is located: Click to enter text.

E. Transportation method

Method of transportation (truck, train, pipe, other): N/A

Name of the hauler: Click to enter text.

Hauler registration number: Click to enter text.

Sludge is transported as a:

Liquid ☐ semi-liquid ☐ semi-solid ☐ solid ☐

Section 10. Permit Authorization for Sewage Sludge Disposal (Instructions Page 53)

A. Beneficial use authorization

Does the existing permit include authorization for land application of sewage sludge for beneficial use?

☐ Yes ☒ No

If yes, are you requesting to continue this authorization to land apply sewage sludge for beneficial use?

☐ Yes ☐ No

If yes, is the completed **Application for Permit for Beneficial Land Use of Sewage Sludge (TCEQ Form No. 10451)** attached to this permit application (see the instructions for details)?

☐ Yes ☐ No

B. Sludge processing authorization

Does the existing permit include authorization for any of the following sludge processing, storage or disposal options?

Sludge Composting	☒ Yes	☐ No
Marketing and Distribution of sludge	☒ Yes	☐ No
Sludge Surface Disposal or Sludge Monofill	☐ Yes	☒ No
Temporary storage in sludge lagoons	☐ Yes	☒ No

If yes to any of the above sludge options and the applicant is requesting to continue this authorization, is the completed **Domestic Wastewater Permit Application: Sewage Sludge Technical Report (TCEQ Form No. 10056)** attached to this permit application?

☒ Yes ☐ No

Section 11. Sewage Sludge Lagoons (Instructions Page 53)

Does this facility include sewage sludge lagoons?

☐ Yes ☒ No

If yes, complete the remainder of this section. If no, proceed to Section 12.

A. Location information

The following maps are required to be submitted as part of the application. For each map, provide the Attachment Number.

- Original General Highway (County) Map:

  Attachment: Click to enter text.
- USDA Natural Resources Conservation Service Soil Map:

  Attachment: Click to enter text.

- Federal Emergency Management Map:

  Attachment: Click to enter text.

- Site map:

  Attachment: Click to enter text.

Discuss in a description if any of the following exist within the lagoon area. Check all that apply.

- ☐ Overlap a designated 100-year frequency flood plain
- ☐ Soils with flooding classification
- ☐ Overlap an unstable area
- ☐ Wetlands
- ☐ Located less than 60 meters from a fault
- ☐ None of the above

Attachment: Click to enter text.

If a portion of the lagoon(s) is located within the 100-year frequency flood plain, provide the protective measures to be utilized including type and size of protective structures:

Click to enter text.

B. Temporary storage information

Provide the results for the pollutant screening of sludge lagoons. These results are in addition to pollutant results in *Section 7 of Technical Report 1.0.*

Nitrate Nitrogen, mg/kg: Click to enter text.

Total Kjeldahl Nitrogen, mg/kg: Click to enter text.

Total Nitrogen (=nitrate nitrogen + TKN), mg/kg: Click to enter text.

Phosphorus, mg/kg: Click to enter text.

Potassium, mg/kg: Click to enter text.

pH, standard units: Click to enter text.

Ammonia Nitrogen mg/kg: Click to enter text.

Arsenic: Click to enter text.

Cadmium: Click to enter text.

Chromium: Click to enter text.

Copper: Click to enter text.

Lead: Click to enter text.

Mercury: Click to enter text.

Molybdenum: Click to enter text.

Nickel: Click to enter text.

Selenium: Click to enter text.

Zinc: Click to enter text.

Total PCBs: Click to enter text.

Provide the following information:

Volume and frequency of sludge to the lagoon(s): Click to enter text.

Total dry tons stored in the lagoons(s) per 365-day period: Click to enter text.

Total dry tons stored in the lagoons(s) over the life of the unit: Click to enter text.

C. Liner information

Does the active/proposed sludge lagoon(s) have a liner with a maximum hydraulic conductivity of $1x10^{-7}$ cm/sec?

☐ Yes ☐ No

If yes, describe the liner below. Please note that a liner is required.

Click to enter text.

D. Site development plan

Provide a detailed description of the methods used to deposit sludge in the lagoon(s):

Click to enter text.

Attach the following documents to the application.

- Plan view and cross-section of the sludge lagoon(s)

  Attachment: Click to enter text.
- Copy of the closure plan

  Attachment: Click to enter text.
- Copy of deed recordation for the site

  Attachment: Click to enter text.
- Size of the sludge lagoon(s) in surface acres and capacity in cubic feet and gallons

  Attachment: Click to enter text.
- Description of the method of controlling infiltration of groundwater and surface water from entering the site

  Attachment: Click to enter text.

- Procedures to prevent the occurrence of nuisance conditions

  Attachment: Click to enter text.

E. Groundwater monitoring

Is groundwater monitoring currently conducted at this site, or are any wells available for groundwater monitoring, or are groundwater monitoring data otherwise available for the sludge lagoon(s)?

☐ Yes ☐ No

If groundwater monitoring data are available, provide a copy. Provide a profile of soil types encountered down to the groundwater table and the depth to the shallowest groundwater as a separate attachment.

Attachment: Click to enter text.

Section 12. Authorizations/Compliance/Enforcement (Instructions Page 55)

A. Additional authorizations

Does the permittee have additional authorizations for this facility, such as reuse authorization, sludge permit, etc?

☐ Yes ☒ No

If yes, provide the TCEQ authorization number and description of the authorization:

Click to enter text.

B. Permittee enforcement status

Is the permittee currently under enforcement for this facility?

☐ Yes ☒ No

Is the permittee required to meet an implementation schedule for compliance or enforcement?

☐ Yes ☐ No

If yes to either question, provide a brief summary of the enforcement, the implementation schedule, and the current status:

Click to enter text.

Section 13. RCRA/CERCLA Wastes (Instructions Page 55)

A. RCRA hazardous wastes

Has the facility received in the past three years, does it currently receive, or will it receive RCRA hazardous waste?

☐ Yes ☒ No

B. Remediation activity wastewater

Has the facility received in the past three years, does it currently receive, or will it receive CERCLA wastewater, RCRA remediation/corrective action wastewater or other remediation activity wastewater?

☐ Yes ☒ No

C. Details about wastes received

If yes to either Subsection A or B above, provide detailed information concerning these wastes with the application.

Attachment: Click to enter text.

Section 14. Laboratory Accreditation (Instructions Page 56)

All laboratory tests performed must meet the requirements of *30 TAC Chapter 25, Environmental Testing Laboratory Accreditation and Certification*, which includes 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; or
  - located in another state and is accredited or inspected by that state; or
  - 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. See the Signature Page section in the Instructions, for a list of designated representatives who may sign the certification.

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:

Title:

Signature: Michael Mitchell

Date: 7-25-2024

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 2.0: RECEIVING WATERS

The following information is required for all TPDES permit applications.

Section 1. Domestic Drinking Water Supply (Instructions Page 64)

Is there a surface water intake for domestic drinking water supply located within 5 miles downstream from the point or proposed point of discharge?

☐ Yes ☒ No

If **no**, proceed it Section 2. **If yes**, provide the following:

Owner of the drinking water supply: Click to enter text.

Distance and direction to the intake: Click to enter text.

Attach a USGS map that identifies the location of the intake.

Attachment: Click to enter text.

Section 2. Discharge into Tidally Affected Waters (Instructions Page 64)

Does the facility discharge into tidally affected waters?

☐ Yes ☒ No

If **no**, proceed to Section 3. **If yes**, complete the remainder of this section. If no, proceed to Section 3.

A. Receiving water outfall

Width of the receiving water at the outfall, in feet: Click to enter text.

B. Oyster waters

Are there oyster waters in the vicinity of the discharge?

☐ Yes ☐ No

If yes, provide the distance and direction from outfall(s).

Click to enter text.

C. Sea grasses

Are there any sea grasses within the vicinity of the point of discharge?

☐ Yes ☐ No

If yes, provide the distance and direction from the outfall(s).

Click to enter text.

Section 3. Classified Segments (Instructions Page 64)

Is the discharge directly into (or within 300 feet of) a classified segment?

☐ Yes ☒ No

If yes, this Worksheet is complete.

If no, complete Sections 4 and 5 of this Worksheet.

Section 4. Description of Immediate Receiving Waters (Instructions Page 65)

Name of the immediate receiving waters: Big Brushy Creek

A. Receiving water type

Identify the appropriate description of the receiving waters.

☒ Stream

☐ Freshwater Swamp or Marsh

☐ Lake or Pond

Surface area, in acres: Click to enter text.

Average depth of the entire water body, in feet: Click to enter text.

Average depth of water body within a 500-foot radius of discharge point, in feet: Click to enter text.

☐ Man-made Channel or Ditch

☐ Open Bay

☐ Tidal Stream, Bayou, or Marsh

☐ Other, specify: Click to enter text.

B. Flow characteristics

If a stream, man-made channel or ditch was checked above, provide the following. For existing discharges, check one of the following that best characterizes the area *upstream* of the discharge. For new discharges, characterize the area *downstream* of the discharge (check one).

☐ Intermittent - dry for at least one week during most years

☐ Intermittent with Perennial Pools - enduring pools with sufficient habitat to maintain significant aquatic life uses

☒ Perennial - normally flowing

Check the method used to characterize the area upstream (or downstream for new dischargers).

☐ USGS flow records

☐ Historical observation by adjacent landowners

☒ Personal observation

☐ Other, specify: Click to enter text.

C. Downstream perennial confluences

List the names of all perennial streams that join the receiving water within three miles downstream of the discharge point.

None within three (3) miles downstream.

D. Downstream characteristics

Do the receiving water characteristics change within three miles downstream of the discharge (e.g., natural or man-made dams, ponds, reservoirs, etc.)?

☐ Yes ☒ No

If yes, discuss how.

Click to enter text.

E. Normal dry weather characteristics

Provide general observations of the water body during normal dry weather conditions.

Brushy Creek flowing mainly due to Yoakum WWTP Effluent; low velocity.

Date and time of observation: 9am 07/24/24

Was the water body influenced by stormwater runoff during observations?

☐ Yes ☒ No

Section 5. General Characteristics of the Waterbody (Instructions Page 66)

A. Upstream influences

Is the immediate receiving water upstream of the discharge or proposed discharge site influenced by any of the following? Check all that apply.

☐ Oil field activities
☐ Urban runoff
☐ Upstream discharges
☒ Agricultural runoff
☐ Septic tanks
☐ Other(s), specify: Click to enter text.

C. If any of the compounds in Subsection A **or** B are present, complete Table 4.0(2)F.

For pollutants identified in Table 4.0(2)F, indicate the type of sample.

Grab ☐ Composite ☐

Date and time sample(s) collected: Click to enter text.

Table 4.0(2)F – Dioxin/Furan Compounds

Compound	Toxic Equivalency Factors	Wastewater Concentration (ppq)	Wastewater Equivalents (ppq)	Sludge Concentration (ppt)	Sludge Equivalents (ppt)	MAL (ppq)
2,3,7,8 TCDD	1					10
1,2,3,7,8 PeCDD	0.5					50
2,3,7,8 HxCDDs	0.1					50
1,2,3,4,6,7,8 HpCDD	0.01					50
2,3,7,8 TCDF	0.1					10
1,2,3,7,8 PeCDF	0.05					50
2,3,4,7,8 PeCDF	0.5					50
2,3,7,8 HxCDFs	0.1					50
2,3,4,7,8 HpCDFs	0.01					50
OCDD	0.0003					100
OCDF	0.0003					100
PCB 77	0.0001					0.5
PCB 81	0.0003					0.5
PCB 126	0.1					0.5
PCB 169	0.03					0.5
Total						

Section 3. Summary of WET Tests

If the required biomonitoring test information has not been previously submitted via both the Discharge Monitoring Reports (DMRs) and the Table 1 (as found in the permit), provide a summary of the testing results for all valid and invalid tests performed over the past four and one-half years. Make additional copies of this table as needed.

Table 5.0(1) Summary of WET Tests

Test Date	Test Species	NOEC Survival	NOEC Sub-lethal

DOMESTIC WASTEWATER PERMIT APPLICATION WORKSHEET 6.0: INDUSTRIAL WASTE CONTRIBUTION

The following **is required** for **all publicly owned treatment works**.

Section 1. All POTWs (Instructions Page 89)

A. Industrial users (IUs)

Provide the number of each of the following types of industrial users (IUs) that discharge to your POTW and the daily flows from each user. See the Instructions for definitions of Categorical IUs, Significant IUs – non-categorical, and Other IUs.

If there are no users, enter 0 (zero).

Categorical IUs:

Number of IUs: 1

Average Daily Flows, in MGD: 3,700 GPD

Significant IUs – non-categorical:

Number of IUs: 1

Average Daily Flows, in MGD: max 100,000 GPD

Other IUs:

Number of IUs: N/A

Average Daily Flows, in MGD: Click to enter text.

B. Treatment plant interference

In the past three years, has your POTW experienced treatment plant interference (see instructions)?

☐ Yes ☒ No

If yes, identify the dates, duration, description of interference, and probable cause(s) and possible source(s) of each interference event. Include the names of the IUs that may have caused the interference.

Click to enter text.

C. Treatment plant pass through

In the past three years, has your POTW experienced pass through (see instructions)?

☐ Yes ☒ No

If yes, identify the dates, duration, a description of the pollutants passing through the treatment plant, and probable cause(s) and possible source(s) of each pass through event. Include the names of the IUs that may have caused pass through.

Click to enter text.

D. Pretreatment program

Does your POTW have an approved pretreatment program?

☐ Yes ☒ No

If yes, complete Section 2 only of this Worksheet.

Is your POTW required to develop an approved pretreatment program?

☐ Yes ☐ No

If yes, complete Section 2.c. and 2.d. only, and skip Section 3.

If no to either question above, skip Section 2 and complete Section 3 for each significant industrial user and categorical industrial user.

Section 2. POTWs with Approved Programs or Those Required to Develop a Program (Instructions Page 90)

A. Substantial modifications

Have there been any **substantial modifications** to the approved pretreatment program that have not been submitted to the TCEQ for approval according to *40 CFR §403.18*?

☐ Yes ☐ No

If yes, identify the modifications that have not been submitted to TCEQ, including the purpose of the modification.

Click to enter text.

B. Non-substantial modifications

Have there been any **non-substantial modifications** to the approved pretreatment program that have not been submitted to TCEQ for review and acceptance?

☐ Yes ☐ No

If yes, identify all non-substantial modifications that have not been submitted to TCEQ, including the purpose of the modification.

Click to enter text.

C. Effluent parameters above the MAL

In Table 6.0(1), list all parameters measured above the MAL in the POTW's effluent monitoring during the last three years. Submit an attachment if necessary.

Table 6.0(1) – Parameters Above the MAL

Pollutant	Concentration	MAL	Units	Date

D. Industrial user interruptions

Has any SIU, CIU, or other IU caused or contributed to any problems (excluding interferences or pass throughs) at your POTW in the past three years?

☐ Yes ☐ No

If yes, identify the industry, describe each episode, including dates, duration, description of the problems, and probable pollutants.

Click to enter text.

Section 3. Significant Industrial User (SIU) Information and Categorical Industrial User (CIU) (Instructions Page 90)

A. General information

Company Name: Mechanism Exchange and Repair

SIC Code: 7699

Contact name: Bruce Card - President

Address: 808 Highway 77-A South

City, State, and Zip Code: Yoakum, TX, 77995

Telephone number: 361-293-6452

Email address: Click to enter text.

B. Process information

Describe the industrial processes or other activities that affect or contribute to the SIU(s) or CIU(s) discharge (i.e., process and non-process wastewater).

Mechanism Exchange and Repair finishes metal parts that are used for newspaper vending machines. The metal is zinc coated and is run through an organic metal finishing process. The first stage is a cleaning and phosphate wash. Cleaning is done with an iron phosphate solution which is recycled. The second stage is a rinse stage. All process water discharged is the reinstate from the rinse stage.

C. Product and service information

Provide a description of the principal product(s) or services performed.

Newspaper Vending Machines

D. Flow rate information

See the Instructions for definitions of “process” and “non-process wastewater.”

Process Wastewater:

Discharge, in gallons/day: 3,300

Discharge Type: ☒ Continuous ☐ Batch ☐ Intermittent

Non-Process Wastewater:

Discharge, in gallons/day: 400

Discharge Type: ☒ Continuous ☐ Batch ☐ Intermittent

E. Pretreatment standards

Is the SIU or CIU subject to technically based local limits as defined in the *i*nstructions?

☐ Yes ☒ No

Is the SIU or CIU subject to categorical pretreatment standards found in *40 CFR Parts 405-471*?

☒ Yes ☐ No

If subject to categorical pretreatment standards, indicate the applicable category and subcategory for each categorical process.

Category: Subcategories: Part 443

Click or tap here to enter text. A – Metal Finishing

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

F. Industrial user interruptions

Has the SIU or CIU caused or contributed to any problems (e.g., interferences, pass through, odors, corrosion, blockages) at your POTW in the past three years?

☐ Yes ☒ No

If yes, identify the SIU, describe each episode, including dates, duration, description of problems, and probable pollutants.

Click to enter text.

G. General information

Company Name: Eddy Packing Company

SIC Code: 2013, 2015

Contact name: Gerard Sikkema – Environmental Consultant

Address: 404 Airport

City, State, and Zip Code: Yoakum, TX, 77995

Telephone number: 210-633-0051

Email address: Click to enter text.

H. Process information

Describe the industrial processes or other activities that affect or contribute to the SIU(s) or CIU(s) discharge (i.e., process and non-process wastewater).

Eddy Packing is a processor of beef, pork, and poultry products. Process wastewater is treated by a pond treatment system prior to being discharged to the City's POTW.

I. Product and service information

Provide a description of the principal product(s) or services performed.

Newspaper Vending Machines

J. Flow rate information

See the Instructions for definitions of “process” and “non-process wastewater.”

Process Wastewater:

Discharge, in gallons/day: 100,000

Discharge Type: ☒ Continuous ☒ Batch ☐ Intermittent

Non-Process Wastewater:

Discharge, in gallons/day: 12,000 estimated

Discharge Type: ☒ Continuous ☐ Batch ☐ Intermittent

K. Pretreatment standards

Is the SIU or CIU subject to technically based local limits as defined in the *i*nstructions?

☐ Yes ☒ No

Is the SIU or CIU subject to categorical pretreatment standards found in *40 CFR Parts 405-471*?

☒ Yes ☐ No

If subject to categorical pretreatment standards, indicate the applicable category and subcategory for each categorical process.

Category: Subcategories: Part 432

Click or tap here to enter text. D, F, G, I

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

Category: Click to enter text.

Subcategories: Click to enter text.

L. Industrial user interruptions

Has the SIU or CIU caused or contributed to any problems (e.g., interferences, pass through, odors, corrosion, blockages) at your POTW in the past three years?

☐ Yes ☒ No

If yes, identify the SIU, describe each episode, including dates, duration, description of problems, and probable pollutants.

Click to enter text.

DOMESTIC WASTEWATER PERMIT APPLICATION:

SEWAGE SLUDGE TECHNICAL REPORT 1.0

GENERAL INFORMATION

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

SECTION 1. TREATMENT PROCESSING INFORMATION

A. Attach the engineering report and/or plans and specifications for the proposed facility which must include the following:

- Description of the type of process facility
- Process flow diagram
- Design calculations, features, and functional arrangements
- Site controls
- Groundwater protection
- Odor, dust, and bio-aerosol management
- Ultimate product

Attachment Number: 9

B. Is the facility located or proposed to be located above the 100-year frequency flood plain? Yes ☒ No ☐

If No, provide a separate site map indicating the location of the sludge units within the 100-year frequency flood plain and a detailed description of the type and size of protective measures.

N/A

SECTION 2. SOURCES OF SLUDGE

A. Provide the sources of generation, any water quality or public water supply permit number issued by TCEQ, and the quantity for each source.

Facility Name	**Permit Number**	**Annual Quantity**
City of Yoakum WWTP	WQ0010463001	480 cy/year

Facility Name	Permit Number	Annual Quantity

B. For each source of sludge, complete Table 1 located at the end of this form.

SECTION 3. PATHOGEN AND VECTOR ATTRACTION REDUCTION

A. For each source of sludge, complete Tables 2 and 3 located at the end of this form.

B. Indicate by a checkmark that all of the following are being followed for Class B land application.

- ☐ Food crop harvesting restrictions
- ☐ Animal grazing restrictions
- ☐ Public access restrictions

SECTION 4. WELL INFORMATION

In the table below, provide information about each well located on-site and within 500 feet of the processing, application, and/or disposal 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**

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

** The following protective measures are required prior to initial sludge/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. ADDITIONAL TECHNICAL REPORTS

Identify which additional technical reports are submitted with this application.

☒ Technical Report 2.0, Sewage Sludge Composting

☒ Technical Report 3.0, Marketing and Distribution

☐ Technical Report 4.0, Sewage Sludge Surface Disposal

Pollutant Concentrations in Sewage Sludge

Complete this table **for each source** of sludge.

Attachment 14

Facility Name: City of Yoakum WWTP
TCEQ Authorization Number: WQ0010463001

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	<0.050 (mg/L)	08/31/23	0.050	Grab
Cadmium (Cd)	85	<0.005 (mg/L)	08/31/23	0.005	Grab
Chromium (Cr)	3000	<0.050 (mg/L)	08/31/23	0.050	Grab
Copper (Cu)	4300				
Lead (Pb)	840	<0.050 (mg/L)	08/31/23	0.050	Grab
Mercury (Hg)	57	<0.002 (mg/L)	08/31/23	0.002	Grab
Molybdenum (Mo)	75				
Nickel (Ni)	420				
Selenium (Se)	100	<0.050 (mg/L)	08/31/23	0.050	Grab
Zinc (Zn)	7500				
PCB (ppm)	50.0 ppm	<240 (ug/kg)	08/31/23	240	Grab
Fecal Coliform (MPN)					

SITE OPERATOR SIGNATURE PAGE

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

Permit Number: WQ0010463001

Applicant: City of Yoakum

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: MICHAEL MITCHELL

Title: C. MGR.

Signature (use blue ink): Michael Mitchell Date: 1-25-2024

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

DOMESTIC WASTEWATER PERMIT APPLICATION:

SEWAGE SLUDGE TECHNICAL REPORT 2.0

SEWAGE SLUDGE COMPOSTING

SECTION 1. RENEWAL OF EXISTING AUTHORIZATION

Provide the following information if you are requesting continued authorization to compost sewage sludge. Complete this section only if composting is currently authorized in the existing permit.

Date operation commenced: 03/30/2001

Location of operation: City of Yoakum WWTP

Type of bulking agent: brush and tree trimmings

Approximate amount of sludge composted: 480 cy/yr

Provide a brief discussion of the composting process and any significant changes since the permit was last issued.

The sludge composting operation has not changed since the previous permit. Sludge from the activated sludge process is digested within the aeration basins (extended aeration mode) and sludge holding basin and dewatered using a belt filter press with a polymer feed system. The dewatered sludge (with an average dry weight solids content of 20%) from the press discharge conveyor is collected in a dump truck and transported on-site to the sludge composting facility. Tree brush is collected on-site and periodically chipped for mixing with the sludge. The compost pile is mixed within abandoned trickling filter basins.

SECTION 2. NEW AUTHORIZATION TO COMPOST SEWAGE SLUDGE

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

Attachment Number: N/A

B. Has sewage sludge/septage previously been composted at this facility?

Yes ☒ No ☐

If Yes, provide a use history of the composting operations.

See Attachment 10 – Compost Site Information

C. Provide a detailed description of the composting operation. The description must include the following information:

- Amount of sludge originating off-site to be composted;
- Total amount of sludge to be composted and total amount of feedstocks;
- Fecal coliform or Salmonella bacteria analysis (in MPN or CFU);
- Type, origin, and amount of bulking material to be used;
- Set back distances from facility boundaries for receiving, processing, or storing feedstocks or final product;
- Plan view of site;
- Type of composting proposed;
- Construction, maintenance, and operation to manage run-on and run-off during a 25-year, 24-hour rainfall event, including all calculations and sources used;
- Leachate collection system and leachate processing and disposal method;
- Construction, maintenance, and operations for groundwater protection;
- Design plan to line all surfaces used for delivery, mixing, composting, curing, screening, and storage to control seepage; and
- Design to minimize windblown material, odor, and vector control.

Attachment Number: Attachment 10

D. Does the end product meet the requirements in 30 TAC 332.72(d)(2)(A)-(D)?

Yes ☒ No ☐

E. Submit a site operating plan which provides guidance from the design engineer to site management and operating personnel in sufficient detail to enable them to conduct day to day operations in a manner consistent with the engineer's design. The plan must include the following information:

- Process description (feedstock identification, tipping process, process, post-processing, product distribution, process diagram);
- Minimum number of personnel and their functions provided by the site operator;
- Minimum equipment;
- Security, site access control, traffic control, and safety;
- Control of the delivery material in designated areas;
- Screening for unprocessable, prohibited, and unauthorized material;
- Fire prevention and suppression plan;
- Control of windblown material;

- Equipment failures;
- Anticipated final grade of materials; and
- Description of handling and/or disposal of materials that doesn't meet 30 TAC Chapter 312.

Attachment Number: Attachment 12

DOMESTIC WASTEWATER PERMIT APPLICATION:

SEWAGE SLUDGE TECHNICAL REPORT 3.0

SEWAGE SLUDGE MARKETING AND DISTRIBUTION

A. What is the TCEQ Permit number for the Wastewater Treatment Plant that is generating the Class A or Class AB sewage sludge? WQ0010463001

B. What is the name and location of the distribution storage center? City of Yoakum WWTP

C. Provide a description of the marketing and distribution plan.

The City does not currently market or distribute the composted sludge but would like to maintain the ability to do so in the renewed permit.

D. Provide the following information for all entities receiving sludge directly from the permittee. If more than 2, submit an attachment which includes the follow information.

1. Contact Name: N/A

Company Name: Click here to enter text.

Mailing Address: Click here to enter text.

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

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

Longitude: Click here to enter text.

Latitude: Click here to enter text.

Permits: Click here to enter text.

2. Contact Name: Click here to enter text.

Company Name: Click here to enter text.

Mailing Address: Click here to enter text.

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

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

Longitude: Click here to enter text.

Latitude: Click here to enter text.

Permits: Click here to enter text.

E. Provide a copy of the label or information sheet that is provided to each entity receiving the sewage sludge.

Attachment Number: Click here to enter text.

F. Indicate by a checkmark that the sewage sludge meets the following:

☒ Metal concentrations in 30 TAC §312.43(b)(3)

☒ Vector attraction reduction requirements

☒ Class A, Class AB or Class B pathogen requirements

G. Indicate the type of recordkeeping: City Managed

PLEASE NOTE: If Class AB sewage sludge, attach a topographic map that shows the required buffer zones stated in 30 TAC §312.44.

ATTACHMENT 1

Core Data Form

(Ref. Section 3 of Administrative Report 1.0)

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

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

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

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

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number *(if issued)*
CN 600625529		RN 102805389

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 Yoakum

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

11. Type of Customer:

☐ Corporation ☐ Individual Partnership: ☐ General ☐ Limited
Government: ☒ City ☐ County ☐ Federal ☐ Local ☐ State ☐ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees

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

13. Independently Owned and Operated?

☐ **Yes** ☒ **No**

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

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

15. Mailing Address:

P.O. Box 738

City	Yoakum	State	TX	ZIP	77995	ZIP + 4	

16. Country Mailing Information *(if outside USA)*	17. E-Mail Address *(if applicable)*
	publicworksdirector@yoakumtx.gov

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*

(361) 293-6321		(361) 293-3318

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 Yoakum WWTP

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	no street address on file							
	Dunn St.							
	City	Yoakum	**State**	TX	**ZIP**	77995	**ZIP + 4**	
24. County	Dewitt County							

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

25. Description to Physical Location:	Located approximately 1.0 mile southwest of the intersection of ALT 77 and Highway 111 (Irvine St. and E Morris St.), just southwest of Dunn St. and Fischer St.				
26. Nearest City			**State**	**Nearest ZIP Code**	
Yoakum			TX	77995	

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:	29.27410		**28. Longitude (W) In Decimal:**	-97.15510	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	16	27.76	-97	9	18.37

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)

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

City of Yoakum WWTP

34. Mailing Address:	**P.O. BOX 738**							
	City	**Yoakum**	**State**	**TX**	**ZIP**	**77995**	**ZIP + 4**	
35. E-Mail Address:								

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(361) 293-6321		**(361) 293-3318**

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

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☐ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☐ Petroleum Storage Tank	☐ PWS
☐ Sludge	☐ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
☐ Voluntary Cleanup	☒ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:
	WQ0010463001			

SECTION IV: Preparer Information

40. Name:	William Wachel	41. Title:	Vice President

42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(512) 201-1207		( ) -	Wwachel@trccompanies.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 Yoakum	Job Title:	City MGR.
Name *(In Print)*:	MICHAEL MITCHELL	Phone:	(361) 293-6321
Signature:	Michael Mitchell	Date:	7-25-2024

ATTACHMENT 2

Plain Language Summary

(Ref. Section 8 of Administrative Report 1.0)

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PLAIN LANGUAGE SUMMARY FOR TPDES OR TLAP PERMIT APPLICATIONS

Plain Language Summary Template and Instructions for Texas Pollutant Discharge Elimination System (TPDES) and Texas Land Application (TLAP) Permit Applications

Applicants should use this template to develop a plain language summary as required by Title 30, Texas Administrative Code (30 TAC), Chapter 39, Subchapter H. Applicants may modify the template as necessary to accurately describe their facility as long as the summary includes the following information: (1) the function of the proposed plant or facility; (2) the expected output of the proposed plant or facility; (3) the expected pollutants that may be emitted or discharged by the proposed plant or facility; and (4) how the applicant will control those pollutants, so that the proposed plant will not have an adverse impact on human health or the environment.

Fill in the highlighted areas below to describe your facility and application in plain language. Instructions and examples are provided below. Make any other edits necessary to improve readability or grammar and to comply with the rule requirements.

If you are subject to the alternative language notice requirements in 30 TAC Section 39.426, **you must provide a translated copy of the completed plain language summary in the appropriate alternative language as part of your application package**. For your convenience, a Spanish template has been provided below.

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS
Enter 'INDUSTRIAL' or 'DOMESTIC' here WASTEWATER/STORMWATER
The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and is not a federal enforceable representation of the permit application.

1. Enter applicant's name here (2. Enter Customer Number here (i.e., CN6########)) 3. Choose from the drop-down menu 4. Enter name of facility here (5. Enter Regulated Entity Number here (i.e., RN1########)), 6. Choose from the drop-down menu 7. Enter facility description here. The facility 8. Choose from the drop-down menu located at 9. Enter location here, in 10. Enter city name here, 11. Enter county name here County, Texas 12. Enter zip code here. 13. Enter summary of application request here. *<<For TLAP applications include the following sentence, otherwise delete:>>* This permit will not authorize a discharge of pollutants into water in the state.

Discharges from the facility are expected to contain 14. List all expected pollutants here. 15. Enter types of wastewater discharged here 16. Choose from the drop-down menu treated by 17. Enter a description of wastewater treatment used at the facility here.

PLANTILLA EN ESPAÑOL PARA SOLICITUDES NUEVAS/RENOVACIONES/ENMIENDAS DE TPDES o TLAP

AGUAS RESIDUALES Introduzca 'INDUSTRIALES' o 'DOMÉSTICAS' aquí **/AGUAS PLUVIALES**

El siguiente resumen se proporciona para esta solicitud de permiso de calidad del agua pendiente que está siendo revisada por la Comisión de Calidad Ambiental de Texas según lo requerido por el Capítulo 39 del Código Administrativo de Texas 30. La información proporcionada en este resumen puede cambiar durante la revisión técnica de la solicitud y no es una representación ejecutiva fedérale de la solicitud de permiso.

1. Introduzca el nombre del solicitante aquí (2. Introduzca el número de cliente aquí (es decir, CN6########).) 3. Elija del menú desplegable 4. Introduzca el nombre de la instalación aquí 5. Introduzca el número de entidad regulada aquí (es decir, RN1########), 6. Elija del menú desplegable 7. Introduzca la descripción de la instalación aquí. La instalación 8. Elija del menú desplegable. ubicada en 9. Introduzca la ubicación aquí, en 10. Introduzca el nombre de la ciudad aquí, Condado de 11. Introduzca el nombre del condado aquí, Texas 12. Introduzca el código postal aquí. 13. Introduzca el resumen de la petición de solicitud aquí. *<<Para las solicitudes de TLAP incluya la siguiente oración, de lo contrario, elimine:>>* Este permiso no autorizará una descarga de contaminantes en el agua en el estado.

Se espera que las descargas de la instalación contengan 14. Liste todos los contaminantes esperados aquí. 15. Introduzca los tipos de aguas residuales descargadas aquí. 16. Elija del menú desplegable tratado por 17. Introduzca una descripción del tratamiento de aguas residuales utilizado en la instalación aquí.

INSTRUCTIONS

1. Enter the name of applicant in this section. The applicant name should match the name associated with the customer number.
2. Enter the Customer Number in this section. Each Individual or Organization is issued a unique 11-digit identification number called a CN (e.g. CN123456789).
3. Choose “operates” in this section for existing facility applications or choose “proposes to operate” for new facility applications.
4. Enter the name of the facility in this section. The facility name should match the name associated with the regulated entity number.
5. Enter the Regulated Entity number in this section. Each site location is issued a unique 11-digit identification number called an RN (e.g. RN123456789).
6. Choose the appropriate article (a or an) to complete the sentence.
7. Enter a description of the facility in this section. For example: steam electric generating facility, nitrogenous fertilizer manufacturing facility, etc.
8. Choose “is” for an existing facility or “will be” for a new facility.
9. Enter the location of the facility in this section.
10. Enter the City nearest the facility in this section.
11. Enter the County nearest the facility in this section.
12. Enter the zip code for the facility address in this section.
13. Enter a summary of the application request in this section. For example: renewal to discharge 25,000 gallons per day of treated domestic wastewater, new application to discharge process wastewater and stormwater on an intermittent and flow-variable basis, or major amendment to reduce monitoring frequency for pH, etc. If more than one outfall is included in the application, provide applicable information for each individual outfall.
14. List all pollutants expected in the discharge from this facility in this section. If applicable, refer to the pollutants from any federal numeric effluent limitations that apply to your facility.
15. Enter the discharge types from your facility in this section (e.g., stormwater, process wastewater, once through cooling water, etc.)
16. Choose the appropriate verb tense to complete the sentence.
17. Enter a description of the wastewater treatment used at your facility. Include a description of each process, starting with initial treatment and finishing with the outfall/point of disposal. Use additional lines for individual discharge types if necessary.

Questions or comments concerning this form may be directed to the Water Quality Division’s Application Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by phone at (512) 239-4671.

Example

Individual Industrial Wastewater Application

The following summary is provided for this pending water quality permit application being reviewed by the Texas Commission on Environmental Quality as required by 30 TAC Chapter 39. The information provided in this summary may change during the technical review of the application and are not federal enforceable representations of the permit application.

ABC Corporation (CN600000000) operates the Starr Power Station (RN10000000000), a two-unit gas-fired electric generating facility. Unit 1 has a generating capacity of 393 megawatts (MWs) and Unit 2 has a generating capacity of 528 MWs. The facility is located at 1356 Starr Street, near the City of Austin, Travis County, Texas 78753.

This application is for a renewal to discharge 870,000,000 gallons per day of once through cooling water, auxiliary cooling water, and also authorizes the following waste streams monitored inside the facility (internal outfalls) before it is mixed with the other wastewaters authorized for discharge via main Outfall 001, referred to as "previously monitored effluents" (low-volume wastewater, metal-cleaning waste, and stormwater (from diked oil storage area yards and storm drains)) via Outfall 001. Low-volume waste sources, metal-cleaning waste, and stormwater drains on a continuous and flow-variable basis via internal Outfall 101.

The discharge of once through cooling water via Outfall 001 and low-volume waste and metal-cleaning waste via Outfall 101 from this facility is subject to federal effluent limitation guidelines at 40 CFR Part 423. The pollutants expected from these discharges based on 40 CFR Part 423 are: free available chlorine, total residual chlorine, total suspended solids, oil and grease, total iron, total copper, and pH. Temperature is also expected from these discharges. Additional potential pollutants are included in the Industrial Wastewater Application Technical Report, Worksheet 2.0.

Cooling water and boiler make-up water are supplied by Lake Starr Reservoir. The City of Austin municipal water plant (CN600000000, PWS 00000) supplies the facility's potable water and serves as an alternate source of boiler make-up water. Water from the Lake Starr Reservoir is withdrawn at the intake structure and treated with sodium hypochlorite to prevent biofouling and sodium bromide as a chlorine enhancer to improve efficacy and then passed through condensers and auxiliary equipment on a once-through basis to cool equipment and condense exhaust steam.

Low-volume wastewater from blowdown of boiler Units 1 and 2 and metal-cleaning wastes receive no treatment prior to discharge via Outfall 101. Plant floor and equipment drains and stormwater runoff from diked oil storage areas, yards, and storm drains are routed through an oil and water separator prior to discharge via Outfall 101. Domestic wastewater, blowdown, and backwash water from the service water filter, clarifier, and sand filter are routed to the Starr Creek Domestic Sewage Treatment Plant, TPDES Permit No. WQ0010000001, for treatment and disposal. Metal-cleaning waste from equipment cleaning is generally disposed of off-site.

ENGLISH TEMPLATE FOR TPDES or TLAP NEW/RENEWAL/AMENDMENT APPLICATIONS DOMESTIC WASTEWATER/STORMWATER

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

City of Yoakum (CN600625529) operates Yoakum Wastewater Treatment Plant (RN102805389), an activated sludge extended aeration treatment plant. The facility is located at Dunn Street, approximately 1 mile southwest of intersection of ALT 77 and Highway 111, in Yoakum, Dewitt County, Texas 77995. This application is for a renewal to discharge 0.95 MGD of treated domestic wastewater into Big Brushy Creek.

Discharges from the facility are expected to contain carbon monoxide, total suspended solids, ammonia nitrogen, nitrate nitrogen, total kjeldahl nitrogen, sulfate, chloride, total phosphorus, pH, dissolved oxygen, chlorine residual, and alkalinity. Treated domestic wastewater flowing into Big Brushy Creek is treated by an activated sludge extended aeration treatment process which consists of headworks, lift station, grit removal, RAS mix box, aeration basins, final clarifiers, chlorine contact chambers, gravity sludge thickener, and belt filter press.

ATTACHMENT 3

Original Full Size USGS Map

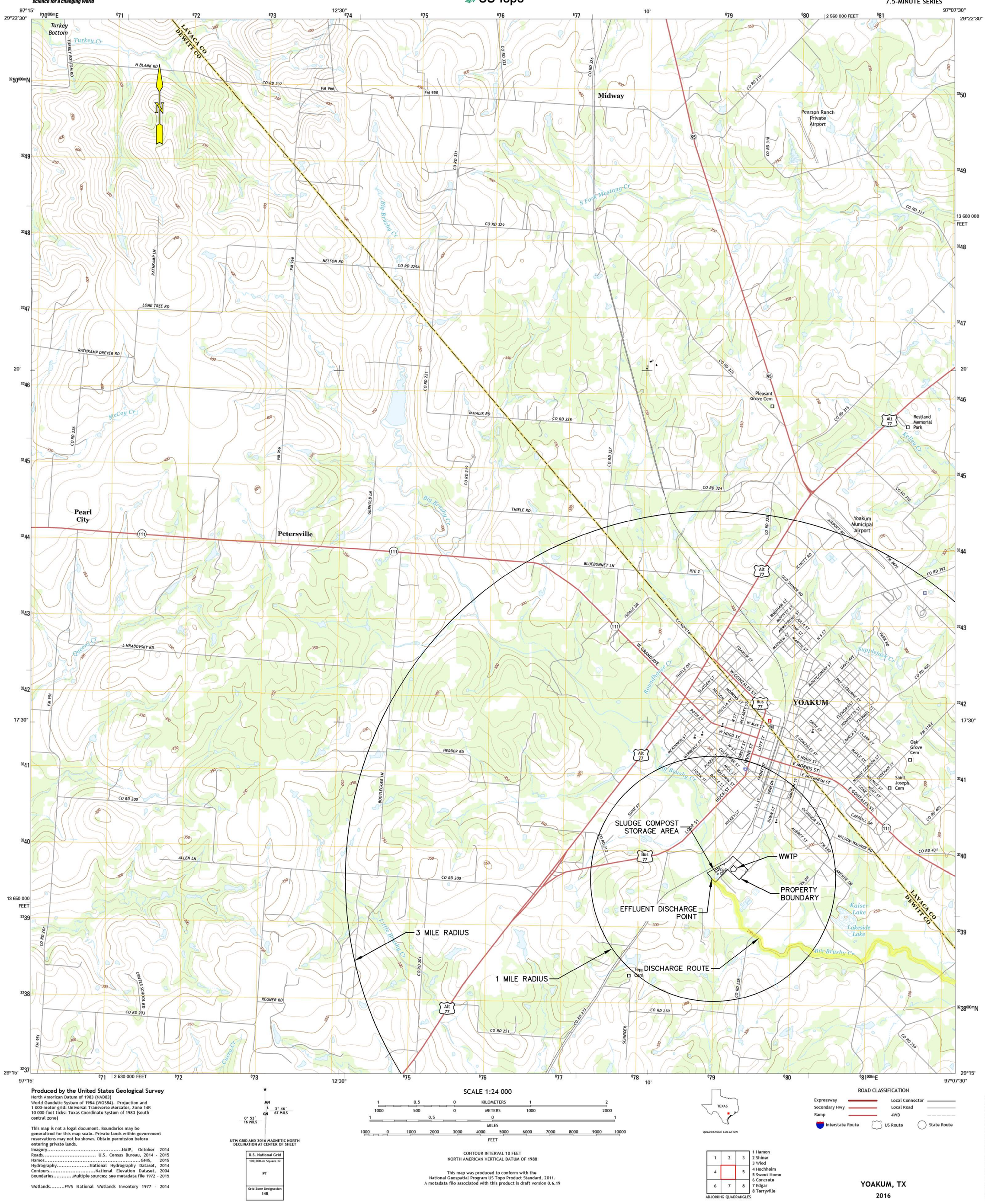
(Ref. Section 13 of Administrative Report 1.0)

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

USGS science for a changing world

The National Map US Topo

YOAKUM QUADRANGLE
TEXAS
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (south central zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, October 2014
Roads..... U.S. Census Bureau, 2014 - 2015
Names.....GNIS, 2015
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2004
Boundaries.....Multiple sources; see metadata file 1972 - 2015

Wetlands.....FWS National Wetlands Inventory 1977 - 2014

MN 3° 46' 67 MILS
GN 0° 53' 16 MILS
UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PT
Grid Zone Designation
14R

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 MILES 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

QUADRANGLE LOCATION

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

1	2	3
4		5
6	7	8

1 Hamon
2 Shiner
3 Wied
4 Hochheim
5 Sweet Home
6 Concrete
7 Edgar
8 Terryville
ADJOINING QUADRANGLES

YOAKUM, TX
2016

NSN. 7643016398985
NGA REF NO. USGSX24K50108

TRC
TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 - 8716

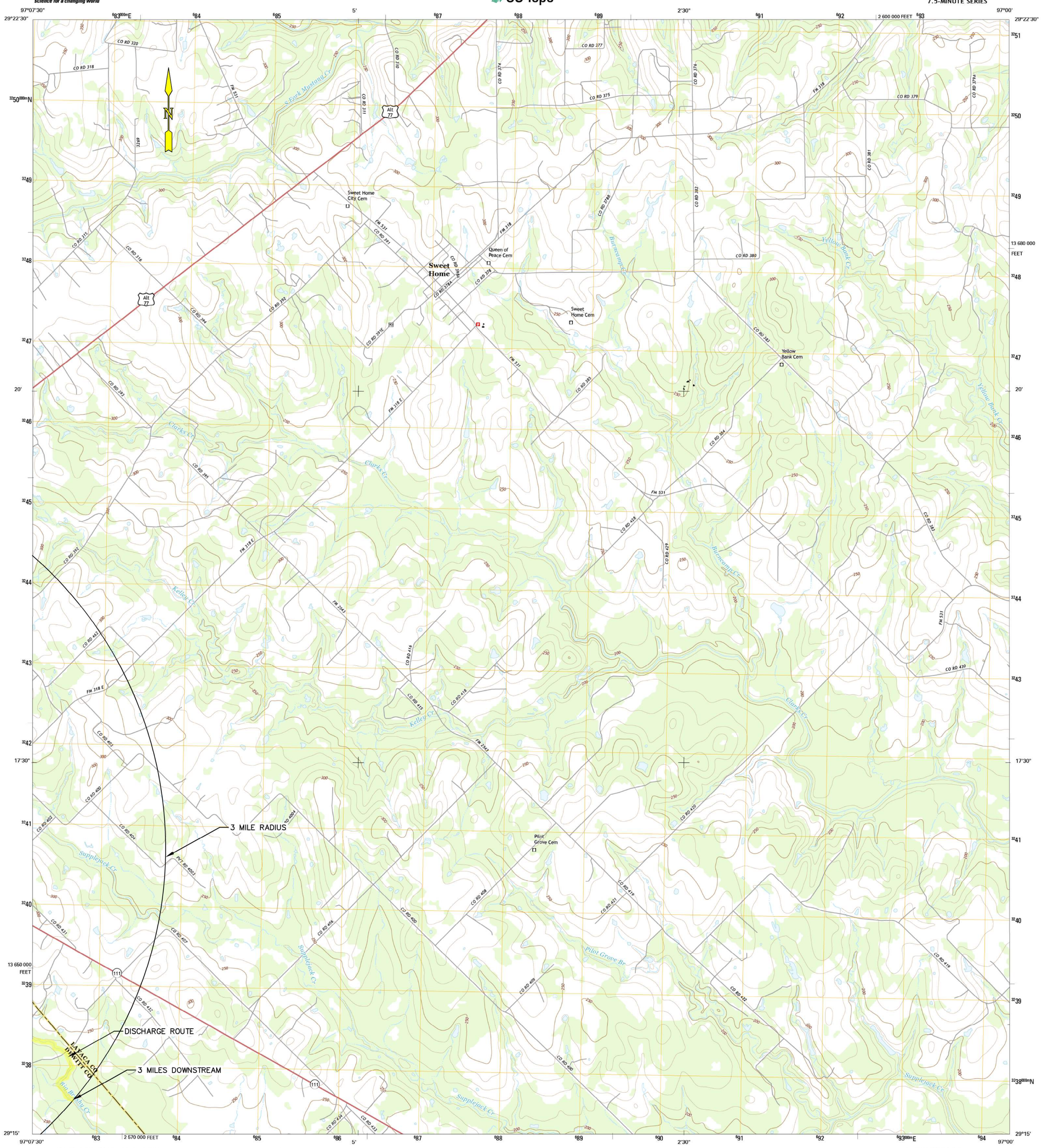
CITY OF YOAKUM, TEXAS USGS MAP

F:\WORK IN PROGRESS\YOAKUM\325394 WWTP PERMIT RENEWAL 2019\500 CAD-GIS DRAWINGS\ATTACHMENT B - USGS MAPS (1 OF 2).DWG - 7/31/24

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

SWEET HOME QUADRANGLE
TEXAS
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and 1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (south central zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, October 2014
Roads..... U.S. Census Bureau, 2014 - 2015
Names.....GNIS, 2015
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2008
Boundaries.....Multiple sources; see metadata file 1972 - 2015

Wetlands.....FWS National Wetlands Inventory 1977 - 2014

MN 3° 42' 66 MILS
GN 0° 57' 17 MILS
UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PT
Grid Zone Designation
14R

SCALE 1:24 000
1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 MILES 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

TEXAS
QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Shiner
2 Wied
3 Hallettsville
4 Yoakum
5 Ezzell
6 Edgar
7 Terryville
8 Hopo
ADJOINING QUADRANGLES

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

SWEET HOME, TX
2016

NSN 7643016398511
NGA REF NO. USGSX24K44014

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 - 8716

CITY OF YOAKUM, TEXAS
USGS MAP

F:\WORK IN PROGRESS\YOAKUM\326394 WWTP PERMIT RENEWAL 2019\500 CAD-GIS DRAWINGS\ATTACHMENT B - USGS MAPS (2 OF 2).DWG - 7/31/24

ATTACHMENT 4

SPIF Form

(Ref. Page 14 after Section 3 of Administrative Report 1.1)

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

SUPPLEMENTAL PERMIT INFORMATION FORM (SPIF)

FOR AGENCIES REVIEWING DOMESTIC OR INDUSTRIAL TPDES WASTEWATER PERMIT APPLICATIONS

TCEQ USE ONLY:

Application type: _____Renewal _____Major Amendment ____Minor Amendment _____New

County: _____ Segment Number: _____

Admin Complete Date: _____

Agency Receiving SPIF:

_____ Texas Historical Commission _____ U.S. Fish and Wildlife

_____ Texas Parks and Wildlife Department _____ U.S. Army Corps of Engineers

This form applies to TPDES permit applications only. (Instructions, Page 53)

Complete this form as a separate document. TCEQ will mail a copy to each agency as required by our agreement with EPA. If any of the items are not completely addressed or further information is needed, we will contact you to provide the information before issuing the permit. Address each item completely.

Do not refer to your response to any item in the permit application form. Provide each attachment for this form separately from the Administrative Report of the application. The application will not be declared administratively complete without this SPIF form being completed in its entirety including all attachments. Questions or comments concerning this form may be directed to the Water Quality Division's Application Review and Processing Team by email at WQ-ARPTeam@tceq.texas.gov or by phone at (512) 239-4671.

The following applies to all applications:

1. Permittee: City of Yoakum

   Permit No. WQ00 10463001 EPA ID No. TX 0026034

   Address of the project (or a location description that includes street/highway, city/vicinity, and county):

   Located approximately 1.0 mile southwest of the intersection of ALT 77 and Highway 111 (Irvine St. and E Morris St.), just southwest of Dunn St. and Fischer St.

Provide the name, address, phone and fax number of an individual that can be contacted to answer specific questions about the property.

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

First and Last Name: Theresa Bowe

Credential (P.E, P.G., Ph.D., etc.): Click here to enter text.

Title: City Clerk

Mailing Address: P.O. Box 738

City, State, Zip Code: Yoakum, TX, 77995

Phone No.: 361-293-6321 Ext.: Click here to enter text. Fax No.: 361-293-3318

E-mail Address: tbowe@cityofyoakum.org

2. List the county in which the facility is located: Dewitt
3. If the property is publicly owned and the owner is different than the permittee/applicant, please list the owner of the property.

Click here to enter text.

4. Provide a description of the effluent discharge route. The discharge route must follow the flow of effluent from the point of discharge to the nearest major watercourse (from the point of discharge to a classified segment as defined in 30 TAC Chapter 307). If known, please identify the classified segment number.

Big Brushy Creek: thence into Clarks Creek: thence into the Lavaca River above Tidal Segment No. 1602 of the Lavaca River Basin

5. Please provide a separate 7.5-minute USGS quadrangle map with the project boundaries plotted and a general location map showing the project area. Please highlight the discharge route from the point of discharge for a distance of one mile downstream. (This map is required in addition to the map in the administrative report). **Attachment 5**

Provide original photographs of any structures 50 years or older on the property.

Does your project involve any of the following? Check all that apply.

- ☐ Proposed access roads, utility lines, construction easements
- ☐ Visual effects that could damage or detract from a historic property's integrity
- ☐ Vibration effects during construction or as a result of project design
- ☐ Additional phases of development that are planned for the future
- ☐ Sealing caves, fractures, sinkholes, other karst features

☐ Disturbance of vegetation or wetlands

1. List proposed construction impact (surface acres to be impacted, depth of excavation, sealing of caves, or other karst features):

No proposed construction

2. Describe existing disturbances, vegetation, and land use:

No existing disturbances

THE FOLLOWING ITEMS APPLY ONLY TO APPLICATIONS FOR NEW TPDES PERMITS AND MAJOR AMENDMENTS TO TPDES PERMITS

3. List construction dates of all buildings and structures on the property:

Click here to enter text.

4. Provide a brief history of the property, and name of the architect/builder, if known.

Click here to enter text.

ATTACHMENT 5

SPIF USGS Map

(Ref. Item 5 of Supplemental Permit Information Form, SPIF)

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

The National Map US Topo

YOAKUM QUADRANGLE
TEXAS
7.5-MINUTE SERIES

SLUDGE COMPOST STORAGE AREA
YOAKUM WWTP
PROPERTY BOUNDARY
EFFLUENT DISCHARGE POINT
DISCHARGE ROUTE
1 MILE RADIUS
1 MILE DOWNSTREAM

Produced by the United States Geological Survey
North American Datum of 1983 (NAD83)
World Geodetic System of 1984 (WGS84). Projection and
1 000-meter grid: Universal Transverse Mercator, Zone 14R
10 000-foot ticks: Texas Coordinate System of 1983 (south central zone)

This map is not a legal document. Boundaries may be generalized for this map scale. Private lands within government reservations may not be shown. Obtain permission before entering private lands.

Imagery.....NAIP, October 2014
Roads..... U.S. Census Bureau, 2014 - 2015
Names.....GNIS, 2015
Hydrography.....National Hydrography Dataset, 2014
Contours.....National Elevation Dataset, 2004
Boundaries.....Multiple sources; see metadata file 1972 - 2015

Wetlands.....FWS National Wetlands Inventory 1977 - 2014

UTM GRID AND 2016 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

U.S. National Grid
100,000-m Square ID
PT
Grid Zone Designation
14R

SCALE 1:24 000

1 0.5 0 KILOMETERS 1 2
1000 500 0 METERS 1000 2000
1 0.5 0 MILES 1
1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

CONTOUR INTERVAL 10 FEET
NORTH AMERICAN VERTICAL DATUM OF 1988

This map was produced to conform with the National Geospatial Program US Topo Product Standard, 2011.
A metadata file associated with this product is draft version 0.6.19

TEXAS
QUADRANGLE LOCATION

1 Hamon
2 Shiner
3 Wied
4 Hochheim
5 Sweet Home
6 Concrete
7 Edgar
8 Terryville
ADJOINING QUADRANGLES

ROAD CLASSIFICATION
Expressway
Secondary Hwy
Ramp
Local Connector
Local Road
4WD
Interstate Route
US Route
State Route

NSN. 7643016398985
NGA REF NO. USGSX24K50108

YOAKUM, TX
2016

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F-8632
(512) 454 - 8716

CITY OF YOAKUM, TEXAS
SPIF MAP

ATTACHMENT 6

Treatment Unit Dimensions

(Ref. Section 2 of Domestic Technical Report 1.0)

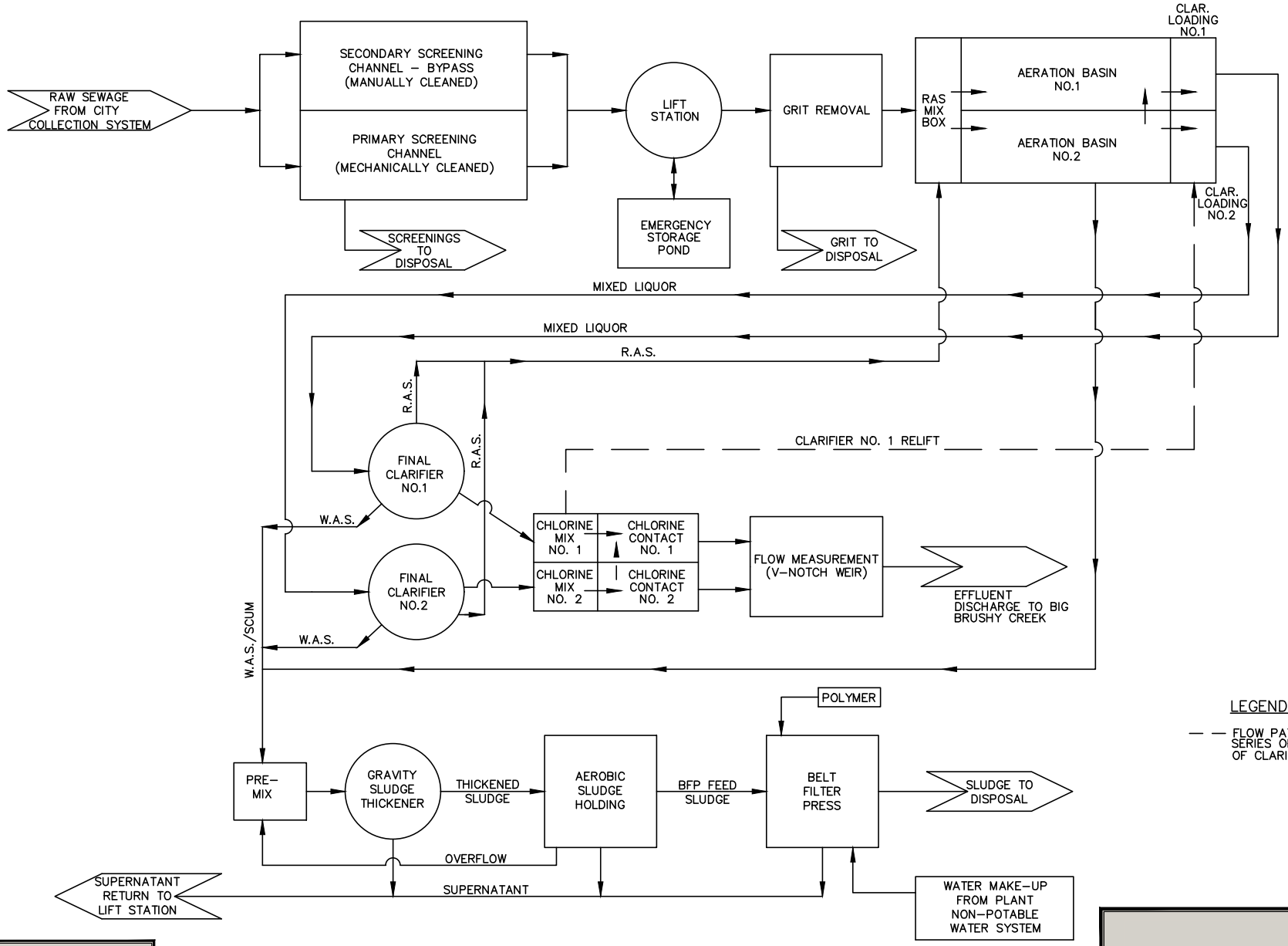
ATTACHMENT 6
TREATMENT COMPONENT LIST

Type of Unit	Number of Units	Size
Influent Screening Channel	2 (1-Mechanically Cleaned; 1-Manually Cleaned)	3 ft W x 5 ft Channel depth x 18 ft L (13 ft total depth)
Raw Sewage Lift Station	1	30 ft Diameter x 23.8 ft Deep
Emergency Storage Pond	1	10,800 SF Floor Area x 40,700 SF Water Surface Area (Vol=1.81 Mgal)
Aerated Grit Basin	1	15 ft square x 16.5 Center Water Depth w/ 45 degree Sloped Floors
RAS Mix Box	1	13 ft W x 15 ft L x 16.5 ft A.W.D.
Aeration Basins	2	4,743 SF Surface Area x 15.5 ft A.W.D. (each Basin)
Clarifier Loading Basins	2	153 SF Surface Area x 14.3 ft A.W.D. (each Basin)
Final Clarifiers	2	65 ft I.D. Octagonal x 14 ft A.W.D. (each Basin)
Chlorine Mix Basins	2	153 SF Surface Area x 11 ft A.W.D. (each Basin)
Chlorine Contact Basins	2	17 ft W x 26 ft L x 11 ft A.W.D. (each Basin)
Effluent Box	1	4 ft W x 8 ft L x 11 ft A.W.D. (each Basin)
Thickener Pre-Mix	1	6 ft W x 22 ft L x 15 ft A.W.D.
Gravity Sludge Thickener	1	22 ft square x 15 ft Center Water Depth w/ 3:12 sloped floors
Sludge Holding Basin	1	29 ft W x 34 ft L x 16 ft max W.D.
Belt Filter Press	1	2.0 Meter unit

ATTACHMENT 7

Process Flow Diagram

(Ref. Section 2 of Domestic Technical Report 1.0)



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T.B.P.E. FIRM REGISTRATION # F–8632
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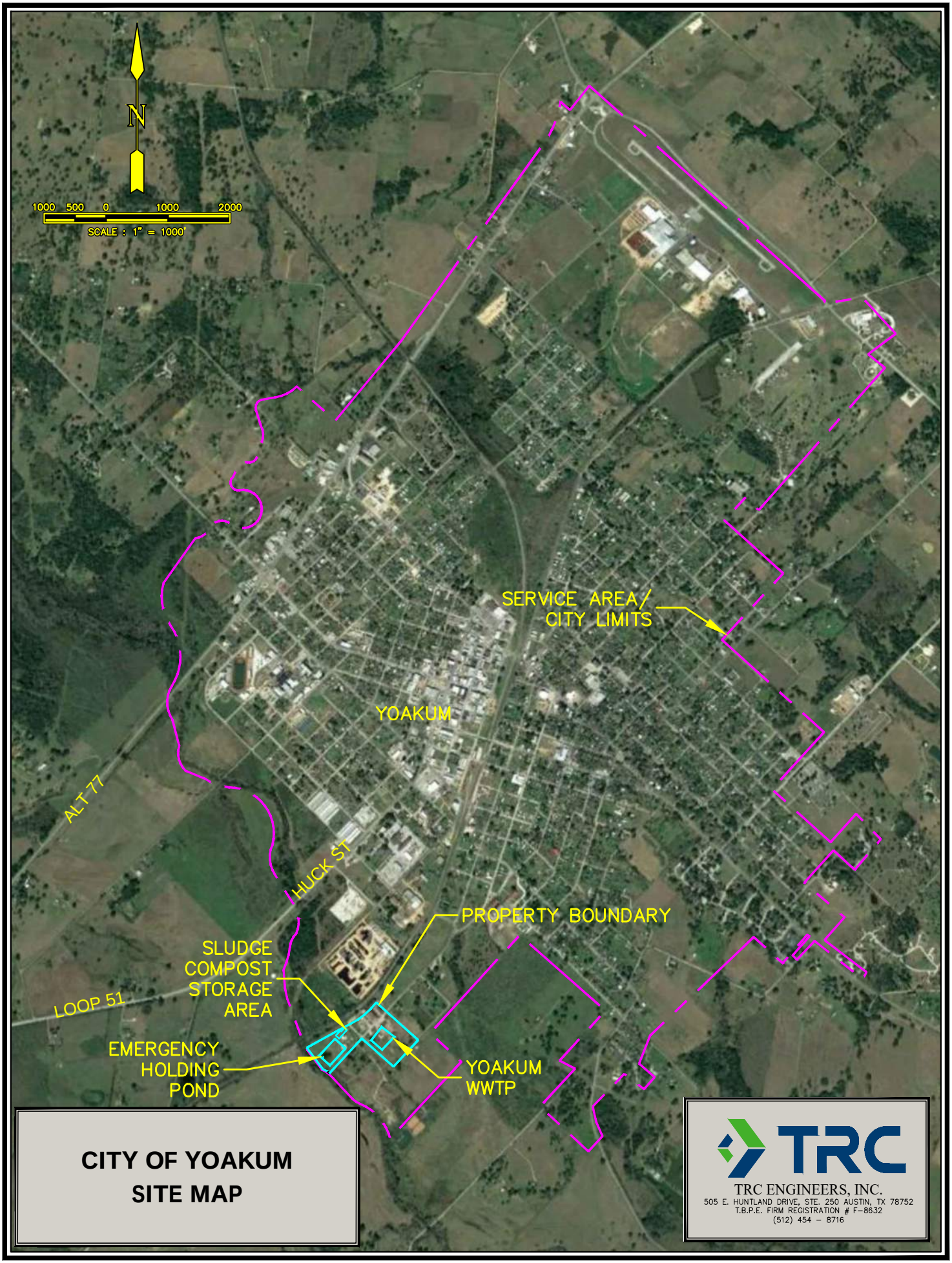
YOAKUM WWTP EXISTING FLOW DIAGRAM 0.95 MGD

ATTACHMENT 8

Site Drawing

(Ref. Section 3 of Domestic Technical Report 1.0)



CITY OF YOAKUM
SITE MAP

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ATTACHMENT 9

Compost Site Information

(Ref. Section 1 of Domestic Sewage Sludge Technical Report 1.0)

ATTACHMENT 9

COMPOST SITE INFORMATION

a. Quantity of Off-Site Sludge

At this time, there is no consideration or requirement to receive off-site sludge at the composting facility, although once the facility is operational there is a possibility of receiving off-site sludge if the facility is capable of composting additional sludge quantities.

b. Sewage Sludge Quantity

The amount of sewage sludge assumes only the sludge produced at the Yoakum Wastewater Treatment Plant. The sludge volume calculations have been prepared based on three scenarios, as follows:

1) Current WWTP Production

As referenced in Attachment 12, the current influent load in the facility averages 619,000 GPD flow and 140 mg/l BOD. The current activated sludge facility initially started treatment in April, 1998. For 2013, the production rate averaged 480 cubic yards per year. The average solids in the dewatered sludge, is 20.0%.

2) Current WWTP Influent Load at Permitted Flow

Using the current BOD load of 140 mg/l and the permitted flow of 950,000 GPD would produce a sludge production of 740 cubic yards per year, based on the sludge production quantities in 1) above.

3) WWTP Design Loads

Using design loads of 950,000 GPD flow and 200 mg/l BOD, the sludge production would be 1,645 cubic yards per year.

c. Fecal Coliform Bacteria Analysis

The WWTP tests for salmonella bacteria instead of Fecal Coliform. Based on a single grab sample of dewatered sludge no salmonella was detected.

d. Bulking Material

The bulking material consists of brush and tree trimmings as the primary source and grass and leaves as the secondary source. The source of the material is from the City's

Electrical Department and from brush delivered by individuals. The estimated quantity of material is based on the collection from the previous two years, as follows:

2012 & 2013	Total chipped quantity (yd^3)
Tree Trimmings/Brush Collected by City:	2,003
Tree Trimmings/Brush Delivered by Individuals:	7,069
Total Tree Trimmings/Brush:	9,072
Grass/Leaves Collected:	12,065

e, f. Site Plan

Reference Attachment 8 for a site plan of existing compost area.

g. Types of Composting

An aerated pile process is the existing type of composting. There are no means to provide mechanical air injection.

h. Site Drainage Control

The existing areas for sludge and compost storage are located above natural ground such that site drainage will not affect these areas. Reference drainage calculations in Attachment 11.

i, j, k. Leachate Collection System & Groundwater Protection

The sludge storage area consists of existing sand drying beds, for which there exists a perforated pipe lateral system to remove the filtered liquid and return it to the plant headworks for treatment. The compost area consists of once abandoned trickling filter concrete basins, which have existing concrete floors and collection floor drains. The drains from the structures have been extended to the existing collection system for return to the plant headworks.

The facility is operated such that the sludge is always located in an area that provides sufficient means of returning any leachate to the treatment plant for re-treatment. The sludge is transported approximately 800 ft. using the sludge transfer vehicle from the belt filter press sludge conveyor to the compost basins or existing sand drying beds. The transportation route has little or no public access other than deliveries of brush to the compost site. Transfer of the sludge has been by means of a front-end loader. The loader provides turning of the compost beds as required. The finished product remains in the compost basins until ready for final disposal.

l. Minimization of Windblown Material, Odor & Vector Control

The existing converted trickling filter basins are used to contain the compost. The basin walls are located 3 to 6 ft. above the natural ground. The compost piles do not extend as high as the top of the wall. The potential for odors and windblown material is minimized due to the basin walls providing a wind block.

The location of the bulking material does not offer wind protection although there are tree lines located to the east and south of the area, however, the southeast prevailing winds force any windblown material across the compost site, rather than onto adjacent property.

Although it is difficult to provide complete vector control, the area is fenced along its boundary, with a large portion being chain link. Additionally, the location of the compost area in the concrete basins makes it difficult for access of rodents or snakes.

m. 30 TAC Section 332.72 (d) (2) (A) (D)

The end product meets the requirements of 30 TAC Section 332.72 (d)(2)(A)(D).

ATTACHMENT 10

Compost Site Capacity Calculations

(Ref. Section 2 of Domestic Sewage Sludge Technical Report 2.0)

ATTACHMENT 10

COMPOST SITE CAPACITY CALCULATIONS

The sludge from the Yoakum WWTP is incorporated into a new compost pile as it is processed from the WWTP belt filter press. If, for some reason the sludge cannot be immediately incorporated, it is temporarily stored on the existing sand drying beds.

The worst-case scenario for the compost system assumes sludge production based on the WWTP design loads, which has been calculated to be 13.52 yd^3/day of total feedstock volume (Reference Attachment 12). The worst case scenario also assumes a windrow process designed to allow tractor access on both sides of the windrows. The primary compost area consists of the two 90 ft. diameter circular basins and the secondary compost area consists of the two 60 ft. diameter circular basins.

Primary Compost Basins

For the two 90 ft. diameter primary compost basins, the worst-case scenario assumes a windrow process with each windrow sized 12 ft. base width, 6 ft. top width and 6 ft. tall, which equates to 54 square feet per linear foot of length. The optimal windrow layout consists of a 10 ft. wide access strip down the middle of the basin with three windrows on each side and 10 ft. wide access strips between windrows. The total windrow length is 213 ft., which equates to a volume of 11,500 $ft.^3$, or 426 $yd.^3$ per basin, or 852 $yd.^3$ for both basins. Based on a maximum anticipated compost time of 30 days, these basins can handle a compost load of 28.4 $yd.^3$/day, which is greater than the maximum feedstock volume production of 13.52 $yd.^3$/day. Alternatively, the compost could remain in the basin for 63 days.

Secondary Compost Basins

The compost volume will be reduced by 1/4 from the primary compost basins, which equates to a maximum volume of 10.14 $yd.^3$/day to the two (2) 60 ft. diameter secondary compost basins. The optimal windrow layout consists of a 10 ft. wide access strip down the middle of the basin with two windrows on each side and 12 ft. wide access strips between windrows. The total windrow length would be 88.6 ft., which equates to a volume of 4,784 $ft.^3$, using the same windrow size as on the primary basins, or 177 $yd.^3$ per basin, or 354 $yd.^3$ for both basins. Based on a maximum compost time of 30 days, these basins can handle a compost load of 11.8 $yd.^3$/day, which is slightly greater than the maximum feedstock volume production.

Existing Sand Drying Beds

The existing sand drying beds are used for finished compost storage on an emergency basis. There are three (3) beds each sized 25 ft. wide x 50 ft. long and three (3) beds each sized 35 ft. wide x 70 ft. long, for a total surface area of 11,100 square feet. In order to reduce windblown material, the compost height is limited to 3 ft., which equates to approximately 31,635 $ft.^3$ (11,100 square feet x 3 ft. x 0.95), or 1,170 $yd.^3$, which provides sufficient storage for about 115 days.

ATTACHMENT 11

Compost Site Drainage Area Calculations

(Ref. Section H of Attachment 10)

ATTACHMENT 11

COMPOST SITE DRAINAGE AREA CALCULATIONS

Region	Area (acres)	tc (min)	b	d	e	I = b/(tc+d)^e (in/hr)	C	Q = CIA ft^3/sec)
A	0.872	5	69	9.6	0.797	8.14	0.38	2.70
B	0.126	5	69	9.6	0.797	8.14	0.53	0.54
C	0.264	5	69	9.6	0.797	8.14	0.43	0.92
D	0.353	5	69	9.6	0.797	8.14	0.42	1.21
E	0.152	5	69	9.6	0.797	8.14	0.43	0.53

ATTACHMENT 12

Site Operating Plan

(Ref. Section 2 of Domestic Sewage Sludge Technical Report 2.0)

ATTACHMENT 12
SITE OPERATING PLAN

PROCESS DESCRIPTION

I. Feedstock Identification

Feedstock Materials:

The materials to be composted at the Yoakum facility consist of the following:

	Sewage Sludge Production (yd^3/year)	Required Wood Chips (yd^3/year)(1)	Total Feedstock Volume (yd^3/year)	Total Feedstock Volume (yd^3/day)
Current WWTP Production	480	960	1,440	3.95
Current Inf. Load at Permitted Flow	740	1,480	2,220	6.08
WWTP Design Loads	1,645	3,290(2)	4,935	13.52

(1) – Based on wood chip to sludge ratio of 2.0:1.
(2) – May be supplemented with grass/leave compost.

Processed Material:

Based on an assumed material reduction from the compost process of 1/4 to 1/3 the beginning volume, the estimated total amount of process material will be as follows:

	Processed Material Production (yd^3/year)	Processed Material Production (yd^3/day)
Current WWTP Production	960 – 1,080	3.95 – 4.44
Current Inf. Load at Permitted Flow	1,480 – 1,665	6.08 – 4.56
WWTP Design Loads	3,290 – 3,701	9.01 – 10.14

Material Screening:

This section discusses the processes for screening of the feedstock for unauthorized and prohibited materials.

Sewage Sludge - The wastewater treatment plant operators control the quality of the sewage sludge by the biological process control within the wastewater treatment facility, including testing of the raw sewage and dewatered sludge, and visual inspection and testing within the biological process to optimize the activated sludge system.

Collected Brush/Grass/Leaves – Control of the feedstock material collected by the City's collection services is controlled by the collection personnel. The personnel are trained not to accept any prohibited material.

Delivered Brush/Grass/Leaves – Delivered feedstock material is controlled by the City's personnel at the receiving gate and by the compost operators. The areas for each material are segregated on the site.

II. Tipping Process

This section discusses the tipping procedures for the three types of feedstock handling methods: (1) sewage sludge, (2) yard collection services provided by the City, and (3) feedstock material delivered by individuals.

Sewage Sludge:

The wastewater treatment plant is located within the same City compound as the compost facility. The sludge from the belt filter press is emptied onto a belt conveyor which transports the dewatered sludge to the sludge transfer dump truck. The dump truck, transports the sludge to the compost basins and dump it directly into the basins where it will be mixed with the chip wood. There is no storage time required for the sludge, unless the compost area cannot be accessed, for which the sludge is temporarily stored on the existing sand beds.

City Yard Collection Services:

The City of Yoakum provides curbside collection services for residential yard brush and leaves and grass. The brush is chipped at the collection point into a truck and delivered to the compost area. The leaves and grass are collected into a truck and also delivered to the compost area. The collected materials are dumped at the site by mechanical means (dump truck). The chipped wood is transported from the storage area to the compost basins by the use of front-end loaders.

Material Delivered by Individuals:

The existing WWTP and recycling center are located in the same fenced compound area as the compost site. Access into the site is through a single gate. A City employee is currently used full-time for receipt of the recycling products delivered by individuals. This employee also is used for receipt of feedstock materials for the compost area. The employees direct the individuals to the specific site for off-loading, with segregation provided for grass and leaves, brush and other wood products unacceptable for composting. The City is chipping every six months.

III. Process

The sludge is incorporated with wood chips to form a new compost pile as the sludge is produced from the WWTP, which currently is approximately every two weeks. The

sludge is transported and dumped at the primary compost area basins from the WWTP using the sludge transfer vehicle. The wood chips are transported to the basin using the front-end loader and mixed with the sludge to form the compost pile.

Operating Procedures[1]

1. The Compost Process

A basic understanding of the compost process can help produce a high-quality product, while preventing many common problems. The microorganisms that do the work in composting have a few basic requirements which need to be provided. Air, water, the right food and temperature combine to create a good composting environment.

Composting is an aerobic process, which means it occurs in the presence of oxygen. Oxygen is provided in two ways:

1. by turning the compost, either by front-end loader or a specialized compost turner;

2. by building the pile correctly, so surface air can diffuse into the center. When a pile gets too little oxygen, it will go anaerobic, and offensive odors may result.

Microorganisms need water. Ideally, the moisture content should be between 40 and 60 percent. Too wet, and anaerobic conditions result; too dry, and the decomposition process will slow way down.

Bacteria, fungi, and other microorganisms get their energy from carbon sources, such as leaves, brush, or wood chips. Nitrogen is required for population growth, but excess nitrogen can generate ammonia and other odors, and can pollute runoff water. If high nitrogen materials such as grass clippings are used, they must be thoroughly mixed with a carbon source. Surface area is also important in this relationship, as the carbon in leaves is much more available than the carbon in a large wood chip.

As the microorganisms are working away, decomposing waste, they generate heat. When temperatures rise above 140° F, the organisms start to die. Turning the pile when temperatures reach this point will prevent overheating, which can result in drastic population fluctuations and odors.

Eventually, the microorganisms will use up most of the readily decomposable waste, and the composting process will slow. Temperatures drop, and the compost takes on a dark, granular texture. At this point, the compost can be placed in large stockpiles to cure and will continue to improve until it is ready for use.

Optimal Composting Conditions

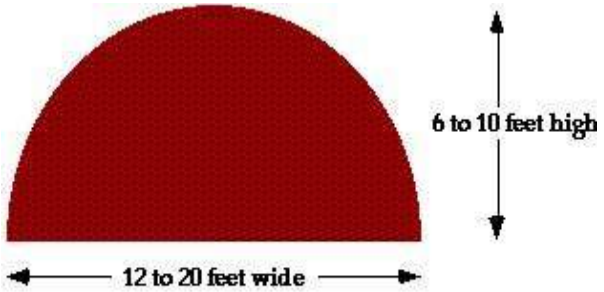
Oxygen	10%
Moisture	~40-60%
Carbon:Nitrogen	30 : 1
Temperature	90-140° F

2. Building Windrows

The first stages of composting are in many ways the most important, and proper windrow construction is the key to getting the process off to a good start. The two aspects of windrow building are: 1) mixing materials, and 2) forming and shaping the windrow. Both of these aspects are discussed below.

If several different types of waste are going to be composted together, they must first be thoroughly blended. Mixing is required to balance the carbon and nitrogen ratio and distribute moisture throughout the pile, and also to ensure an even distribution of large pores so that oxygen can move freely. If grass clippings or other high nitrogen materials are being composted, this blending process is particularly critical. Mixing can be accomplished with a front-end loader, although other equipment such as tub grinders or specialized windrow turning machines are commonly used when mixing grass clippings, which tend to mat together.

The size and shape of the windrow are designed to allow oxygen to flow throughout the pile while maintaining temperatures in the proper range. If windrows are too large, oxygen cannot penetrate to the center, while if they are too small, they will not heat up properly. The optimum size varies both with the type of material and with the time of year. Windrows of autumn leaves should typically be about 8 feet tall and 16 feet wide at the base but may be built as high as 10 feet in mid winter. A windrow of grass clippings mixed with leaves will need to be considerably smaller, usually about 5 feet high and 10 feet wide. These sizes are approximate and may need to be adjusted somewhat.



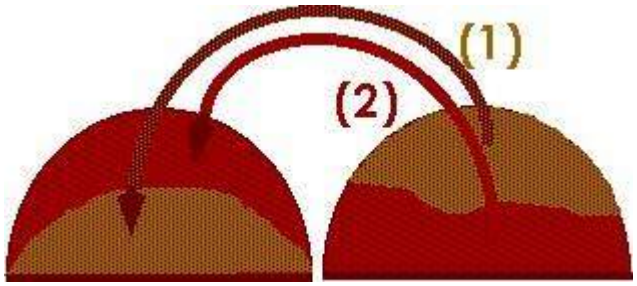
Cross Section of a Leaf Compost Windrow

While constructing the windrows, try to avoid driving on and compacting the yard waste. The windrows can be built by lifting the material with the bucket of a front-end loader, and letting it cascade down to form a loose pile. The sides of the windrow can be as steep as the material will naturally pile up, which typically leads to a windrow about twice as

wide as it is high. Windrows can be as long as is convenient for the site, up to several hundred feet in length.

3. Turning Windows

There are two goals to keep in mind when turning a compost windrow. The first is to move material from the outside of the pile to the middle, where it can decompose more quickly. The second goal is to loosen and fluff the material, so it will be more porous, and air can move freely. Specialized windrow turners are designed to accomplish both of these goals. A front-end loader can do the job as well, as illustrated below. First flip the top of the windrow over just beyond the existing windrow. Second, take the compost from the bottom of the old windrow and place it on top of the new windrow. Let the compost cascade out of the loader, to keep it as loose as possible.



Turning frequency should normally be based on temperature, and should occur whenever temperatures exceed to 140° F, or drop below 90° F. If the compost is staying in this range on its own, regular tuning can accelerate decomposition by mixing the material and exposing new surface. Leaves may only need to be turned a few times a year but will benefit from turning as often as every two weeks. On the other hand, grass clippings, even when properly mixed with leaves, may initially need turning once or twice a day. As decomposition proceeds and the compost becomes more stable, frequent turning becomes less important.

If the compost has become anaerobic and smells, turning will temporarily add oxygen but may also cause odors. Schedule compost turnings to minimize any negative impacts by considering such factors as wind direction, when people are home, and whether they are likely to be outside or have their windows open. Before turning, try to determine the root of the problem, such as too large a pile, too much water, or too much nitrogen. Remedial action can then be taken as the compost is being turned.

4. Composting Ingredients

Yard waste consists of a variety of different materials, each of which has its own characteristics and requirements. When combining different materials such as leaves and grass clippings to make compost, the concept of carbon to nitrogen ratios (C:N) is critical. The ideal proportion of these two elements is about 30 parts carbon to 1 part nitrogen by weight, although this ratio may need to be adjusted based on the bioavailability of carbon and nitrogen.

If carbon and nitrogen are too far out of balance, the microbial system will suffer. When there is little nitrogen, the microbial population will not grow to its optimum size, and composting will slow down. In contrast, too much nitrogen allows rapid microbial growth and accelerates decomposition, but this can create serious odor problems as oxygen is used up and anaerobic conditions occur. In addition, some of this excess nitrogen will be given off as ammonia gas that generates odors while allowing valuable nitrogen to escape. Therefore, materials with a high nitrogen content, such as grass clippings, require more careful management, with adequate aeration or frequent turning as well as thorough blending with a high carbon waste.

Waste materials can be blended to improve the carbon-nitrogen balance and hasten decomposition. For example, leaves are typically in a ratio of 40-80 units of carbons to 1 unit of nitrogen. Although leaves will compost slowly by themselves, they can benefit from additional nitrogen. Mixing leaves with a high nitrogen waste, such as grass clippings, manure, or nitrogen fertilizer will accelerate the decomposition process. Adding one part grass clippings to three parts leaves, or two pounds of nitrogen fertilizer to a cubic yard of leaves, will balance these nutrients and help composting proceed in the shortest possible time. The table below presents estimates of the C:N ratios of various compostable materials.

Carbon to Nitrogen Ratios

High Nitrogen Materials:	**C:N**
Grass Clippings	19:1
Sewage Sludge (digested)	16:1
Food Wastes	15:1
Cow Manure	20:1
Horse Manure	25:1
High Carbon Materials:	
Leaves and Foliage	40-80:1
Bark	100-130:1
Paper	170:1
Wood and Sawdust	300-700:1

5. Moisture Content Calculations

When deciding what proportions of various materials to mix together in making compost, the moisture of the resulting mixture is one of the critical factors to consider. The following steps outline how to design your initial mix so that it will have a suitable moisture level for optimal composting.

a. Calculate the % moisture for each of the materials you plan to compost.
   a) Weigh a small container.
   b) Weigh 10 g of the material into the container.
   c) Dry the sample for 24 hours in a 105-110 degree C oven.
   d) Reweigh the sample, subtract the weight of the container, and determine the moisture content using the following equation:

$M_n = ((W_w - W_d)/W_w) \times 100$
in which:
M_n = moisture content (%) of material n
W_W = wet weight of the sample, and
W_d = weight of the sample after drying.

Suppose, for example, that you weigh 10 g of grass clippings (W_w) into a 4 g container and that after drying the container plus clippings weighs 6.3 g. Subtracting out the 4-g. container weight leaves 2.3 g as the dry weight (W_d) of your sample. Percent moisture would be:

$M_n = ((W_w - W_d)/W_w) \times 100$
$= ((10 - 2.3) / 10) \times 100$
= 77% for the grass clippings

b. Choose a moisture goal for your compost mixture. Most literature recommends a moisture content of 50%-60% by weight for optimal composting conditions.

c. The next step is to calculate the relative amounts of materials you should combine to achieve your moisture goal. The general formula for percent moisture is:

$$G = \frac{(Q_1 x M_1) + (Q_2 x M_2) + (Q_3 x M_3) + \ldots}{Q_1 + Q_2 + Q_3 + \ldots}$$

in which:
Q_n = mass of material n ("as is", or "wet weight")
G = moisture goal (%)
M_n = moisture content (%) of material n

You can use this formula directly to calculate the moisture content of a mixture of materials and try different combinations until you get results in a reasonable range.

Using trial and error to determine what proportions to use for a mixture will work, but there is a faster way. For two materials, the general equation can be simplified and solved for the mass of a second material (Q_2) required in order to balance a given mass of the first material (Q_1). Note that the moisture goal must be **between** the moisture contents of the two materials being mixed.

$$Q_2 = \frac{(Q_1 x G) - (Q_1 x M_1)}{M_2 - G}$$

For example, suppose you wish to compost 10 kg grass clippings (moisture content = 77%). In order to achieve your moisture goal of 60% for the compost mix, you calculate the mass of leaves needed (moisture content = 35%):

$$Q_2 = \frac{(Q_1 x G) - (Q_1 x M_1)}{M_2 - G}$$

Q_2= ((10 kg)(60) - (10 kg)(77)) / (35 - 60)
= 6.8 kg leaves

Mixtures of 3 or more materials can also be solved in a similar way, but for an exact solution the amounts of all but one material must be specified. To find the mass of the third material (Q_3) given the masses of the first two (Q_1 and Q_2) plus all three moisture contents (M_1, M_2, and M_3) and a goal (G), solve:

$$Q_3 = \frac{(G x Q_1) + (G x Q_2) - (M_1 x Q_1) - (M_2 x Q_2)}{M_3 - G}$$

6. C/N Ratio

Once you have calculated the moisture content of your compost mixture, the other important calculation is the carbon-to-nitrogen ratio (C/N). Grass clippings and other green vegetation tend to have a higher proportion of nitrogen (and therefore a lower C/N ratio) than brown vegetation such as dried leaves or wood chips. If your compost mix is too low in nitrogen, it will not heat up. If the nitrogen proportion is too high, the compost may become too hot, killing the compost microorganisms, or it may go anaerobic, resulting in a foul-smelling mess. The usual recommended range for C/N ratios at the start of the composting process is about 30/1, but this ideal may vary depending on the bioavailability of the carbon and nitrogen. As carbon gets converted to CO2 (and assuming minimal nitrogen losses) the C/N ratio decreases during the composting process, with the ratio of finished compost typically close to 10/1.

Typical C/N ratios and nitrogen values for many kinds of compostable substances can be looked up in published tables. To calculate the carbon content given C/N and percent nitrogen, solve:

%C = %N x C/N

You may be able to measure the carbon and nitrogen content of your own materials and then calculate the ratio directly. Soil nutrient analysis laboratories or environmental testing laboratories can do the nitrogen test, and maybe carbon as well. Once you have the C/N ratios for the materials you plan to compost, you can use the following formula to figure out the ratio for the mixture as a whole:

$$R = \frac{Q_1(C_1 x(100 - M_1) + Q_2(C_2 x(100 - M_2) + Q_3(C_3 x(100 - M_3) + ...}{Q_1(N_1 x(100 - M_1) + Q_2(N_2 x(100 - M_2) + Q_3(N_3 x(100 - M_3) + ...}$$

in which:
R = C/N ratio of compost mixture
Qn = mass of material n ("as is", or "wet weight")

Cn = carbon (%) of material n
Nn = nitrogen (%) of material n
Mn = moisture content (%) of material n

This equation can also be solved exactly for a mixture of two materials, knowing their carbon, nitrogen, and moisture contents, the C/N ratio goal, and specifying the mass of one ingredient. By simplifying and rearranging the general equation, the mass of the second material required would be:

$$Q_2 = \frac{Q_1 x N_1 x \left(R - \frac{C_1}{N_1} \right) x (100 - M_1)}{N_2 x \left(\frac{C_2}{N_2} - R \right) X (100 - M_2)}$$

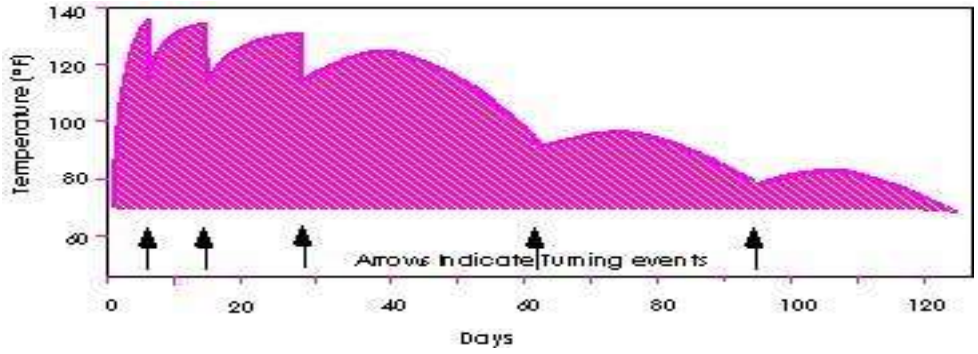
As with moisture calculations, mixtures of 3 or more materials can be solved for the mass of the third material if the first two are specified (one equation & one unknown). Given the carbon, nitrogen and moisture contents of each ingredient, the masses of the first two, and the C/N ratio goal, the solution for the mass of the third material is:

$$Q_3 = \frac{RQ_1N_1(100 - M_1) + RQ_2N_2(100 - M_2) - Q_1C_1(100 - M_1) - Q_2C_2(100 - M_2)}{C_3(100 - M_3) - RN_3(100 - M_3)}$$

If we also want to consider moisture content, we can solve both equations simultaneously (moisture and C/N) for any two unknowns.

7. Temperature

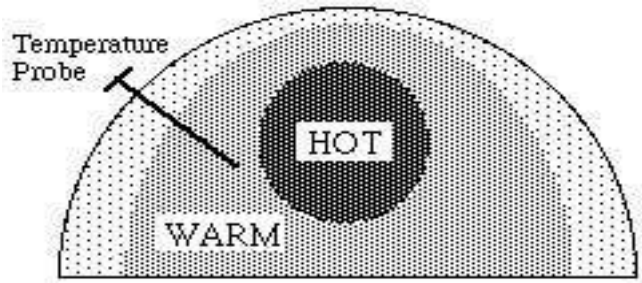
As organisms decompose waste, they generate heat. Decomposition is most rapid when the temperature is between 90° and 140° F (32 - 60° C). Below 90° F (32° C), the process slows considerably, while above 140° F (60° C) most microorganisms cannot survive. Compost pile temperature depends on how the heat produced by microorganisms is offset by the heat lost through aeration or surface cooling. During periods of extremely cold weather, piles may need to be larger than usual to minimize surface heat loss. When composting high nitrogen wastes, like grass clippings in the summer, smaller piles and frequent turning are needed to both provide oxygen and release excess heat.



The above is a graph of typical compost temperatures. After an initial high temperature period (of a few days to several weeks), compost pile temperatures will gradually drop. Turning the compost rejuvenates the oxygen supply and exposes new surfaces to decomposition, causing temperatures to rise. If temperatures rise above 160° F (71° C), the compost can sterilize itself, killing off the beneficial microorganisms. Extremely high temperatures can also start the chemical process of spontaneous combustion, which might lead to the outbreak of a fire. Turning the compost when temperatures exceed 140° F (60° C) can prevent both these potential problems.

When the temperature drops below 70° F (21° C), the composting process is nearly complete. However, it is also possible that imbalances of oxygen or moisture are causing the pile to cool. If the compost is properly moist, and turning does not cause temperatures to rise, the compost is probably finished.

Temperature monitoring is very important for managing the compost process. By measuring temperatures regularly, you can tell how fast material is composting, and whether there are hot or cold spots in the pile. Turning the compost whenever temperatures get above or below the optimum range will help produce high quality compost in the shortest possible time.

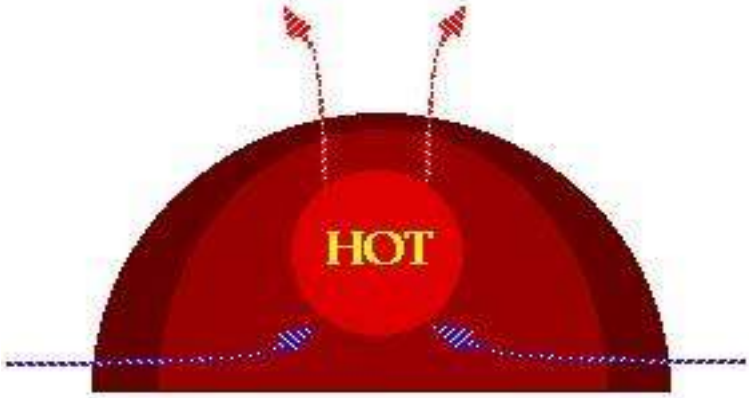


8. Oxygen

Yard waste composting is an aerobic process, which means it occurs in the presence of oxygen. The air we breathe is about 21 percent oxygen. Compost organisms can survive with as little as 5 percent oxygen. However, if the oxygen level falls below 10 percent in the large pores, parts of the compost pile can become anaerobic (i.e., without oxygen). As anaerobic organisms decompose wastes, they produce methane gas, which is an odorless gas, and hydrogen sulfide, which smells like rotten eggs. Because odor complaints are the most common problem at yard waste composting sites, maintaining an adequate oxygen supply is critical.

Air can be supplied by either passive or active means. If pile size remains moderate, fresh air can flow in from the outside of the pile. The passive processes supplying air in this way include diffusion and natural convection. Natural convection is driven by a chimney effect, with warm air from the center rising out of the top of the pile, and cool fresh air sucked in at the bottom sides. Leaf compost piles 6 to 8 feet tall and 10 to 15 feet wide will get most of their air from diffusion and natural convection. Materials that decompose more quickly, such as a mixture of grass clippings and leaves, must be placed in smaller piles or oxygen will be depleted. If the pile is too large, oxygen will not penetrate to the

center of the pile, resulting in a smelly anaerobic core. Moisture content and the size of composting particles will also affect the effectiveness of natural convection.



Natural Air Circulation in a Compost Windrow

Additional oxygen can be provided mechanically, by turning the compost with a front-end loader or a specialized compost turner. Although the oxygen added by turning only lasts a few hours, turning also loosens the piles so that air can flow more easily by natural convection. In some compost operations additional oxygen is supplied by a system of blowers and perforated pipes. These forced aeration systems are somewhat more expensive, but the cost may be justified if grass clippings are causing consistent odor problems, or if the yard waste is being composted with other materials such as sludge.

9. Water

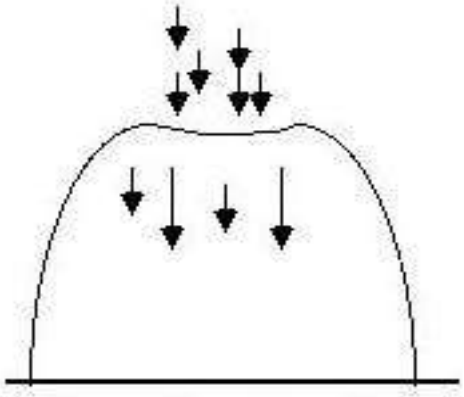
Active microorganisms need a moist environment. Ideally, composting materials should be between 40 and 60 percent water. When conditions are too wet, water will fill the pore space needed for air movement, and anaerobic conditions can result. If conditions are too dry, the decomposition rate will slow down.

For leaves, the "squeeze" test is an easy way to gauge moisture content. The leaves should feel damp to the touch, with only a drop or two of water expelled when tightly squeezed in the hand. Leaves are often quite dry when collected in the fall, and water may need to be added by one of the methods discussed below.

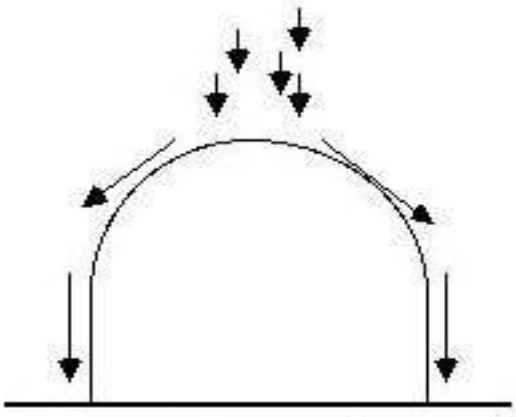
Some materials, like grass clippings, may seem dry to the touch but contain a great deal of water in their cell structure. As that structure breaks down, the water is released, turning the grass into a slimy mess. If compost becomes too wet, it may be necessary to add some drier material, such as partially decomposed leaves or wood chips. Coarse material is especially helpful in this situation, as it increases the porosity allowing water to drain out and air to flow in.

The shape of a compost pile has an important effect on moisture content. Scooping out the top of the pile to create a concave shape will maximize water absorption, so that rainfall can help replenish the moisture that is lost from the piles as steam. However, if the pile is overly saturated, anaerobic odors and leachate will be produced. Therefore, in

prolonged wet conditions, the pile should be shaped to form a peak that will minimize absorption by shedding water. Both of these shapes are illustrated.



Concave Shape - Traps Water



Peaked Shaped - Sheds Water

Water can be added to the compost pile in various ways. Hosing yard waste as the windrow is turned or turning it on a rainy day can help get water into the pile. Overhead sprinklers on a concave shaped pile also work well. By applying water slowly, it is more likely to infiltrate the pile, rather than running off the surface. Another method uses a drilled pipe as an injection probe, delivering pressurized water from a water truck to the center of the pile where it can be readily absorbed. As a rule of thumb, dry leaves initially need about 20 gallons of water for every cubic yard of leaves.

10. Factors Leading to Anaerobic Conditions

Significant release of anaerobic odors from a composting system is usually a symptom that some important management factor has been neglected or misunderstood. The most common factors which result in anaerobic odors are:

a. Excess Moisture

Because oxygen diffuses so much slower in water than in air, excess moisture reduces oxygen penetration. This reduction occurs in two ways. First, because moist compost is hydrophilic (it loves water), water is strongly held to the surfaces of particles, so as water content increases the thickness of the aqueous film surrounding each particle increases. The second, closely related effect, is a matrix effect due to capillarity -- water fills the smallest pores first, and thus creates water filled zones between particles, which slow oxygen diffusion and result in anaerobic clumps.

Moisture and aqueous film thickness

Figure 1 is an illustration of the first effect, aqueous film thickness, at the scale of an individual particle.

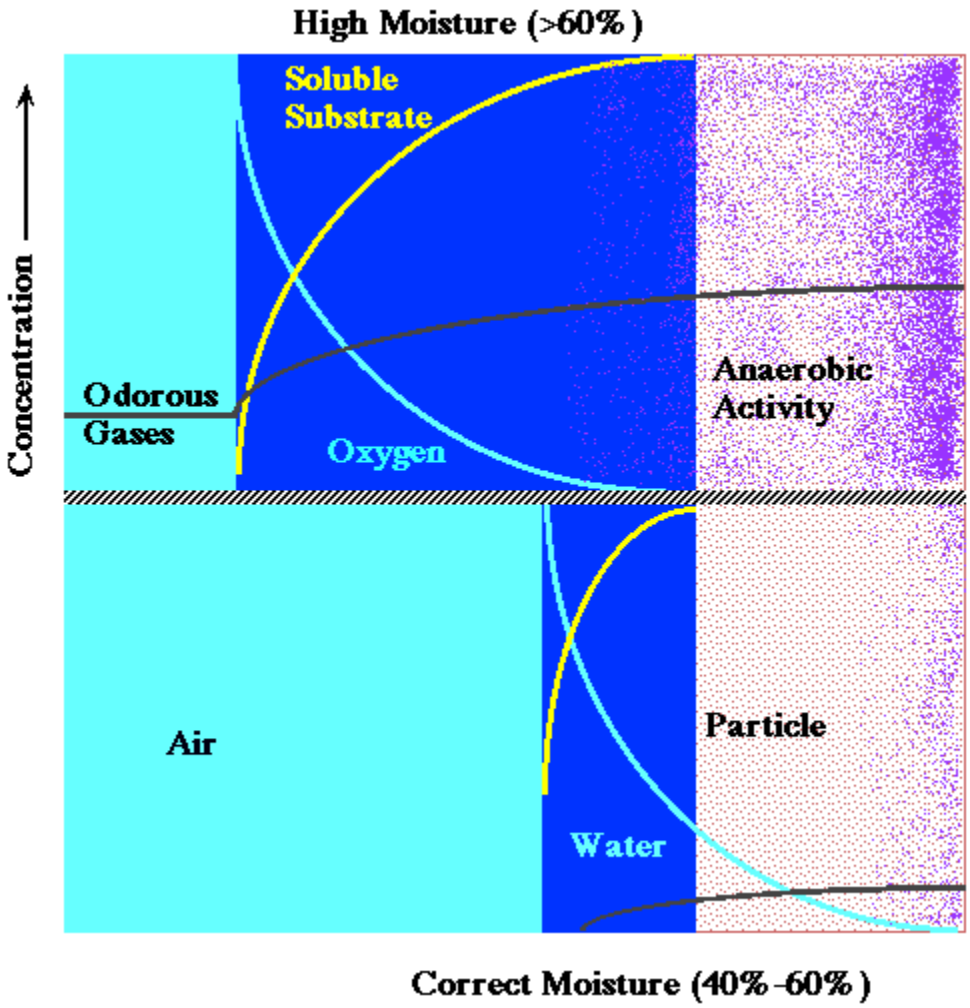


Figure 1. The effect of aqueous film thickness on anaerobic odor production.

The top half of the figure illustrates a particle with a thick film of water, while in the lower half of the figure the film thickness is considerably reduced. Note that in both cases the substrate concentration is high at the particle surface, the oxygen concentration is high at the air/water interface, and the oxygen concentration decreases as it moves into the film and substrate is oxidized. In the interior of the particle, where the oxygen concentration approaches zero, anaerobic metabolic activity produces odors, some of which are oxidized as they diffuse out toward the airstream. With a thick layer of water (which typically occurs with moisture contents greater than 60%), oxygen is depleted before it can fully penetrate the aqueous film, and the levels of odorous gases generated in the anaerobic zone is so high that even after some oxidation in the outer layers of the aqueous film, they are detectable in the airstream. When the aqueous film is thinner (moisture contents between 35 and 60%), oxygen penetrates further, odor concentrations in the liquid are lower, and they are oxidized before they can diffuse back out into the airstream.

Figure 2 illustrates the effects of moisture content on the location of aerobic, fermentation, and anaerobic zones within a particle and in the aqueous film surrounding

it. Regions of primarily aerobic metabolism, the fermentation zone, and anaerobic metabolic regions are indicated. Although many of the most offensive odors are anaerobically generated, fermentation can generate alcohols and other "sweet" or "silage" type smells which some people may find offensive. If these fermentation odors are prevalent they indicate large areas of the composting system are anoxic (without oxygen), and any further restrictions on oxygen transport may lead to anaerobic odor problems. Alcohols and other fermentation products, like the anaerobic odors, will degrade aerobically if given sufficient opportunity.

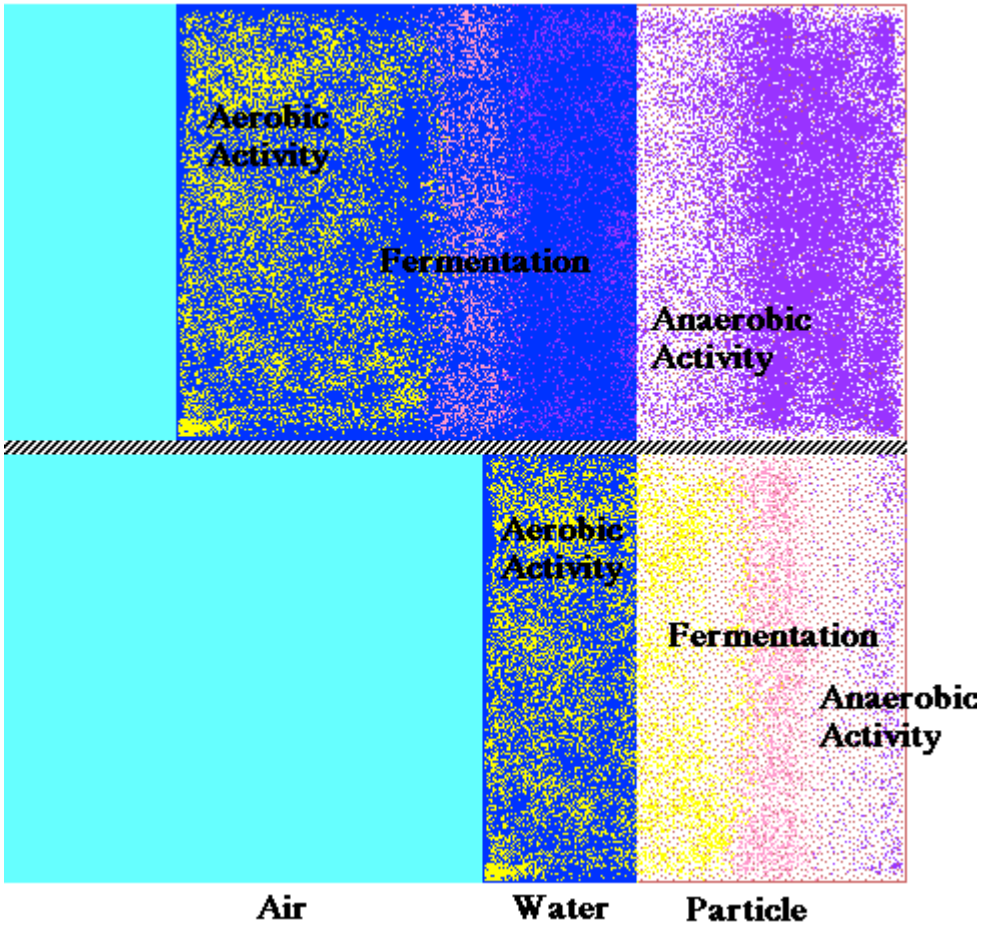


Figure 2. Metabolic Regions as a function of moisture content.

The second limitation of increasing moisture content on oxygen diffusion is through the filling of small pores with water, often dramatically increasing the distance oxygen must diffuse through the aqueous phase. The effective size of pores filled at different moisture contents can be analyzed on the basis capillary theory and matric potential relationships, applying approaches developed for soil physics and porous media.

The resulting anaerobic zones within an otherwise aerobic matrix are illustrated by the contrast between figures 3 and 4. In figure 3, the compost is at an appropriate moisture content, with aqueous films surrounding particles and air-filled pores between particles.

The arrows indicate a hypothetical depth that oxygen can penetrate from an air filled pore, which in this case completely penetrates all the particles.

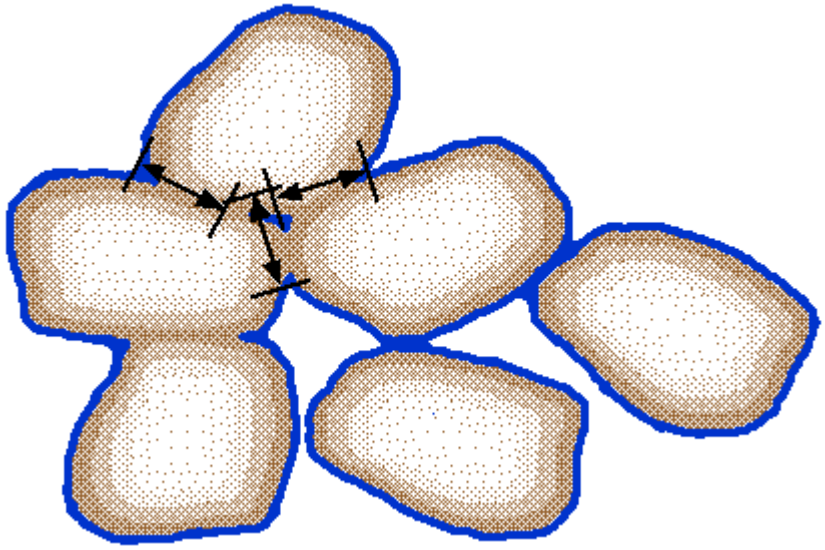


Figure 3. In a properly moist compost matrix, the particles are surrounded by aqueous films, but are separated by air filled pores.

Figure 4 illustrates those same particles with a higher moisture content. Note that all but the largest pores have filled with water, leading to considerable regions of anaerobic activity.

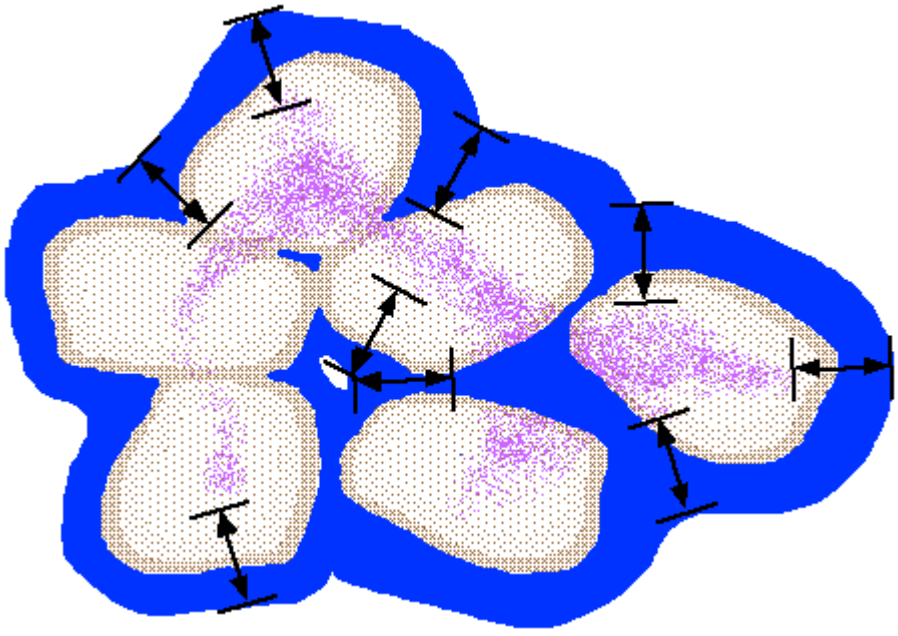


Figure 4. Anaerobic zones are created as increasing water content fills small pores, so oxygen must diffuse farther through water.

With most composting materials, as moisture content increases beyond about 60%, the pores will rapidly fill, and anaerobic conditions will result. But even at normally acceptable moisture content, anaerobic conditions are likely if compaction or small particle sizes lead to inadequate porosity.

b. Inadequate Porosity

The particle size distribution, bulk density, and porosity of a compost mixture are the second group of factors that can lead to anaerobic conditions. These physical characteristics of the compost mixture can interact with high moisture levels to reduce oxygen transport. Small particle sizes reduce the number of large pores and increase the likelihood that oxygen will need to diffuse a long way through small pores (which are more likely to be filled with water).

The shape, size, and structure of particles affects how they settle, with tight packing arrangements increasing the bulk density and reducing the air-filled porosity (free air space). Compaction (caused mechanically or by the weight by overburden in tall piles) encourages tight packing as well. Several of these effects are illustrated in Figure 5 below:

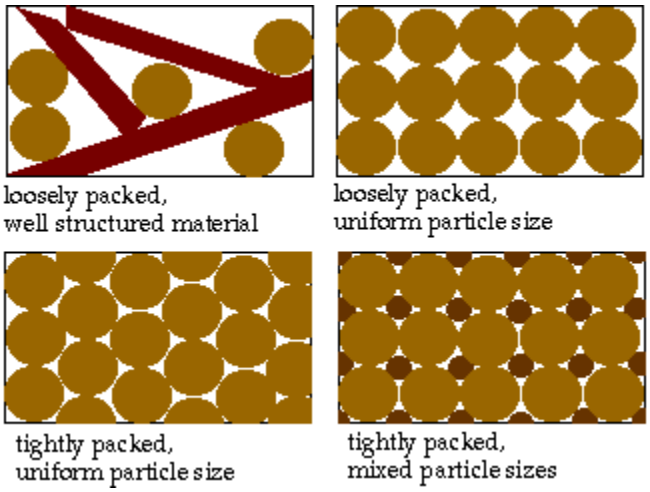


Figure 5. Effective cross-sectional area as a function of particle size distribution, shape, and packing density.

The space between the particles in figure 5 illustrates the effective cross-sectional area of each matrix. Estimates of effective cross-sectional area can be used to apply the diffusion equation to a porous media like compost, correcting for the fact that diffusion only occurs in the pore space and is further constrained by tortuosity of those pores. A useful result of this correction is the apparent diffusion coefficient, which in soils has been shown to be roughly proportional to the square of the air-filled porosity (Papendick and Campbell, 1981):

$D_{effective} = S^2 \times D$

where

$D_{effective}$ = effective diffusion coefficient

S = air filled porosity, and

D = the diffusion coefficient in air

Assuming a compost matrix experiences similar effects, we can use this equation to estimate the impact of density on diffusion. Since any increase in bulk density is at the expense of the air-filled porosity (the solid and aqueous phases can be considered incompressible), relatively small changes in volume can have a significant effect.

For example, suppose a pile of compost has an initial air-filled porosity of 30%, and the volume of a pile is reduced by 10% through compaction and size reduction after the first pass of a windrow turner. Assuming constant moisture and solids content, the air-filled porosity would be reduced from 30% to 20%, a 33% reduction [(0.30-0.20)/0.30], and the apparent diffusion coefficient will be reduced by 56% [(0.09 - 0.04)/0.09]. This significant change in oxygen diffusion might easily pass unnoticed in the windrow itself, where volume reductions of greater than 50% are common, and 80% is not unheard of with an initially loose material like autumn leaves.

To the extent that natural or forced convection is important in oxygen transport, small diameter pores can cause problems even if total air-filled porosity is maintained. The increased frictional resistance from the walls in small pores reduces any mass flow of oxygen that would otherwise occur. In addition, the air channels in a composting matrix are not a bundle of continuous straight tubes, but twist and bend in tortuous path, with many dead ends and narrow passages. These factors further reduce oxygen transport in ways that are difficult to quantify.

The physical characteristics of the compost matrix affect the ease with which oxygen can move into a pile. But the distance it penetrates is also a function of how quickly it is being used up. A rapidly degrading substrate, like grass clippings, can use up oxygen more rapidly than it is being replaced.

c. Rapidly Degrading Substrate

The oxygen content at any location in a composting pile reflects a balance between oxygen supply and oxygen consumption. Rapidly degrading substrates like grass clippings consume oxygen much more rapidly than leaves or digested sewage sludge. Oxygen consumption is a function of substrate characteristics (C/N ratio, bioavailability, moisture, particle size, and other issues) and environmental conditions (temperature, moisture, oxygen concentration, and pH).

Oxygen uptake rates measured in compost vary widely, from less than 1 to over 10 g O2/kg volatile solids per hour (Haug, 1993).

To provide for the increased oxygen demand of a rapidly degrading substrate, oxygen supply must also be increased. In forced aeration systems this can often be accomplished by increasing the blower size or operating frequency. With passive systems, any restrictions on oxygen transport such as inadequate porosity or excess moisture must be reduced. A final alternative, which is commonly practiced with grass clippings, is to reduce the pile size.

d. Excessive Pile Size.

Composting comes in many shapes and sizes, from 1 liter vacuum bottles to warehouse sized industrial systems. In all of these systems, the correct pile size balances the heat generated by microbial decomposition with the heat lost through conduction, convection, and radiation, keeping most of the compost between 40°C and 60°C.

Passively aerated systems, which depend on diffusion and natural convection for oxygen transport, usually have a large open surface area to encourage air movement, with corresponding convective heat losses. This large surface area also results in conductive and radiant heat loss. Because heat loss in these systems is largely a function of exposed surface area (as well as ambient temperatures), and microbial heat generation largely a function of volume (assuming the environmental conditions are near optimum), for any material and configuration there will be an ideal surface to volume ratio. Larger piles, with a smaller surface to volume ratio, will tend to overheat, while small piles will be too cool. For materials in a typical windrow configuration (where the width of the windrow is about double the height), the ideal height will usually be in the range of 1 to 3 meters. Rapidly degrading, dense mixtures that include grass clippings, food scraps or manure will be at the lower end of this range, while porous, slowly degrading piles of leaves will be at the upper end.

With a forced aeration system, convective heat loss can be increased by increasing the aeration rate. Although this will reduce the average temperature of the pile, one also has to be careful to ensure that the temperature extremes are not too great. With very large piles, regions near the air inlet will be excessively cooled and dried, while other regions near the exhaust may be too hot. As with passively aerated systems, the ideal size of a forced aeration pile depends on the characteristics of the material being composted and the geometry of the composting system. For most materials, in systems using ambient air (air once through), the maximum height (or airflow path length) is 2 to 3 meters. Tunnel reactor systems, which can recycle the airflow, typically operate at higher airflow rates with a smaller temperature difference between the inlet and the outlet. Recycling the airflow, or using pre-heated air, thus allows an increase in reactor size while still maintaining a tolerable degree of process control.

All of these factors make it more difficult for oxygen to penetrate throughout a pile before it is depleted or allow airflow to short-circuit around large zones which become anaerobic. One of the mechanisms of oxygen transport is diffusion, which is a function of the concentration difference between the outside air (21% oxygen) and the oxygen

concentration in the interior of the pile (if anaerobic, zero). In a passively aerated or windrow system, diffusion is assisted by natural convection, but that assistance is probably limited to the upper and outer parts of the pile.

11. Odor Management

Odor is perhaps the most common problem associated with composting, and the failure to adequately address it has led to numerous neighbor complaints and the closure of many large-scale facilities. Fortunately, for the most part odors can be controlled, but proper management can take time and money.

At many composting sites odors originate with the incoming ingredients, which may have been stored anaerobically (without oxygen) for a week or more before transport to the site. Once these ingredients are incorporated into the composting system, subsequent odor problems are usually a result of low oxygen or anaerobic conditions. Anaerobic odors include a wide range of compounds, most notoriously the reduced sulfur compounds (e.g. hydrogen sulfide, dimethyl sulfide, dimethyl disulfide, and methanethiol), volatile fatty acids, aromatic compounds, and amines. Ammonia is the most common odor that can be formed aerobically as well as anaerobically, and thus has its own set of management options.

Incoming ingredients

If organic feedstocks are already anaerobic and odorous when they arrive at the site, they need to be brought to an aerobic state as quickly as possible. Usually this means combining them with a coarse, dry bulking amendment to increase the porosity and allow oxygen penetration. Experiences vary as to the optimum frequency of subsequent turning, which depends on how thoroughly materials are mixed initially, as well as the porosity of the pile. If the porosity is adequate, it may make sense for the material to sit for a few days or weeks to get through the initial period of high oxygen demand.

Oxygen

Oxygen is the obvious compound to add when the source of the odors is anaerobic metabolism. Forced aeration systems provide a way to mechanically introduce oxygen, and are common at facilities composting materials like biosolids (sewage sludge) with a high potential to generate odors. These systems require relatively uniform pile shapes and porosity to reduce the potential for air to short-circuit along the path of least resistance. In passively aerated systems, which depend on diffusion and natural convection, adequate porosity is essential to reduce the resistance to oxygen movement. The pile or windrow dimensions must also be appropriate for both the mix of ingredients and stage in the composting process, so that the oxygen diffusing into the pile is not entirely consumed before it reaches the center.

In addition to these traditional approaches to aeration, oxidizing chemicals like hydrogen peroxide, potassium permanganate, and chlorine are used by the wastewater treatment industry for odor control. These compounds will chemically oxidize anaerobic odors, but may kill the composting microorganisms as well. This is especially true for chlorine. In

low concentrations, evenly incorporated in a pile, a compound like potassium permanganate could be effective, but would probably also be expensive.

Odors can also be biologically oxidized after they have formed, and this is probably tremendously important for most composting systems. Odorous anaerobic products produced in the low oxygen center of a pile usually pass through an aerobic zone on the way out. Microorganisms will then degrade the odors aerobically. This process probably occurs on both a macro scale (the pile as a whole) and a micro scale (within individual particles or clumps), essentially providing *in situ* biofiltration. When turning an anaerobic compost pile this advantage is lost, which is why frequent turning is not the best way to deal with an odor problem, and instead often makes the problem worse. In a windrow system, it is far better to address the fundamentals of porosity and pile size to insure adequate passive aeration (diffusion and convection) throughout the compost pile.

Catalysts and Innocula

Catalysts purport to degrade odorous compounds, usually via biologically generated enzymes. A catalyst facilitates a reaction without itself being permanently changed by the reaction, and thus each enzyme can act on many molecules of an odorous compound before it is eventually degraded. Enzymatic catalysts are normally applied either on the surface of a compost pile or in the airspace above it. A number of products are on the market, but very little independent research has been done to verify their effectiveness.

12. Ammonia Odors

Ammonia is among the most common odors found at composting facilities. Fortunately, ammonia is not a pervasive odor, so it does not require a large number of dilutions to reduce concentrations below the odor threshold. Ammonia also disperses easily, since it is lighter than air (its density is 60% that of air), and does not settle in low lying areas the way hydrogen sulfide and other dense odorous compounds do. These factors make ammonia odors more prevalent on-site than off-site.

Ammonia odors can be formed aerobically as well as anaerobically, so the control strategies recommended for anaerobic odors may not apply. Noticeable ammonia losses primarily result from a low C/N ratio. The microorganisms are very efficient at utilizing nitrogen when that is the limiting nutrient. The smell of ammonia is an indicator that nitrogen is in excess, and carbon/energy is limiting instead. Ammonia losses are common when composting high nitrogen materials such as fresh grass clippings or manure, and are often accompanied by other nitrogen losses in runoff or infiltration. At large composting facilities these nitrogen losses could threaten surface or groundwater quality.

Another factor affecting the magnitude of ammonia volatilization is pH. NH_3 (gaseous ammonia) and NH_4^+ (aqueous ammonium ion) are in equilibrium at a pH of about 9, with higher pH's forcing more NH_4^+ into the gas form that you can smell. Thus ammonia is rarely noticed if the pH is acidic, and adding lime to a pile will increase the ammonia odor.

13. Health and Safety Precautions

Proper attention to health and safety concerns can minimize most occupational risks at yard waste recycling facilities. While composting and chipping are not inherently dangerous activities, precautions are necessary to protect against injury and possible illness.

Safety concerns relate primarily to equipment. If front-end loaders or other standard heavy equipment is used, ear protection and other normal safety precautions apply. Composting and chipping equipment have additional dangers. These typically contain powerful mixing flails, knives, or hammers that rotate at a high rate of speed, and should therefore be well shielded from human contact. Stones and other foreign objects can become dangerous projectiles, and can be thrown a long distance in front of or behind the turning equipment. Thus, equipment operators must insure a safe clearance on all sides of the operating machinery.

When stockpiling chips or compost be sure to plan for the possibility of fires. Dry chips and leaves are particularly susceptible to stray sparks from cigarettes or welding equipment. Fires are rarely a problem in outdoor composting operations. Because the inside of the windrows should be damp, compost normally burns poorly. However, if the material does dry out and gets too hot, combustion can occur. Organic material can ignite spontaneously at moisture contents between 25 and 45 percent. This sometimes happens to stored hay or silage, and can happen to compost as well. First, however, the material has to heat to over 200° F (93° C), which typically requires a pile over 12 feet high. Keeping the windrows less than 10 feet tall, and turning the compost when temperatures exceed 140° F (60° C), not only constitutes good compost management, but provides fire protection as well. In the event of fire, whether by spontaneous combustion or vandalism, the site must have delivery capacity and an adequate water supply. Maintaining clear aisles between windrows will provide easy access in case of fire.

Health concerns relating to compost are dependant both on the individual and on the material being composted. While few human pathogenic organisms are found in vegetative wastes or farm animal manures, normal sanitary measures (i.e., washing hands before touching food, eyes, etc.) are important. While many compost operations have run smoothly for years without unusual health or safety problems, there are some unique concerns in composting of which workers should be aware. By understanding these concerns, it will be easier to recognize problems early, and seek an appropriate remedy before serious complications develop.

Just as individuals vary in their resistance to disease, a few individuals may be particularly sensitive to some of the organisms in compost. The high populations of many different species of molds and fungi in an active compost process can cause allergic reactions in sensitive individuals, though most experience no adverse reaction. Conditions that may predispose individuals to infection or an allergic response include: a weakened immune system, allergies, asthma, some medications such as antibiotics and adrenal cortical hormones, or a punctured eardrum. Workers with these conditions should not normally be assigned to a composting operation.

To minimize the risk of infection, Occupational Safety and Health Administration (OSHA)-approved dust masks or respirators should be worn under dry and dusty conditions, especially when the compost is being turned. If, following these precautions, workers still develop an infection or have an allergic reaction to compost, they should consult a medical professional.

14. Troubleshooting

Problem	Cause	Solution
Anaerobic odor	Excess moisture Window too large Temperature greater than 140° F Leaf compaction Surface ponding	Turn windrow Make windrow smaller Turn windrow Turn or reduce windrow size Eliminate ponding Apply odor masking agent (cures symptom, not problem)
Low windrow Temperature	Windrow too small Insufficient moisture Poor aeration	Combine windrows Add water while turning windrow Turn Windrow
High windrow temperature	Winddrow too large Leaf compaction	Reduce windrow size Turn windrow
Surface ponding	Depressions or ruts Inadequate slope	Fill depression and/or re-grade Grade site to recommended slope design
Vectors Rats Mosquitoes	Presence of garbage (food, etc.) Presence of stagnant water	Remove garbage, or use rat bait Eliminate ponding
Pollution of surface waters	Leachate discharge	Treat leachate before it leaves site by passing it through soil, sand, or grass filter area Avoid surface runoff
Fires/spontaneous combustion	Excessive temperature Inadequate moisture Stray sparks, cigarettes, etc.	Make windrow smaller Add water Keep potential fire sources away from windrows If fires do start, break windrows apart and extinguish completely

15. Composting Glossary

AERATED STATIC PILE: composting system that uses a series of perforated pipes (or equivalent) as an air distribution system running underneath a compost pile and connected to a blower that either draws or blows air through the piles. Little or no pile turning is performed.

AERATION (for composting): bringing about contact of air and composting solid organic matter, by means of turning or ventilating to allow microbial aerobic metabolism (biooxidation).

AEROBIC: occurring in the presence of oxygen./ANAEROBIC: occurring in the absence of oxygen.

BATCH COMPOSTING: all material is processed at the same time, without introducing new feedstock once composting has begun; windrow systems may be batch systems.

BIODEGRADABILITY: the potential that an organic component can be converted into simpler compounds by metabolic processes.

BULKING AGENT: material, usually carbonaceous such as sawdust, wood chips, or shredded yard trimmings added to a compost system to maintain airflow by preventing settling and compaction of waste.

COMPOSTABLE: organic material that can be biologically decomposed under aerobic conditions.

CONTAMINANT: unwanted material; physical contaminants of compost can include glass, plastic and stones; chemical contaminants can include trace heavy metals and toxic organic compounds; biological contaminants can include pathogens.

CURING: the last stage of composting that occurs after much of the readily metabolized material has been decomposed. Provides for additional stabilization, reduction of pathogens, and allows further decomposition of cellulose and lignin.

DECOMPOSITION: the breakdown of organic matter by microbial action.

DEWATERED SEWAGE SLUDGE: municipal sewage sludge with a total solids content of 12% by weight or greater that can be transported and handled as a semi-solid material.

FOREIGN MATTER: non-biodegradable matter contained in compost such as glass, plastic, metals, etc. They are permitted only at low levels in market compost. (Soil and sand are non-degradable but can be very desirable components in some market composts.)

HEAVY METALS; TRACE METALS: trace elements whose concentrations are regulated because of the potential for toxicity to humans, animals, or plants, and includes chromium copper, nickel, cadmium, lead, mercury, and zinc if present in excessive amounts.

HUMUS: a complex amorphous aggregate, formed during the microbial decomposition or alteration of plant and animal residues and products synthesized by soil organisms;

principal constituents are derivatives of lignins, proteins and cellulose combined with inorganic soil constituents.

INERTS: non-biodegradable products contained in compost (glass, plastics, etc.).

INORGANIC: substance in which carbon-to-carbon bonds are absent; mineral matter.

LEACHATE: liquid which has percolated through, or condensed out of mixed municipal solid wastes and extracted dissolved and suspended materials; liquid that drains from the mix of fresh organic matter.

MATURE COMPOST (synonym of COMPOST): the stabilized and sanitized product of composting. It has undergone decomposition and is in the process of humification (stabilization); it is characterized as containing readily available forms of plant nutrients, poor in phytotoxic acids and phenols, and low in readily available carbon compounds.

MIXED WASTE PROCESSING: central facility for inspecting and sorting commingled waste materials generally for the purpose of recovering materials of value for recycling.

MOISTURE CONTENT: weight of water in material divided by weight of solids in material.

ORGANIC CONTAMINANTS: synthetic trace organics including pesticides and other synthetic chemicals.

PATHOGEN: an organism or microorganism, including viruses, bacteria, fungi and protozoa capable of producing an infection or disease in a susceptible host.

PHYTOTOXIN: toxins which may endanger plant viability or functionality.

SOURCE SEPARATION: the practice, by primary waste generators such as households and businesses, of separating waste generated within the household or commercial operation into separate fractions, such as all newspapers together, all glass together, etc. and of placing them in separate containers for pickup by the waste hauler.

STABILITY: the degree to which the composted material can be stored or used without giving rise to nuisances or can be applied to the soil without causing problems.

STATIC PILE SYSTEM: similar to aerated static pile except that the air source may be controlled or may not be controlled.

TOXIN: compounds that cause a reduction of viability or functionality in living organisms.

VOLATILIZATION: gaseous loss of a substance to the atmosphere.

WINDROW SYSTEM: composting mixture is placed in elongated piles, called windrows. These windrows are aerated naturally by a chimney effect, by mechanically turning the piles with a machine such as a front-end loader or specially designed equipment, and/or by forced aeration.

YARD TRIMMINGS: grass clippings, leaves and weeds, and shrub and tree prunings six inches or less in diameter, from residences and businesses.

Calculations of Materials Balance[(2)]

Materials balance calculations track the weight and volume through each stage of the composting process. Table 2 shows a typical materials balance for an aerated static pile process using digested biosolids dewatered to 20% solids. The biosolids are mixed with wood chips, stacked over a layer of wood chips to provide air distribution, and covered with a layer of unscreened compost. The entire pile is screened after composting and the oversized fraction is recycled as bulking agent.

A volume equal to the cover layer is set aside and not screened. The screen recovers 65% of the total input bulking agent by volume so it must be supplemented with makeup chips. In practice, the recovery rate is highly sensitive to moisture content or stickiness of the compost, percent fines in the bulking agent, and screen loading rate, and will be in the range of 50 to 80% by volume. The following input assumptions are required:

- The density of each material,
- The volatile solids reduction of each input, and
- The recovery efficiency of the screen

Table 1 Calculation of ratio of bulking agent to dewatered cake. [a]

Cake solids	Bulking agent Solids, %	Mix ratio, cu. yd. Bulking agent / cu. yd. cake
As function of cake solids		
16	55	3.30
18	55	3.02
20	55	2.75
22	55	2.47
24	55	2.20
26	55	1.92
As function of bulking agent solids (cake at 20%)		
20	45	8.33
20	50	4.17
20	55	2.75
20	60	2.08

Assumptions:
Mix solids content – 40%
Bulk density – 1,650 lb./cu. yd.
Bulking agent density – 800 lb./cu. yd.

[a] This table applies to static pile processes using wood chips. Extrapolation to higher solids content may lead to insufficient bulking agent to provide porosity.

Table 2 Example of materials balance for aerated static pile composting.

Item	Volume cu. yd.	Total, lb.	Dry wt, lb	Volatile solids, dry lb.	Bulk solids density, lb./cu. ft.	Total	
						Content, %	Volatile, %
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
(1)Dewatered cake	6.25	10,000	2,000	1,400	1,600	20	70
(2)Makeup chips	8	4,000	2,400	2,280	500	60	95
(3)Recycle chips	11	8,800	4,840	4,114	800	55	85
(4)Mix	20.7	22,800	9,240	7,794	1,100	40.5	84.3
(5)Base (recycle chip)	2.6	1,300	780	663	500	60	85
(6)Cover (unscreened compost)	2.6	2,080	1,144	961	800	55	84
(7)Total		26,180	11,164	9,418			
(8)Volatile solids loss			882	882			
(9)Unscreened compost	23.4	18,695	10,282	8,536	800	55	83
(10)Recovered chips	14.0	11,200	6,160	5,236	800	55	85
(11) Compost	7.5	7,495	4,122	3,300	1,000	55	80

Assumptions:

Volatile solids loss:
Sludge – 20 percentage points
Makeup chips – 10 percentage points
Recycle chips – 5 percentage points
Recovery by screen – 65%
Pile height – 8 ft. of mix, 1 ft base, 1 ft cover (ft x 0.304 8=m).

Table 2 is constructed according to the following sequence of inputs and calculations:

Dewatered cake (1): Begin with 1 dry ton or 2000 lb. Dry weight . (C) (F) and (G) must be known. (A) (B) and (D) are then calculated.

Makeup chips (2): (F) and (G) must be known. The target solids content in the mix (F) is 40% (calculation shows 40.5%). The quantity of makeup chips is determined by this target.

Recycle chips (3): Must equal recovered chips minus base, based on known or assumed recovery rate. For (9) the assumed solids content is 55% because it is difficult to screen at a lower solids content. This is a target.

Mix (4): Columns (B) (C) and (D) are summed for rows (1) (2) and (3). (F) and (G) are back calculated from (B) (C) and (D). (F) must be known or assumed. (A) is back calculated from (F). Column (A) is not summed as volume is not additive.

Base (5): Same characteristics as recycle chips. Volume (A) is a percentage of volume of mix (4A) depending on pile geometry. Example is based on 8-ft. mix height, 1-ft base.

Cover (6): Same characteristics as compost entering screen (8). Volume is a percentage of volume of mix depending on pile geometry. Example is based on 8-ft. mix height, 1-ft. cover.

Total (7): Columns (B) (C) and (D) are summed over rows (4) (5) and (6).

Volatile solids loss(8): The percentage point drop in volatile solids must be known or assumed, for dewatered cake and wood chips. (8D) is then calculated by subtraction. (8C) = (8D).

Unscreened Compost (9): (C9) = (C7) – (C8). (D9) = (D7) – C(D8). Solids content (F9) is a target value and is assumed. (E9) is assumed. (B9) and (A9) are then calculated.

Recovered Chips (10): Base on assumed volumetric recovery rate. In this example, 65% (10A) = 65% x [(2A) +(3A)+(5A)].

Compost (11): (11B) = (9B) – (10B). Density is assumed or known. Other entries can be calculated.

In formulating the mix, the target solids content of the mix should be 40% or more. This example shows 40.5%. The output solids content is assumed to be 55%, because that is the optimum solids content for efficient screening. Wetter compost will blind the screen and stick to the wood ships. Drier compost will create dust.

Because much of the bulking agent enters the compost, there is a slight gain in volume and percent volatile solids as compared with the dewatered cake input. Unlike with digestion, the degree of stabilization cannot be measured as volatile solids reduction. However, the compost is stabilized as defined by reduction in respiration rate and odor generation.

The materials balance may be used to check the energy balance. The ratio of water evaporated-to-volatile solids loss should not exceed 10. In this materials balance

$$\frac{\text{Water evaporated}}{\text{Volatile solids loss}} = \frac{6{,}603 \text{ lb.}}{882 \text{ lb.}} = 7.48$$

Therefore, this material balance is realistic with regard to energy availability.

References:

(1) Tom Richard, Sue Fredenburg, Nancy M. Trautman, Dept. of Agricultural & Biological Engineering, New York State College of Agriculture and Life Sciences, Riley Robb Hall, Cornell University, Ithaca, NY.

(2). Wastewater Residuals Stabilization, Manual of Practice FD-9, Water Environment Federation, 1995

IV. Post-Processing

Post processing consists of the transfer of the compost from the two 90 ft. primary composting basins to the two 60 ft. secondary composting basins. One of the two available front-end loaders provides the transfer. The compost remains in the post processing area for a minimum of 30 days.

Following the post processing, the compost is screened to provide the finished product.

V. Product Distribution

The end product quantities and final grades are discussed in other sections herein. The finished product is used on existing City-owned and operated land including the golf course, ball fields, school yards, etc. Since there is no market distribution to the public, there is no packaging or labeling. The final product loading is from the secondary composting areas to the City trucks for transportation to the final destination. The quantities of end product are measured in the loading trucks and tracked to its final destination on a log sheet to include date, quantity, final destination, etc.

VI. Process Diagram

Reference Attachment 13 for the compost area process diagram.

OPERATIONS PERSONNEL

The operating personnel required for the site include the following:

- One individual for the receiving (tipping) area to inspect the incoming material, direct the individuals to the specific offloading area and aid in offloading as required. The time required for the compost site will depend on the amount of delivered material, but is usually at 4 hours per week.
- One equipment operator to transfer and mix the sludge and wood chips, maintain the compost piles, and transfer compost to the post-processing area and transfer the finished product to delivery trucks. Time: 4 hours per week.
- One process operator to provide the necessary testing requirements, water addition, monitoring, etc. of the compost piles. Time: 6 hours per week.

The existing wastewater treatment plant maintains two full-time operators, one half-time superintendent and the availability of the City's Water/Wastewater Superintendent and Director of Public Works on an as-needed basis. The plant operators provide the required testing duties. The City's street department provides operators for the equipment for feedstock transfer and compost mixing.

SITE SECURITY

The compound which contains the WWTP, recycling center and compost area is open for access to the public between 8:00 AM to 5:00 PM, Monday through Friday. The access gate is open during these times and closed and locked during any other times. Access through the locked gate is only allowed by City employees. The only traffic within the compound, other than City vehicles, is for the use of the recycling center or delivery of feedstock materials for the compost area. The site has standard signage for traffic control on all crossroads.

DUMPING CONTROL

Control of dumping is provided by the recycling center city employee, who ensures the material is placed in the correct location and provides screening for material that is not processable, prohibited or unauthorized. City employees for the curbside collection services provide the same services for the material collected.

FIRE PREVENTION/SUPPRESSION PLAN

The City maintains its own fire department. Fire hydrants are located on the site within 300 ft. of the compost area. A 4" water line is routed to the compost area for compost wetting.

Notification of a fire is provided by the City employees at the WWTP or recycling center.

CONTROL OF WINDBLOWN MATERIAL

The sludge is incorporated with the wood chips as soon as it is produced from the WWTP, thus minimizing potential for windblown sludge material.

The compost basins are of concrete wall and floor construction and are converted trickling filter basins. The two main basins are each sized 90 ft. diameter by 7.0 ft. deep, and will be used for the main composting process. The two secondary basins are each sized 60 ft. diameter by 8.5 ft. deep and will be used for compost storage. Due to the circular design of the basins and the proposed pile configuration, that the compost pile height will be below that of the basin wall, thus the walls will provide a wind block to minimize the potential for windblown compost material.

EQUIPMENT

The major equipment items for the compost facility consist of the sludge and feedstock transfer vehicles and the compost mixing vehicle.

The sludge transfer vehicle is permanently located at the WWTP, used exclusively for the purpose of accepting the dewatered sludge and transporting it to the compost area. The truck has a 6 cubic yard capacity. The sludge dewatering episodes occur approximately every two weeks. In the event the truck is not operational, there is ample time between dewatering episodes to repair the vehicle. Otherwise, the City has other trucks available for use in the case of an emergency.

The feedstock transfer vehicle and compost mixing vehicle are a front-end loader with a capacity of 1.5 cubic yards. The City has two of these units available and also has two backhoes each with 0.75 cubic yard capacities.

MATERIAL FINAL GRADE

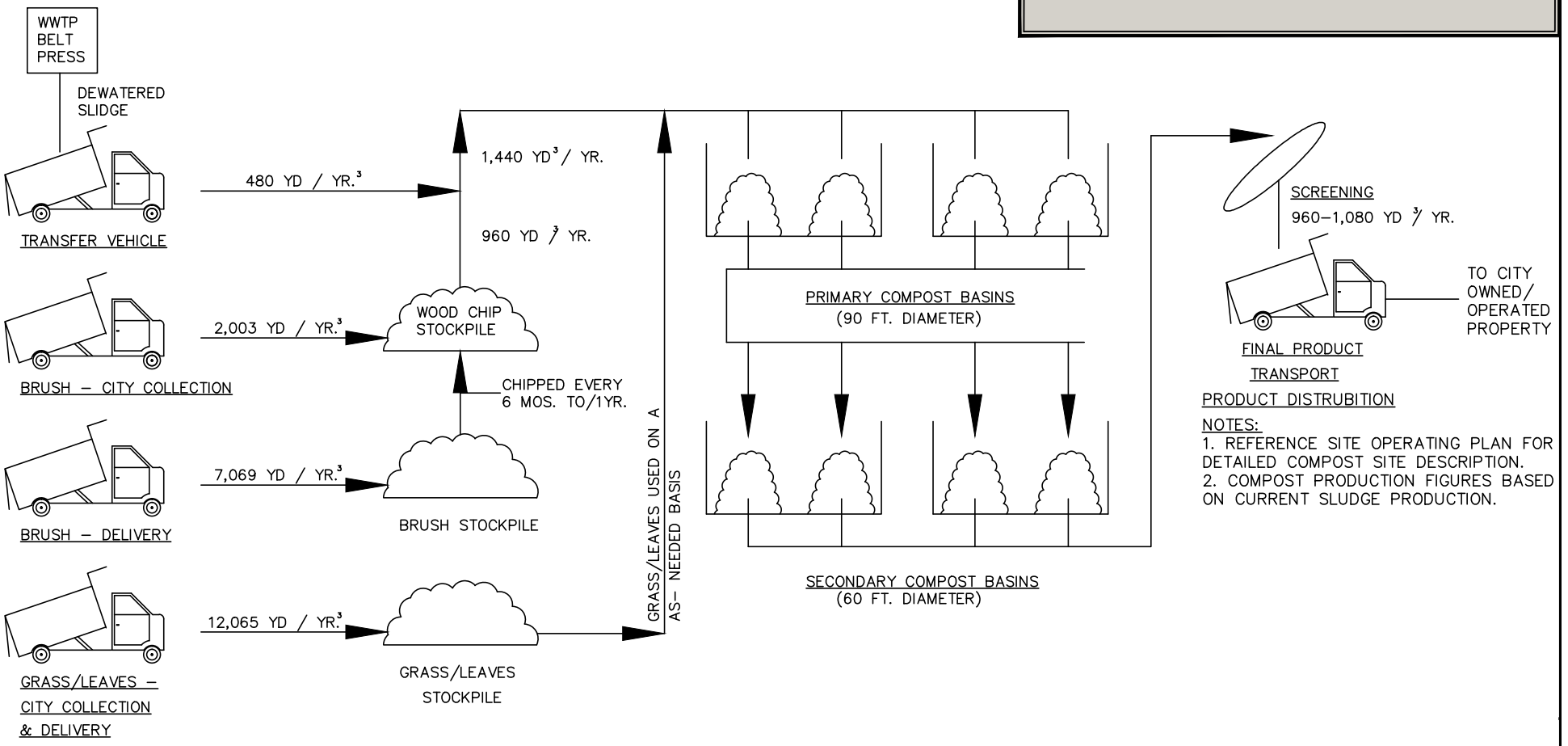
The finished product has a consistency of loosely graded soil, slightly damp with a musty smell, but not odorous. Foreign matter (metals, glass, plastic, rubber, etc.), which are not readily decomposed are not accepted. Large particles are limited to wood chips, with a maximum size of 1/2” to 3/4” wide by 2” long.

ATTACHMENT 13

Composting Process Diagram

(Ref. Section VI of Attachment 12)

COMPOSTING PROCESS DIAGRAM



NOTES:
1. REFERENCE SITE OPERATING PLAN FOR DETAILED COMPOST SITE DESCRIPTION.
2. COMPOST PRODUCTION FIGURES BASED ON CURRENT SLUDGE PRODUCTION.

TRC ENGINEERS, INC.
505 E. HUNTLAND DRIVE, STE. 250 AUSTIN, TX 78752
T.B.P.E. FIRM REGISTRATION # F–8632
(512) 454 – 8716

ATTACHMENT 14

Pollutant Analysis of Treated Effluent Lab Results

(Ref. Section 7 of Domestic Technical Report 1.0)

&

Pollutant Concentration in Sewage Sludge Lab Results

(Ref. Page 4 of Domestic Sewage Sludge Technical Report 1.0)

CITY OF YOAKUM
WASTEWATER TREATMENT PLANT **PERMIT NUMBER 10463- 001**
MONTHLY OPERATING REPORT

MONTH MAY YEAR 2024

				INFLUENT						EFFLUENT										
DATE	MAX AIR TEMP	MIN AIR TEMP	AMT. RAIN	INF.FLOW MGD	PH	CBOD MG/L	TSS MG/L	S.S. ML/L	N/AMM MG/L	EFF.FLOW MGD	PH	CBOD MG/L	CBOD LB/DAY	T.S.S. MG/L	T.S.S. LB/DAY	S.S. ML/L	D.O. MG/L	WATER TEMP	CL2 MG/L	CL2 LBS./DAY	DATE
1	89	75	0	0.405						0.320								78	1.5	10	1
2	86	75	0	0.715						0.550								78	1.5	16	2
3	80	73	0	0.556						0.483								78	1.8	18	3
4	88	75	0	0.583						0.504								78	1.4	16	4
5	81	75	0.03	0.599						0.528								78	1.4	16	5
6	90	77	0	0.581						0.496							8.0	77	1.4	15	6
7	88	76	0	0.576	7.9	209	145	2.0	52.3	0.461	8.4	2.0	7.69	5.0	19.22	0		80	1.5	16	7
8	88	77	0	0.571						0.493								80	1.5	16	8
9	91	74	0	0.625						0.488								80	1.4	15	9
91	91	75	0	0.530						0.445								81	1.5	16	10
11	82	73	0	0.558						0.433								80	1.4	14	11
12	91	75	0	0.570						0.483								80	1.2	17	12
13	89	64	0.25	0.717						0.540							7.8	79	1.5	16	13
14	93	64	0	0.580	8.0	188	166	6.0	46.0	0.473	8.3	2.0	7.89	5.0	19.72	0		79	1.5	16	14
15	91	64	0	0.627						0.458								80	1.7	16	15
16	88	68	0.09	0.647						0.490								79	1.3	16	16
17	74	64	0.05	0.543						0.440								77	1.5	16	17
18	92	72	0	0.557						0.446								73	1.1	16	18
19	91	69	0	0.587						0.488								80	1.3	16	19
20	93	78	0	0.614						0.475							8.2	80	1.2	15	20
21	93	78	0	0.650	8.0	158	95	4.0	41.2	0.482	8.2	2.0	8.04	3.0	12.06	0		80	1.5	15	21
22	91	78	0	0.601						0.495								81	1.3	16	22
23	91	78	0	0.591						0.482								82	1.4	14	23
24	92	78	0	0.624						0.512								83	1.5	17	24
25	94	78	0	0.586						0.470								85	1.5	14	25
26	93	78	0	0.575						0.464								85	1.4	13	26
27	97	78	0	0.633						0.494							8.0	85	1.3	14	27
28	95	71	0.13	0.699	8.0	93	83	7.0	28.4	0.517	8.2	2.0	8.62	5.0	21.56	0		84	1.5	16	28
29	88	73	0	0.641						0.493								83	1.4	15	29
30	93	75	0.75	0.625						0.487								83	1.5	14	30
31	90	73	0.37	1.128						1.049								81	1.1	21	31
TOT	2773	2281	1.81	19.094	31.9	648	489	19.0	167.9	15.439	33.1	8.0	32.2	18.0	72.6	0	32.0	2487	44.0	481.0	TOT
MAX	97	78	0.75	1.128	8.0	209	166	7.0	52.3	1.049	8.4	2.0	8.6	5.0	21.6	0	8.2	85	1.8	21.0	MAX
MIN	74	64	0.00	0.405	7.9	93	83	2.0	28.4	0.320	8.2	2.0	7.7	3.0	12.1	0	7.8	73	1.1	10.0	MIN
AVG	89	74	0.06	0.616	8.0	162	122	4.8	42.0	0.498	8.3	2.0	8.1	4.5	18.1	0	8.0	80	1.4	15.5	AVG
DOS.	CL2																			3.7	

N/Amm Avg lbs/day=

CITY OF YOAKUM
WASTEWATER TREATMENT PLANT **10463- 001**
MONTHLY OPERATING REPORT

MONTH **MAY** **YEAR** **2024**

DATE	N/Amm- MG/L COMP	MG/L GRAB	Clarifier#1 B.O.D.	Clarifer#2 B.O.D.	E-Coli MPN/100	Belt-press sludge cu. yds.	Belt-press % solids
1		0.266			<1		
2							
3							
4							
5							
6							
7	0.128		1.5	0.9			
8		0.127					
9						20	15.9
10							
11							
12							
13							
14	0.272		1.2	0.9			
15		0.416			<1		
16						20	15.9
17							
18							
19							
20							
21	0.447		0.9	0.6			
22		0.424					
23							
24							
25							
26							
27							
28	0.359		1.0	0.8			
29		0.330					
30						20	15.5
31							
TOT	1.21	1.56	4.60	3.20	<1	60.00	47.30
MAX	0.45	0.42	1.5	0.9	<1	20.00	15.90
MIN	0.13	0.13	0.9	0.6	<1	20.00	15.50
AVG	0.30	0.31	1.2	0.8	<1	20.00	15.77

1.252

NPDES ID: TX0026034
Biosolids Status: Active
Facility Name: CITY OF YOAKUM WWTP
PO BOX 738 YOAKUM, TX 77995

View Annual Report

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
AUSTIN, TX 78753
BIOSOLIDS ANNUAL REPORT

Form Approved.
OMB No. 2040-0004.
Exp. 03/31/2022

Your Texas Pollutant Discharge Elimination System (TPDES) discharge permit requires you to submit a sewage sludge report to TCEQ every year by September 30th. This form allows you to submit the Sewage Sludge (Biosolids) Annual report electronically. For the purposes of this form, the terms "sewage sludge" and "biosolids" have the same meaning.

To use this form, you must first request and obtain access to a facility's record in order to access, view, edit, sign or manage a Sewage Sludge (Biosolids) Annual Report. Please contact us if you cannot find your facility. Please note that TCEQ may contact you after you submit this report for more information regarding your sewage sludge management program.

If you have any questions about filling out this report, email Biotool@tceq.texas.gov (mailto:Biotool@tceq.texas.gov).

Public Availability of Information Submitted on and with General Permit Reports

In accordance with the NPDES Electronic Reporting rule (40 CFR part 127), TCEQ shares the information you provide on this form with the U.S. EPA. Please note that TCEQ and EPA may make all the information submitted through this form (including all attachments) available to the public without further notice to you. Do not use this online form to submit personal information (e.g., non-business cell phone number or non-business email address), confidential business information (CBI), or if you intend to assert a CBI claim on any of the submitted information. You must assert any CBI claims you might have at the time of submission. TCEQ and EPA cannot accommodate a late CBI claim to cover previously submitted information because efforts to protect the information are not administratively practicable since it may already be disclosed to the public. Although we do not foresee a need for persons to assert a claim of CBI based on the types of information requested in this form, if persons wish to assert a CBI claim we direct submitters to contact TCEQ using the above contact information for further guidance.

This collection of information is approved by OMB under the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. (OMB Control No. 2040-0004). Responses to this collection of information are mandatory in accordance with EPA regulations (40 CFR 503.18, 503.28, and 503.48). An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The public reporting and recordkeeping burden for this collection of information are estimated to average 3 hours per response. Send comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden including through the use of automated collection techniques to the Director, Regulatory Support Division, U.S. Environmental Protection Agency (2821T), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.

Program Information

Please select all of the following that apply to your obligation to submit a Sewage Sludge (Biosolids) Annual Report in compliance with 40 CFR part 503. The facility is:

- a Class I Sludge Management Facility as defined in 40 CFR 503.9

If your facility is a POTW, please provide the estimated total amount of sewage sludge produced at your facility for the reporting period (in dry metric tons). If your facility is not a POTW, please provide the estimated total amount of biosolids produced at your facility for the reporting period (in dry metric tons).

55.2

Reporting Period Start Date: 09/01/2022 **Reporting Period End Date:** 08/31/2023

Treatment Processes

Processes to Significantly Reduce Pathogens (PSRP):
Aerobic Digestion

Processes to Further Reduce Pathogens (PFRP):

Physical Treatment Options:
Preliminary Operations (e.g., sludge grinding, degritting, blending)
Thickening (e.g., Gravity and/or Flotation Thickening, Centrifugation, Belt Filter Press, Vacuum Filter, Screw Press)

Other Processes to Manage Sewage Sludge:

Analytical Methods

Did you or your facility collect sewage sludge or biosolids samples for laboratory analysis? ☑ YES ☐ NO

Analytical Methods

- EPA Method 6020 - Arsenic (ICP-MS)
- EPA Method 6020 - Cadmium (ICP-MS)
- EPA Method 6020 - Chromium (ICP-MS)
- EPA Method 6020 - Copper (ICP-MS)
- EPA Method 6020 - Lead (ICP-MS)
- EPA Method 7471 - Mercury (CVAA)
- EPA Method 6020 - Selenium (ICP-MS)
- EPA Method 7061 - Arsenic (AA-GH)
- EPA Method 7421 - Lead (AA-FT)
- EPA Method 7741 - Selenium (AA-GH)
- Standard Method 9260 - Salmonella

Sludge Management - Land Application

Sludge Management - Surface Disposal

Sludge Management - Incineration

Sludge Management - Other Management Practice

ID: 001

Amount: 55.2

Management Practice Detail: Other

Other Management Practice Detail Description: TRANSPORTED TO OFF SITE COMPOSTING FACILITY

Handler, Preparer, or Applier Type: Off-Site Third-Party Handler or Applier

NPDES ID of handler: 42034

Facility Information:
VICTORIA COMPOST FACILITY
18125 FM 1686
VICTORIA, TX 77905
US

Contact Information:
PHILIP A SMITH
PLANT OPERATOR III
361-293-5661
PSMITH@CITYOFYOAKUM.ORG

Pathogen Class: Class A

Do you have any deficiencies to report for this SSUID? ☐ YES ☑ NO ☐ UNKNOWN

Additional Information

Please enter any additional information that you would like to provide in the comment box below.

TCEQ Registration Numbers

Additional Attachments

Name	Created Date	Size

Truck Hauling Attachments

Name	Created Date	Size

TCLP Attachments

Name	Created Date	Size

Certification Information

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. Signing an electronic document on behalf of another person is subject to criminal, civil, administrative, or other lawful action.

Certified By: Phil Smith (PSMITH@CITYOFYOAKUM.ORG)

Certified On: 09/26/2023 2:04 PM

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

Project
1071733

Printed 09/18/2023 9:29

CYOA-C

City of Yoakum
JC Foutz
808 HWY 77A
Yoakum, TX 77995-

TABLE OF CONTENTS

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

Email: Kilgore.projectmanager@spl-inc.com

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
1071733

City of Yoakum
JC Foutz
808 HWY 77A
Yoakum, TX 77995-

Sample	Sample ID	Taken	Time	Received
2227250	*Belt Press Sludge*	08/31/2023	08:00:00	09/01/2023

Bottle 01 Glass Qt w/Teflon lined lid
Bottle 02 Glass Qt w/Teflon lined lid
Bottle 03 Glass 4 oz w/Teflon lined lid
Bottle 04 Prepared Bottle: PCBS 2 mL Autosampler Vial (Batch 1080021) Volume: 10.00000 mL <== Derived from 03 (2.0 grams)
Bottle 05 Prepared Bottle: PCBS 2 mL Autosampler Vial (Batch 1080021) Volume: 10.00000 mL <== Derived from 03 (2 grams)
Bottle 06 Prepared Bottle: PCBS 2 mL Autosampler Vial (Batch 1080021) Volume: 10.00000 mL <== Derived from 03 (2 grams)
Bottle 07 Prepared Bottle: TCLP Extract (Batch 1080035) Volume: 2000.00000 mL <== Derived from 02 (100 ml)
Bottle 08 Prepared Bottle: TCLP Extract for Metals (Batch 1080035) Volume: 100.00000 mL <== Derived from 02 (300 ml)
Bottle 09 Prepared Bottle: TCLP Extract for TABN (Batch 1080035) Volume: 2000.00000 mL <== Derived from 02 (100 ml)
Bottle 10 Prepared Bottle: TCLP Extract for TVOA (Batch 1080036)<== Derived from 02 (0 ml)
Bottle 11 Prepared Bottle: TEDLAR BAG (Batch 1080036) Volume: 300.00000 mL <== Derived from 02 (300 ml)
Bottle 12 Prepared Bottle: TCLP Acid Mercury Digestion (Batch 1080066) Volume: 50.00000 mL <== Derived from 08 (2.5 ml)
Bottle 13 Prepared Bottle: TCLP Acid Mercury Digestion (Batch 1080066) Volume: 50.00000 mL <== Derived from 08 (2.5 ml)
Bottle 14 Prepared Bottle: TCLP Acid Mercury Digestion (Batch 1080066) Volume: 50.00000 mL <== Derived from 08 (2.5 ml)
Bottle 15 Prepared Bottle: 2 mL Autosampler Vial (Batch 1080092) Volume: 10.00000 mL <== Derived from 08 (1 ml)
Bottle 16 Prepared Bottle: TCLP Acid Digestion (Batch 1080081) Volume: 50.00000 mL <== Derived from 08 (10 ml)
Bottle 17 Prepared Bottle: TCLP Acid Digestion (Batch 1080081) Volume: 50.00000 mL <== Derived from 08 (10 ml)
Bottle 18 Prepared Bottle: TCLP Acid Digestion (Batch 1080081) Volume: 50.00000 mL <== Derived from 08 (10 ml)
Bottle 19 Prepared Bottle: 2 mL Autosampler Vial (Batch 1080156) Volume: 1.00000 mL <== Derived from 08 (100 ml)
Bottle 20 Prepared Bottle: TG80 2 mL Autosampler Vial (Batch 1080338) Volume: 10.00000 mL <== Derived from 08 (200 ml)
Bottle 21 Prepared Bottle: TG80 2 mL Autosampler Vial (Batch 1080338) Volume: 10.00000 mL <== Derived from 08 (200 ml)

Method	Bottle	PrepSet	Preparation	QcGroup	Analytical
EPA 8082	04	1080021	09/01/2023	1080351	09/05/2023
EPA 6020A	16	1080081	09/05/2023	1080272	09/05/2023
EPA 7470 A	12	1080066	09/05/2023	1080120	09/05/2023
SM 9260D			09/06/2023		09/06/2023
Subcontract			09/08/2023		09/08/2023
EPA 8260B	11	1080036	09/02/2023	1080741	09/07/2023
EPA 8081A	20	1080338	09/06/2023	1081201	09/07/2023
EPA 8270C	19	1080156	09/05/2023	1080993	09/08/2023
EPA 8151	15	1080092	09/05/2023	1080412	09/06/2023
SM2540 G-1997 /MOD	01	1080709	09/07/2023	1080709	09/07/2023

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JC Foutz
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Yoakum, TX 77995-

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Printed: 09/18/2023

RESULTS

Sample Results

2227250 **Belt Press Sludge** Received: 09/01/2023

Solid & Chemical Materials | Collected by: Client | City of Yoakum | PO: 13-0329
Taken: 08/31/2023 08:00:00

EPA 6020A — Prepared: 1080081 09/05/2023 09:50:00 — Analyzed 1080272 09/05/2023 14:22:00 JC2

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	TCLP Arsenic	<0.050	mg/L	0.050		7440-38-2	16
NELAC	TCLP Barium	0.396	mg/L	0.050		7440-39-3	16
NELAC	TCLP Cadmium	<0.005	mg/L	0.005		7440-43-9	16
NELAC	TCLP Chromium	<0.050	mg/L	0.050	P	7440-47-3	16
NELAC	TCLP Lead	<0.050	mg/L	0.050	P	7439-92-1	16
NELAC	TCLP Selenium	<0.050	mg/L	0.050		7782-49-2	16
NELAC	TCLP Silver	<0.050	mg/L	0.050	P	7440-22-4	16

EPA 7470 A — Prepared: 1080066 09/05/2023 07:30:00 — Analyzed 1080120 09/05/2023 10:18:00 CAS

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	TCLP Mercury	<0.002	mg/L	0.002		7439-97-6	12

EPA 8081A — Prepared: 1080338 09/06/2023 13:20:00 — Analyzed 1081201 09/07/2023 23:53:00 BLF

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	TCLP Chlordane	<0.001	mg/L	0.001		57-74-9	20
NELAC	TCLP Endrin	<0.00005	mg/L	0.00005		72-20-8	20
NELAC	TCLP gamma-BHC (Lindane)	<0.00005	mg/L	0.00005		58-89-9	20
NELAC	TCLP Heptachlor	<0.00005	mg/L	0.00005		76-44-8	20
NELAC	TCLP Heptachlor Epoxide	<0.00005	mg/L	0.00005		1024-57-3	20
NELAC	TCLP Methoxychlor	<0.00005	mg/L	0.00005	S	72-43-5	20
NELAC	TCLP Toxaphene	<0.001	mg/L	0.001		8001-35-2	20

EPA 8082 — Prepared: 1080021 09/01/2023 16:03:37 — Analyzed 1080351 09/05/2023 14:13:00 BLF

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	PCB-1016	<240 *	ug/kg	240	X	12674-11-2	04
NELAC	PCB-1221	<240 *	ug/kg	240		11104-28-2	04

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2227250 Belt Press Sludge

Received: 09/01/2023

Solid & Chemical Materials | Collected by: Client | City of Yoakum | PO: 13-0329
Taken: 08/31/2023 08:00:00

EPA 8082 — Prepared: 1080021 09/01/2023 16:03:37 — Analyzed 1080351 09/05/2023 14:13:00 — BLF

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	PCB-1232	<240 *	ug/kg	240		11141-16-5	04
NELAC	PCB-1242	<240 *	ug/kg	240		53469-21-9	04
NELAC	PCB-1248	<240 *	ug/kg	240		12672-29-6	04
NELAC	PCB-1254	<240 *	ug/kg	240		11097-69-1	04
NELAC	PCB-1260	<240 *	ug/kg	240	X	11096-82-5	04

* Dry Weight Basis

EPA 8151 — Prepared: 1080092 09/05/2023 10:15:00 — Analyzed 1080412 09/06/2023 13:52:00 — BLF

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	TCLP 2,4 D	<0.500	mg/L	0.500		94-75-7	15
NELAC	TCLP 2,4,5-TP (Silvex)	<0.300	mg/L	0.300	X	93-72-1	15

EPA 8260B — Prepared: 1080036 09/02/2023 13:05:00 — Analyzed 1080741 09/07/2023 14:22:00 — PM1

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	TCLP 1,1-Dichloroethene	<0.010	mg/L	0.010		75-35-4	11
NELAC	TCLP 1,2-Dichloroethane	<0.010	mg/L	0.010		107-06-2	11
NELAC	TCLP 1,4 Dichlorobenzene	<0.010	mg/L	0.010		106-46-7	11
NELAC	TCLP Benzene	<0.010	mg/L	0.010		71-43-2	11
NELAC	TCLP Carbon tetrachloride	<0.010	mg/L	0.010		56-23-5	11
NELAC	TCLP Chlorobenzene	<0.010	mg/L	0.010		108-90-7	11
NELAC	TCLP Chloroform	<0.010	mg/L	0.010		67-66-3	11
NELAC	TCLP MEK	<0.010	mg/L	0.010		78-93-3	11
NELAC	TCLP Tetrachloroethylene	<0.010	mg/L	0.010		127-18-4	11
NELAC	TCLP Trichloroethylene	<0.010	mg/L	0.010		79-01-6	11
NELAC	TCLP Vinyl chloride	<0.010	mg/L	0.010	X	75-01-4	11

EPA 8270C — Prepared: 1080156 09/05/2023 14:15:00 — Analyzed 1080993 09/08/2023 16:39:00 — DWL

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	TCLP 2,4,5-Trichlorophenol	<0.010	mg/L	0.010		95-95-4	19
NELAC	TCLP 2,4,6-Trichlorophenol	<0.010	mg/L	0.010		88-06-2	19
NELAC	TCLP 2,4-Dinitrotoluene	<0.035	mg/L	0.035		121-14-2	19
NELAC	TCLP 2-Methylphenol (o-Cresol)	<0.052	mg/L	0.052		95-48-7	19

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Printed: 09/18/2023

2227250 **Belt Press Sludge**

Received: 09/01/2023

Solid & Chemical Materials | Collected by: Client | City of Yoakum | PO: 13-0329

Taken: 08/31/2023 08:00:00

EPA 8270C — Prepared: 1080156 09/05/2023 14:15:00 — Analyzed 1080993 09/08/2023 16:39:00 DWL

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	TCLP 3&4-Methylphenol (m&p-Creso	<0.062	mg/L	0.062		108-39-4	19
NELAC	TCLP Hexachlorobenzene	<0.010	mg/L	0.010		118-74-1	19
NELAC	TCLP Hexachlorobutadiene	<0.010	mg/L	0.010		87-68-3	19
NELAC	TCLP Hexachloroethane	<0.010	mg/L	0.010		67-72-1	19
NELAC	TCLP Nitrobenzene	<0.010	mg/L	0.010		98-95-3	19
NELAC	TCLP Pentachlorophenol	<0.010	mg/L	0.010	D	87-86-5	19
NELAC	TCLP Pyridine (Reg. Limit 5)	<0.054	mg/L	0.054		110-86-1	19

EPA 8270C — Prepared: 1080156 09/05/2023 14:15:00 — Calculated 1080993 09/18/2023 08:31:16 CAL

	Parameter	Results	Units	RL	Flags	CAS	Bottle
z	TCLP Total Cresols (Reg Lim 200)	<0.062	mg/L	0.062		108-39-4,ect.	19

SM 9260D — Prepared: 09/06/2023 16:30:00 — Analyzed 09/06/2023 16:30:00 SUB

	Parameter	Results	Units	RL	Flags	CAS	Bottle
z	Salmonella Sludge (SUB)	See Attached				ABL2	

SM2540 G-1997 /MOD — Prepared: 1080709 09/07/2023 13:00:00 — Analyzed 1080709 09/07/2023 13:00:00 JK1

	Parameter	Results	Units	RL	Flags	CAS	Bottle
NELAC	Total Solids for Dry Wt Conversi	18.1	%	0.010			01

Subcontract — Prepared: 09/08/2023 10:00:00 — Analyzed 09/08/2023 10:00:00 SUB

	Parameter	Results	Units	RL	Flags	CAS	Bottle
z	TS% for Salmonella	See Attached				ABL2	

Sample Preparation

2227250 **Belt Press Sludge**

Received: 09/01/2023

13-0329

08/31/2023

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Printed: 09/18/2023

2227250 **Belt Press Sludge**

Received: 09/01/2023

13-0329

08/31/2023

		Prepared:	*09/05/2023*	*09:01:08*	*Calculated*		*09/05/2023*	*09:01:08*	*CAL*
z	**Environmental Fee (per Project)**	**Verified**							
z	**SUB Shipped**	**Verified**							
z	**SUB Shipped**	**Verified**							
Calculation		*Prepared:*	*09/18/2023*	*08:31:06*	*Calculated*		*09/18/2023*	*08:31:06*	*CAL*
	As Received to Dry Weight Basis	**Calculated**							
EPA 3510C		*Prepared:*	*1080035*	*09/02/2023*	*13:05:00*	*Analyzed*	*1080156*	*09/05/2023*	*14:15:00* *MCC*
	TCLP Liquid-Liquid Extract	**1/100**	**ml**						08
EPA 3510C		*Prepared:*	*1080035*	*09/02/2023*	*13:05:00*	*Analyzed*	*1080338*	*09/06/2023*	*13:20:00* *MCC*
	TCLP Liq-Liq Extr. W/Hex Exch.	**10/200**	**ml**						08
EPA 1311		*Prepared:*	*1080035*	*09/02/2023*	*13:05:00*	*Analyzed*	*1080035*	*09/02/2023*	*13:05:00* *SLF*
NELAC	**TCLP Extraction Non-Volatile**	**SOLID EXT 1**	**ml**						02
EPA 1311ZHE		*Prepared:*	*1080036*	*09/02/2023*	*13:05:00*	*Analyzed*	*1080036*	*09/02/2023*	*13:05:00* *SLF*
NELAC	**TCLP Extraction ZHE Volatiles**	**100% SOLID**	**ml**						02
EPA 3005A		*Prepared:*	*1080035*	*09/02/2023*	*13:05:00*	*Analyzed*	*1080081*	*09/05/2023*	*09:50:00* *ALH*
z	**Metals Digestion TCLP Extract**	**50/10**	**ml**						08

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2227250 **Belt Press Sludge** Received: 09/01/2023

13-0329

08/31/2023

EPA 3550B	*Prepared:*	*1080021*	*09/01/2023*	*16:03:37*	*Analyzed*	*1080021*	*09/01/2023*	*16:03:37*		*NAZ*
NELAC **PCB Total Sonic Extr. W/Hex Exch**	**10/1.98**		**grams**							03
EPA 7470A	*Prepared:*	*1080035*	*09/02/2023*	*13:05:00*	*Analyzed*	*1080066*	*09/05/2023*	*07:30:00*		*ALB*
NELAC **Metals Digestion TCLP 7470**	**50/2.5**		**ml**							08
EPA 8081A	*Prepared:*	*1080338*	*09/06/2023*	*13:20:00*	*Analyzed*	*1081201*	*09/07/2023*	*23:53:00*		*BLF*
NELAC **GC TCLP Pesticide**	**Entered**									20
EPA 8082	*Prepared:*	*1080021*	*09/01/2023*	*16:03:37*	*Analyzed*	*1080351*	*09/05/2023*	*14:13:00*		*BLF*
NELAC **Polychlorinated Biphenyls**	**Entered**									04
EPA 8151	*Prepared:*	*1080092*	*09/05/2023*	*10:15:00*	*Analyzed*	*1080412*	*09/06/2023*	*13:52:00*		*BLF*
NELAC **GC TCLP Herbicide**	**Entered**									15
EPA 8151A (Prep)	*Prepared:*	*1080035*	*09/02/2023*	*13:05:00*	*Analyzed*	*1080092*	*09/05/2023*	*10:15:00*		*CED*
NELAC **Esterification of TCLP Extract**	**10/1**		**ml**							08
EPA 8260B	*Prepared:*	*1080036*	*09/02/2023*	*13:05:00*	*Analyzed*	*1080741*	*09/07/2023*	*14:22:00*		*PM1*
NELAC **MS TCLP Volatile Analysis**	**Entered**									11

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2227250 **Belt Press Sludge** Received: 09/01/2023

13-0329

08/31/2023

EPA 8270C	*Prepared:*	*1080156*	*09/05/2023*	*14:15:00*	*Analyzed*	*1080993*	*09/08/2023*	*16:39:00*	*DWL*
NELAC **MS TCLP Semivolatile Analysis**	**Entered**								19
SM 2540 G-1997	*Prepared:*	*1080540*	*09/07/2023*	*13:00:00*	*Analyzed*	*1080540*	*09/07/2023*	*13:00:00*	*JK1*
NELAC **Total Solids Start Code**	**Started**								

Qualifiers:

D - Duplicate RPD was higher than expected
P - Spike recovery outside control limits due to matrix effects.
X - Standard reads higher than desired.
S - Standard reads lower than desired

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

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

(N)ELAC - Covered in our NELAC scope ofl accreditation
z -- Not covered by our NELAC scope ofl accreditation

These analytical results relate to the sample tested. This report may NOT be reproduced EXCEPT in FULL without written approval ofl SPL Kilgore. Unless otherwise specifled, these test results meet the requirements ofl 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 perflormed during sample preparation (EQL). Our analytical result must be above this RL beflore we report a value in the Results' column ofl 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 flrom regulatory agencies Unless we report a result in the result column, or interflerences prevent it, we work to have our RL at or below the MAL.

Bill Peery

Bill Peery, MS, VP Technical Services

QUALITY CONTROL

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Printed 09/18/2023

Analytical Set 1080709 — SM2540 G-1997 /MOD

ControlBlk

Parameter	PrepSet	Reading	MDL	MQL	Units	File
Total Solids for Dry Wt Conversi	1080709	0			grams	125415413

Duplicate

Parameter	Sample	Result	Unknown	Unit	RPD	Limit%
Total Solids for Dry Wt Conversi	2226963	94.2	93.9	%	0.319	20.0
Total Solids for Dry Wt Conversi	2227602	99.9	99.9	%	0	20.0

Analytical Set 1080120 — EPA 7470 A

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
TCLP Mercury	1080066	0.000183	0.000113	0.0002	mg/L	125404760

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
TCLP Mercury	0.00508	0.005	mg/L	102	90.0 - 110	125404743
TCLP Mercury	0.00484	0.005	mg/L	96.8	90.0 - 110	125404744
TCLP Mercury	0.00503	0.005	mg/L	101	90.0 - 110	125404751
TCLP Mercury	0.00491	0.005	mg/L	98.2	90.0 - 110	125404758
TCLP Mercury	0.00496	0.005	mg/L	99.2	90.0 - 110	125404759
TCLP Mercury	0.0053	0.005	mg/L	106	90.0 - 110	125404766

ICL

Parameter	Reading	Known	Units	Recover%	Limits%	File
TCLP Mercury	0.0201	0.02	mg/L	100	90.0 - 110	125404742

ICV

Parameter	Reading	Known	Units	Recover%	Limits%	File
TCLP Mercury	0.00507	0.005	mg/L	101	90.0 - 110	125404741

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
TCLP Mercury	1080066	0.0105	0.0101	0.010	85.1 - 117	105	101	mg/L	3.88	20.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
TCLP Mercury	2227250	0.104	0.102	0.000382	0.100	80.9 - 121	104	102	mg/L	1.95	20.0

Analytical Set 1080272 — EPA 6020A

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
TCLP Arsenic	1080081	ND	0.010	0.010	mg/L	125407841
TCLP Barium	1080081	ND	0.010	0.010	mg/L	125407841
TCLP Cadmium	1080081	ND	0.001	0.001	mg/L	125407841
TCLP Chromium	1080081	ND	0.010	0.010	mg/L	125407841
TCLP Lead	1080081	ND	0.010	0.010	mg/L	125407841

QUALITY CONTROL

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Printed 09/18/2023

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
TCLP Selenium	1080081	ND	0.010	0.010	mg/L	125407841
TCLP Silver	1080081	ND	0.010	0.010	mg/L	125407841

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
TCLP Arsenic	0.0519	0.05	mg/L	104	90.0 - 110	125407840
TCLP Arsenic	0.0524	0.05	mg/L	105	90.0 - 110	125407848
TCLP Barium	0.051	0.05	mg/L	102	90.0 - 110	125407840
TCLP Barium	0.0512	0.05	mg/L	102	90.0 - 110	125407848
TCLP Cadmium	0.0493	0.05	mg/L	98.6	90.0 - 110	125407840
TCLP Cadmium	0.0494	0.05	mg/L	98.8	90.0 - 110	125407848
TCLP Chromium	0.0467	0.05	mg/L	93.4	90.0 - 110	125407840
TCLP Chromium	0.047	0.05	mg/L	94.0	90.0 - 110	125407848
TCLP Lead	0.0451	0.05	mg/L	90.2	90.0 - 110	125407840
TCLP Lead	0.0449	0.05	mg/L	89.8	90.0 - 110	125407848
TCLP Selenium	0.0497	0.05	mg/L	99.4	90.0 - 110	125407840
TCLP Selenium	0.0514	0.05	mg/L	103	90.0 - 110	125407848
TCLP Silver	0.0471	0.05	mg/L	94.2	90.0 - 110	125407840
TCLP Silver	0.0476	0.05	mg/L	95.2	90.0 - 110	125407848

ICV

Parameter	Reading	Known	Units	Recover%	Limits%	File
TCLP Arsenic	0.0519	0.05	mg/L	104	90.0 - 110	125407825
TCLP Barium	0.0521	0.05	mg/L	104	90.0 - 110	125407825
TCLP Cadmium	0.0517	0.05	mg/L	103	90.0 - 110	125407825
TCLP Chromium	0.0491	0.05	mg/L	98.2	90.0 - 110	125407825
TCLP Lead	0.050	0.05	mg/L	100	90.0 - 110	125407825
TCLP Selenium	0.0517	0.05	mg/L	103	90.0 - 110	125407825
TCLP Silver	0.0491	0.05	mg/L	98.2	90.0 - 110	125407825

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
TCLP Arsenic	1080081	0.547	0.497	0.500	82.8 - 120	109	99.4	mg/L	9.58	14.0
TCLP Barium	1080081	0.564	0.516	0.500	83.1 - 113	113	103	mg/L	8.89	14.0
TCLP Cadmium	1080081	0.258	0.237	0.250	86.0 - 115	103	94.8	mg/L	8.48	14.0
TCLP Chromium	1080081	0.512	0.466	0.500	84.3 - 118	102	93.2	mg/L	9.41	14.0
TCLP Lead	1080081	0.500	0.462	0.500	85.1 - 115	100	92.4	mg/L	7.90	14.0
TCLP Selenium	1080081	0.520	0.475	0.500	83.5 - 121	104	95.0	mg/L	9.05	14.0
TCLP Silver	1080081	0.107	0.0942	0.100	80.1 - 118	107	94.2	mg/L	12.7	14.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
TCLP Arsenic	2227250	2.23	2.37	ND	2.50	84.9 - 114	89.2	94.8	mg/L	6.09	20.0
TCLP Barium	2227250	2.74	2.96	0.396	2.50	80.3 - 115	93.8	103	mg/L	8.96	20.0
TCLP Cadmium	2227250	0.999	1.06	0.00151	1.25	78.2 - 120	79.8	84.7	mg/L	5.93	20.0
TCLP Chromium	2227250	2.05	2.19	ND	2.50	86.0 - 117	82.0 *	87.6	mg/L	6.60	20.0

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MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
TCLP Lead	2227250	1.99	2.12	ND	2.50	85.0 - 116	79.6 *	84.8 *	mg/L	6.33	20.0
TCLP Selenium	2227250	2.07	2.21	0.0122	2.50	80.2 - 121	82.3	87.9	mg/L	6.58	20.0
TCLP Silver	2227250	0.380	0.408	ND	0.500	80.7 - 115	76.0 *	81.6	mg/L	7.11	20.0

Analytical Set 1080351 — EPA 8082

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
PCB-1016	1080021	ND	43.0	250	ug/kg	125408997
PCB-1221	1080021	ND	43.0	250	ug/kg	125408997
PCB-1232	1080021	ND	43.0	250	ug/kg	125408997
PCB-1242	1080021	ND	43.0	250	ug/kg	125408997
PCB-1248	1080021	ND	43.0	250	ug/kg	125408997
PCB-1254	1080021	ND	43.0	250	ug/kg	125408997
PCB-1260	1080021	ND	43.0	250	ug/kg	125408997

CCV

Parameter	Reading	Known	Units	Recover%	Limits%		File
PCB-1016	1020	1000	ug/kg	102	80.0 - 120		125408996
PCB-1016	1110	1000	ug/kg	111	80.0 - 120		125409003
PCB-1016	1250	1000	ug/kg	125	80.0 - 120	*	125409010
PCB-1016	1240	1000	ug/kg	124	80.0 - 120	*	125409012
PCB-1260	1040	1000	ug/kg	104	80.0 - 120		125408996
PCB-1260	1130	1000	ug/kg	113	80.0 - 120		125409003
PCB-1260	1190	1000	ug/kg	119	80.0 - 120		125409010
PCB-1260	1430	1000	ug/kg	143	80.0 - 120	*	125409012

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
PCB-1016	1080021	4880	5330	5000	28.4 - 187	97.6	107	ug/kg	9.19	30.0
PCB-1260	1080021	5240	5230	5000	22.3 - 183	105	105	ug/kg	0	30.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
PCB-1016	2227250	4790	4730	ND	10000	0.100 - 427	47.9	47.3	ug/kg	1.26	30.0
PCB-1260	2227250	4940	4930	ND	10000	0.100 - 470	49.4	49.3	ug/kg	0.203	30.0

Surrogate

Parameter	Sample	Type	Reading	Known	Units	Recover%	Limits%	File
Decachlorobiphenyl	1080021	Blank	74.8	100	ug/kg	74.8	10.0 - 200	125408997
Tetrachloro-m-Xylene (Surr)	1080021	Blank	114	100	ug/kg	114	10.0 - 160	125408997
Decachlorobiphenyl	2227250	Unknown	339	505	ug/kg	67.1	10.0 - 200	125409000
Tetrachloro-m-Xylene (Surr)	2227250	Unknown	464	505	ug/kg	91.9	10.0 - 160	125409000

Analytical Set 1080412 — EPA 8151

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File

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Parameter	PrepSet	Reading	MDL	MQL	Units	File
TCLP 2,4 D	1080092	ND	0.000159	0.0005	mg/L	125409861
TCLP 2,4,5-TP (Silvex)	1080092	ND	0.000089	0.0003	mg/L	125409861

CCV

Parameter	Reading	Known	Units	Recover%	Limits%		File
TCLP 2,4 D	0.144	0.150	mg/L	96.0	70.0 - 130		125409840
TCLP 2,4 D	0.180	0.150	mg/L	120	70.0 - 130		125409844
TCLP 2,4 D	0.189	0.150	mg/L	126	70.0 - 130		125409860
TCLP 2,4 D	0.191	0.150	mg/L	127	70.0 - 130		125409875
TCLP 2,4,5-TP (Silvex)	0.151	0.150	mg/L	101	70.0 - 130		125409840
TCLP 2,4,5-TP (Silvex)	0.156	0.150	mg/L	104	70.0 - 130		125409844
TCLP 2,4,5-TP (Silvex)	0.175	0.150	mg/L	117	70.0 - 130		125409860
TCLP 2,4,5-TP (Silvex)	0.199	0.150	mg/L	133	70.0 - 130	*	125409875

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
TCLP 2,4 D	1080092	0.000458	0.000515	0.001	2.06 - 194	45.8	51.5	mg/L	11.7	30.0
TCLP 2,4,5-TP (Silvex)	1080092	0.000351	0.000401	0.001	19.3 - 162	35.1	40.1	mg/L	13.3	30.0

MS

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
TCLP 2,4 D	2226266	0.568	0	ND	1.00	0.100 - 228	56.8		mg/L		30.0
TCLP 2,4,5-TP (Silvex)	2226266	0.471	0	ND	1.00	2.02 - 165	47.1		mg/L		30.0

Surrogate

Parameter	Sample	Type	Reading	Known	Units	Recover%	Limits%	File
2,4-Dichlorophenylacetic Acid		CCV	0.142	0.200	mg/L	71.0	0.100 - 294	125409840
2,4-Dichlorophenylacetic Acid		CCV	0.142	0.200	mg/L	71.0	0.100 - 294	125409844
2,4-Dichlorophenylacetic Acid		CCV	0.157	0.200	mg/L	78.5	0.100 - 294	125409860
2,4-Dichlorophenylacetic Acid		CCV	0.183	0.200	mg/L	91.5	0.100 - 294	125409875
2,4-Dichlorophenylacetic Acid	1080092	Blank	0.0478	0.200	mg/L	23.9	0.100 - 294	125409861
2,4-Dichlorophenylacetic Acid	1080092	LCS	0.0523	0.200	mg/L	26.2	0.100 - 294	125409862
2,4-Dichlorophenylacetic Acid	1080092	LCS Dup	0.0601	0.200	mg/L	30.0	0.100 - 294	125409863
2,4-Dichlorophenylacetic Acid	2226266	MS	0.678	2.00	mg/L	33.9	0.100 - 294	125409869
2,4-Dichlorophenylacetic Acid	2227250	Unknown	0.549	2.00	mg/L	27.4	0.100 - 294	125409874

Analytical Set 1080741 — EPA 8260B

BFB

Parameter	Sample	RefMass	Reading	%	Limits%	File
BFB Mass 173	1080741	174	0	0.0	0 - 2.00	125416687
BFB Mass 174	1080741	95.0	4255	62.8	50.0 - 100	125416687
BFB Mass 175	1080741	174	342	8.0	5.00 - 9.00	125416687
BFB Mass 176	1080741	174	4298	101.0	95.0 - 101	125416687
BFB Mass 177	1080741	176	248	5.8	5.00 - 9.00	125416687
BFB Mass 50	1080741	95.0	1520	22.4	15.0 - 40.0	125416687
BFB Mass 75	1080741	95.0	3832	56.5	30.0 - 60.0	125416687

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BFB

Parameter	Sample	RefMass	Reading	%	Limits%	File
BFB Mass 95	1080741	95.0	6780	100.0	100 - 100	125416687
BFB Mass 96	1080741	95.0	447	6.6	5.00 - 9.00	125416687

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
TCLP 1,1-Dichloroethene	1080741	ND	0.000574	0.001	mg/L	125416691
TCLP 1,1-Dichloroethene	1080741	ND	0.000574	0.001	mg/L	125416692
TCLP 1,2-Dichloroethane	1080741	ND	0.00059	0.001	mg/L	125416691
TCLP 1,2-Dichloroethane	1080741	ND	0.00059	0.001	mg/L	125416692
TCLP 1,4 Dichlorobenzene	1080741	ND	0.000837	0.001	mg/L	125416691
TCLP 1,4 Dichlorobenzene	1080741	ND	0.000837	0.001	mg/L	125416692
TCLP Benzene	1080741	ND	0.000453	0.001	mg/L	125416691
TCLP Benzene	1080741	ND	0.000453	0.001	mg/L	125416692
TCLP Carbon tetrachloride	1080741	ND	0.000299	0.001	mg/L	125416691
TCLP Carbon tetrachloride	1080741	ND	0.000299	0.001	mg/L	125416692
TCLP Chlorobenzene	1080741	ND	0.000558	0.001	mg/L	125416691
TCLP Chlorobenzene	1080741	ND	0.000558	0.001	mg/L	125416692
TCLP Chloroform	1080741	ND	0.000463	0.001	mg/L	125416691
TCLP Chloroform	1080741	ND	0.000463	0.001	mg/L	125416692
TCLP MEK	1080741	ND	0.000742	0.001	mg/L	125416691
TCLP MEK	1080741	ND	0.000742	0.001	mg/L	125416692
TCLP Tetrachloroethylene	1080741	ND	0.000607	0.001	mg/L	125416691
TCLP Tetrachloroethylene	1080741	ND	0.000607	0.001	mg/L	125416692
TCLP Trichloroethylene	1080741	ND	0.000521	0.001	mg/L	125416691
TCLP Trichloroethylene	1080741	ND	0.000521	0.001	mg/L	125416692
TCLP Vinyl chloride	1080741	ND	0.000702	0.001	mg/L	125416691
TCLP Vinyl chloride	1080741	ND	0.000702	0.001	mg/L	125416692

CCV

Parameter	Reading	Known	Units	Recover%	Limits%		File
TCLP 1,1-Dichloroethene	0.0229	0.020	mg/L	114	70.0 - 130		125416688
TCLP 1,2-Dichloroethane	0.0234	0.020	mg/L	117	70.0 - 130		125416688
TCLP 1,4 Dichlorobenzene	0.021	0.020	mg/L	105	70.0 - 130		125416688
TCLP Benzene	0.022	0.020	mg/L	110	70.0 - 130		125416688
TCLP Carbon tetrachloride	0.0233	0.020	mg/L	116	70.0 - 130		125416688
TCLP Chlorobenzene	0.0214	0.020	mg/L	107	70.0 - 130		125416688
TCLP Chloroform	0.023	0.020	mg/L	115	70.0 - 130		125416688
TCLP MEK	0.0249	0.020	mg/L	124	70.0 - 130		125416688
TCLP Tetrachloroethylene	0.0204	0.020	mg/L	102	70.0 - 130		125416688
TCLP Trichloroethylene	0.0203	0.020	mg/L	102	70.0 - 130		125416688
TCLP Vinyl chloride	0.0275	0.020	mg/L	138	70.0 - 130	*	125416688

IS Areas

Parameter	Sample	Type	Reading	CCVISM	Low	High	File	PrepSet
1,4-DichlorobenzeneD4 (ISTD)	1080741	CCV	39330	39330	27530	51130	125416688	1080741
1,4-DichlorobenzeneD4 (ISTD)	1080741	LCS	47020	39330	27530	51130	125416689	1080741

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IS Areas

Parameter	Sample	Type	Reading	CCVISM	Low	High	File	PrepSet
1,4-DichlorobenzeneD4 (ISTD)	1080741	LCS Dup	42070	39330	27530	51130	125416690	1080741
1,4-DichlorobenzeneD4 (ISTD)	1080741	Blank	33770	39330	27530	51130	125416691	1080741
1,4-DichlorobenzeneD4 (ISTD)	1080741	Blank	32360	39330	27530	51130	125416692	1080741
ChlorobenzeneD5 (ISTD)	1080741	CCV	78130	78130	54690	101600	125416688	1080741
ChlorobenzeneD5 (ISTD)	1080741	LCS	93760	78130	54690	101600	125416689	1080741
ChlorobenzeneD5 (ISTD)	1080741	LCS Dup	86090	78130	54690	101600	125416690	1080741
ChlorobenzeneD5 (ISTD)	1080741	Blank	80720	78130	54690	101600	125416691	1080741
ChlorobenzeneD5 (ISTD)	1080741	Blank	79370	78130	54690	101600	125416692	1080741
1,4-DichlorobenzeneD4 (ISTD)	2227250	MS	42310	39330	27530	51130	125416694	1080036
1,4-DichlorobenzeneD4 (ISTD)	2227250	MSD	39690	39330	27530	51130	125416695	1080036
ChlorobenzeneD5 (ISTD)	2227250	MS	82590	78130	54690	101600	125416694	1080036
ChlorobenzeneD5 (ISTD)	2227250	MSD	79870	78130	54690	101600	125416695	1080036

IS RetTime

Parameter	Sample	Type	Reading	CCVISM	Low	High	File	PrepSet
1,4-DichlorobenzeneD4 (ISTD)	1080741	LCS	11.97	11.97	11.91	12.03	125416689	1080741
1,4-DichlorobenzeneD4 (ISTD)	1080741	LCS Dup	11.97	11.97	11.91	12.03	125416690	1080741
1,4-DichlorobenzeneD4 (ISTD)	1080741	Blank	11.97	11.97	11.91	12.03	125416691	1080741
1,4-DichlorobenzeneD4 (ISTD)	1080741	Blank	11.97	11.97	11.91	12.03	125416692	1080741
ChlorobenzeneD5 (ISTD)	1080741	LCS	9.597	9.597	9.537	9.657	125416689	1080741
ChlorobenzeneD5 (ISTD)	1080741	LCS Dup	9.597	9.597	9.537	9.657	125416690	1080741
ChlorobenzeneD5 (ISTD)	1080741	Blank	9.597	9.597	9.537	9.657	125416691	1080741
ChlorobenzeneD5 (ISTD)	1080741	Blank	9.597	9.597	9.537	9.657	125416692	1080741
1,4-DichlorobenzeneD4 (ISTD)	2227250	MS	11.97	11.97	11.91	12.03	125416694	1080036
1,4-DichlorobenzeneD4 (ISTD)	2227250	MSD	11.97	11.97	11.91	12.03	125416695	1080036
ChlorobenzeneD5 (ISTD)	2227250	MS	9.597	9.597	9.537	9.657	125416694	1080036
ChlorobenzeneD5 (ISTD)	2227250	MSD	9.597	9.597	9.537	9.657	125416695	1080036

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
TCLP 1,1-Dichloroethene	1080741	0.0162	0.0176	0.020	56.7 - 135	81.0	88.0	mg/L	8.28	30.0
TCLP 1,2-Dichloroethane	1080741	0.0183	0.0199	0.020	69.8 - 132	91.5	99.5	mg/L	8.38	30.0
TCLP 1,4 Dichlorobenzene	1080741	0.0178	0.0187	0.020	74.8 - 116	89.0	93.5	mg/L	4.93	30.0
TCLP Benzene	1080741	0.0183	0.0194	0.020	67.1 - 123	91.5	97.0	mg/L	5.84	30.0
TCLP Carbon tetrachloride	1080741	0.0175	0.0186	0.020	60.1 - 132	87.5	93.0	mg/L	6.09	30.0
TCLP Chlorobenzene	1080741	0.0174	0.0187	0.020	74.0 - 115	87.0	93.5	mg/L	7.20	30.0
TCLP Chloroform	1080741	0.0182	0.0199	0.020	71.1 - 128	91.0	99.5	mg/L	8.92	30.0
TCLP MEK	1080741	0.023	0.0234	0.020	40.7 - 166	115	117	mg/L	1.72	30.0
TCLP Tetrachloroethylene	1080741	0.0154	0.016	0.020	71.2 - 126	77.0	80.0	mg/L	3.82	30.0
TCLP Trichloroethylene	1080741	0.016	0.0172	0.020	71.4 - 126	80.0	86.0	mg/L	7.23	30.0
TCLP Vinyl chloride	1080741	0.0292	0.0298	0.020	18.5 - 155	146	149	mg/L	2.03	30.0

MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
TCLP 1,1-Dichloroethene	2227250	0.191	0.186	ND	0.200	0.100 - 168	95.5	93.0	mg/L	2.65	30.0
TCLP 1,2-Dichloroethane	2227250	0.204	0.206	ND	0.200	48.4 - 134	102	103	mg/L	0.976	30.0

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MSD

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
TCLP 1,4 Dichlorobenzene	2227250	0.184	0.197	ND	0.200	45.4 - 121	92.0	98.5	mg/L	6.82	30.0
TCLP Benzene	2227250	0.201	0.213	ND	0.200	5.00 - 119	100	106	mg/L	5.80	30.0
TCLP Carbon tetrachloride	2227250	0.197	0.199	ND	0.200	0.100 - 164	98.5	99.5	mg/L	1.01	30.0
TCLP Chlorobenzene	2227250	0.187	0.198	ND	0.200	32.5 - 130	93.5	99.0	mg/L	5.71	30.0
TCLP Chloroform	2227250	0.199	0.210	ND	0.200	22.1 - 141	99.5	105	mg/L	5.38	30.0
TCLP MEK	2227250	0.303	0.269	ND	0.200	9.88 - 197	152	134	mg/L	11.9	30.0
TCLP Tetrachloroethylene	2227250	0.167	0.169	ND	0.200	0.100 - 157	83.5	84.5	mg/L	1.19	30.0
TCLP Trichloroethylene	2227250	0.176	0.180	ND	0.200	0.100 - 161	88.0	90.0	mg/L	2.25	30.0
TCLP Vinyl chloride	2227250	0.263	0.262	ND	0.200	0.100 - 197	132	131	mg/L	0.381	30.0

Surrogate

Parameter	Sample	Type	Reading	Known	Units	Recover%	Limits%	File
1,2-DCA-d4 (SURR)	1080741	CCV	0.0222	0.020	mg/L	111	74.2 - 132	125416688
1,2-DCA-d4 (SURR)	1080741	LCS	0.0215	0.020	mg/L	108	74.2 - 132	125416689
1,2-DCA-d4 (SURR)	1080741	LCS Dup	0.0225	0.020	mg/L	112	74.2 - 132	125416690
1,2-DCA-d4 (SURR)	1080741	Blank	0.0223	0.020	mg/L	112	74.2 - 132	125416691
1,2-DCA-d4 (SURR)	1080741	Blank	0.0215	0.020	mg/L	108	74.2 - 132	125416692
Bromofluorobenzene (SURR)	1080741	CCV	0.0198	0.020	mg/L	99.0	77.2 - 134	125416688
Bromofluorobenzene (SURR)	1080741	LCS	0.0204	0.020	mg/L	102	77.2 - 134	125416689
Bromofluorobenzene (SURR)	1080741	LCS Dup	0.0211	0.020	mg/L	106	77.2 - 134	125416690
Bromofluorobenzene (SURR)	1080741	Blank	0.0226	0.020	mg/L	113	77.2 - 134	125416691
Bromofluorobenzene (SURR)	1080741	Blank	0.0219	0.020	mg/L	110	77.2 - 134	125416692
Dibromofluoromethane (SURR)	1080741	CCV	0.0207	0.020	mg/L	104	67.2 - 122	125416688
Dibromofluoromethane (SURR)	1080741	LCS	0.0194	0.020	mg/L	97.0	67.2 - 122	125416689
Dibromofluoromethane (SURR)	1080741	LCS Dup	0.0204	0.020	mg/L	102	67.2 - 122	125416690
Dibromofluoromethane (SURR)	1080741	Blank	0.0201	0.020	mg/L	100	67.2 - 122	125416691
Dibromofluoromethane (SURR)	1080741	Blank	0.0192	0.020	mg/L	96.0	67.2 - 122	125416692
TolueneD8 (SURR)	1080741	CCV	0.0199	0.020	mg/L	99.5	69.2 - 122	125416688
TolueneD8 (SURR)	1080741	LCS	0.0194	0.020	mg/L	97.0	69.2 - 122	125416689
TolueneD8 (SURR)	1080741	LCS Dup	0.0202	0.020	mg/L	101	69.2 - 122	125416690
TolueneD8 (SURR)	1080741	Blank	0.020	0.020	mg/L	100	69.2 - 122	125416691
TolueneD8 (SURR)	1080741	Blank	0.0196	0.020	mg/L	98.0	69.2 - 122	125416692
1,2-DCA-d4 (SURR)	2227250	Unknown	0.0225	0.020	mg/L	112	74.2 - 132	125416693
1,2-DCA-d4 (SURR)	2227250	MS	0.0225	0.020	mg/L	112	74.2 - 132	125416694
1,2-DCA-d4 (SURR)	2227250	MSD	0.022	0.020	mg/L	110	74.2 - 132	125416695
Bromofluorobenzene (SURR)	2227250	Unknown	0.0217	0.020	mg/L	108	77.2 - 134	125416693
Bromofluorobenzene (SURR)	2227250	MS	0.0202	0.020	mg/L	101	77.2 - 134	125416694
Bromofluorobenzene (SURR)	2227250	MSD	0.0203	0.020	mg/L	102	77.2 - 134	125416695
Dibromofluoromethane (SURR)	2227250	Unknown	0.0205	0.020	mg/L	102	67.2 - 122	125416693
Dibromofluoromethane (SURR)	2227250	MS	0.0205	0.020	mg/L	102	67.2 - 122	125416694
Dibromofluoromethane (SURR)	2227250	MSD	0.020	0.020	mg/L	100	67.2 - 122	125416695
TolueneD8 (SURR)	2227250	Unknown	0.0197	0.020	mg/L	98.5	69.2 - 122	125416693
TolueneD8 (SURR)	2227250	MS	0.0198	0.020	mg/L	99.0	69.2 - 122	125416694
TolueneD8 (SURR)	2227250	MSD	0.0198	0.020	mg/L	99.0	69.2 - 122	125416695

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City ofl Yoakum
JC Foutz
808 HWY 77A
Yoakum, TX 77995-

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Analytical Set 1080993

EPA 8270C

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
TCLP 2,4,5-Trichlorophenol	1080156	ND	0.000734	0.001	mg/L	125423036
TCLP 2,4,6-Trichlorophenol	1080156	ND	0.000704	0.001	mg/L	125423036
TCLP 2,4-Dinitrotoluene	1080156	ND	0.00335	0.0035	mg/L	125423036
TCLP 2-Methylphenol (o-Cresol)	1080156	ND	0.00513	0.0052	mg/L	125423036
TCLP 3&4-Methylphenol (m&p-Creso	1080156	ND	0.00615	0.0062	mg/L	125423036
TCLP Hexachlorobenzene	1080156	ND	0.000187	0.001	mg/L	125423036
TCLP Hexachlorobutadiene	1080156	ND	0.000618	0.001	mg/L	125423036
TCLP Hexachloroethane	1080156	ND	0.000789	0.001	mg/L	125423036
TCLP Nitrobenzene	1080156	ND	0.00039	0.001	mg/L	125423036
TCLP Pentachlorophenol	1080156	0.00056	0.000129	0.001	mg/L	125423036
TCLP Pyridine (Reg. Limit 5)	1080156	ND	0.00533	0.0054	mg/L	125423036

CCV

Parameter	Reading	Known	Units	Recover%	Limits%	File
TCLP 2,4,5-Trichlorophenol	54.8	50.0	mg/L	110	70.0 - 130	125423035
TCLP 2,4,6-Trichlorophenol	54.3	50.0	mg/L	109	70.0 - 130	125423035
TCLP 2,4-Dinitrotoluene	52.9	50.0	mg/L	106	70.0 - 130	125423035
TCLP 2-Methylphenol (o-Cresol)	51.1	50.0	mg/L	102	70.0 - 130	125423035
TCLP 3&4-Methylphenol (m&p-Creso	51.8	50.0	mg/L	104	70.0 - 130	125423035
TCLP Hexachlorobenzene	44.8	50.0	mg/L	89.7	70.0 - 130	125423035
TCLP Hexachlorobutadiene	45.0	50.0	mg/L	89.9	70.0 - 130	125423035
TCLP Hexachloroethane	55.4	50.0	mg/L	111	70.0 - 130	125423035
TCLP Nitrobenzene	55.2	50.0	mg/L	110	70.0 - 130	125423035
TCLP Pentachlorophenol	44.8	50.0	mg/L	89.5	70.0 - 130	125423035
TCLP Pyridine (Reg. Limit 5)	55.5	50.0	mg/L	111	70.0 - 130	125423035

DFTPP

Parameter		RefMass	Reading	%	Limits%	File
DFTPP Mass 127	619792	198	39354	51.3	40.0 - 60.0	125423034
DFTPP Mass 197	619792	198	0	0.0	0 - 1.00	125423034
DFTPP Mass 198	619792	198	76652	100.0	100 - 100	125423034
DFTPP Mass 199	619792	198	5293	6.9	5.00 - 9.00	125423034
DFTPP Mass 275	619792	198	20763	27.1	10.0 - 30.0	125423034
DFTPP Mass 365	619792	198	3264	4.3	1.00 - 100	125423034
DFTPP Mass 441	619792	443	8654	90.5	0 - 100	125423034
DFTPP Mass 442	619792	198	48842	63.7	40.0 - 100	125423034
DFTPP Mass 443	619792	442	9563	19.6	17.0 - 23.0	125423034
DFTPP Mass 51	619792	198	35986	46.9	30.0 - 60.0	125423034
DFTPP Mass 68	619792	69.0	0	0.0	0 - 2.00	125423034
DFTPP Mass 69	619792	198	44536	58.1	0 - 100	125423034
DFTPP Mass 70	619792	69.0	65	0.1	0 - 2.00	125423034

IS Areas

Parameter	Sample	Type	Reading	CCVISM	Low	High	File	PrepSet

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IS Areas

Parameter	Sample	Type	Reading	CCVISM	Low	High	File	PrepSet
1,4-Dichlorobenzene-d4-ISTD	619121	CCV	56460	56460	28230	84680	125423035	619121
Acenaphthene-d10-ISTD	619121	CCV	95200	95200	47600	142800	125423035	619121
Naphthalene-d8-ISTD	619121	CCV	178600	178600	89310	267900	125423035	619121
Phenanthrene-d10-ISTD	619121	CCV	152200	152200	76110	228300	125423035	619121
1,4-Dichlorobenzene-d4-ISTD	1080156	Blank	55570	56460	28230	84680	125423036	1080156
1,4-Dichlorobenzene-d4-ISTD	1080156	LCS	35520	56460	28230	84680	125423037	1080156
1,4-Dichlorobenzene-d4-ISTD	1080156	LCS Dup	36500	56460	28230	84680	125423038	1080156
Acenaphthene-d10-ISTD	1080156	Blank	83750	95200	47600	142800	125423036	1080156
Acenaphthene-d10-ISTD	1080156	LCS	59390	95200	47600	142800	125423037	1080156
Acenaphthene-d10-ISTD	1080156	LCS Dup	62220	95200	47600	142800	125423038	1080156
Naphthalene-d8-ISTD	1080156	Blank	166100	178600	89310	267900	125423036	1080156
Naphthalene-d8-ISTD	1080156	LCS	111500	178600	89310	267900	125423037	1080156
Naphthalene-d8-ISTD	1080156	LCS Dup	116600	178600	89310	267900	125423038	1080156
Phenanthrene-d10-ISTD	1080156	Blank	109200	152200	76110	228300	125423036	1080156
Phenanthrene-d10-ISTD	1080156	LCS	92560	152200	76110	228300	125423037	1080156
Phenanthrene-d10-ISTD	1080156	LCS Dup	92840	152200	76110	228300	125423038	1080156
1,4-Dichlorobenzene-d4-ISTD	2226371	MS	40640	56460	28230	84680	125423046	1080156
Acenaphthene-d10-ISTD	2226371	MS	64160	95200	47600	142800	125423046	1080156
Naphthalene-d8-ISTD	2226371	MS	125800	178600	89310	267900	125423046	1080156
Phenanthrene-d10-ISTD	2226371	MS	82070	152200	76110	228300	125423046	1080156
1,4-Dichlorobenzene-d4-ISTD	2227250	Unknown	44000	56460	28230	84680	125423044	1080156
Acenaphthene-d10-ISTD	2227250	Unknown	71060	95200	47600	142800	125423044	1080156
Naphthalene-d8-ISTD	2227250	Unknown	123500	178600	89310	267900	125423044	1080156
Phenanthrene-d10-ISTD	2227250	Unknown	93300	152200	76110	228300	125423044	1080156

IS RetTime

Parameter	Sample	Type	Reading	CCVISM	Low	High	File	PrepSet
1,4-Dichlorobenzene-d4-ISTD	619121	CCV	9.120	9.120	9.060	9.180	125423035	619121
Acenaphthene-d10-ISTD	619121	CCV	15.65	15.65	15.59	15.71	125423035	619121
Naphthalene-d8-ISTD	619121	CCV	11.70	11.70	11.64	11.76	125423035	619121
Phenanthrene-d10-ISTD	619121	CCV	18.11	18.11	18.05	18.17	125423035	619121
1,4-Dichlorobenzene-d4-ISTD	1080156	Blank	9.110	9.120	9.060	9.180	125423036	1080156
1,4-Dichlorobenzene-d4-ISTD	1080156	LCS	9.110	9.120	9.060	9.180	125423037	1080156
1,4-Dichlorobenzene-d4-ISTD	1080156	LCS Dup	9.120	9.120	9.060	9.180	125423038	1080156
Acenaphthene-d10-ISTD	1080156	Blank	15.64	15.65	15.59	15.71	125423036	1080156
Acenaphthene-d10-ISTD	1080156	LCS	15.64	15.65	15.59	15.71	125423037	1080156
Acenaphthene-d10-ISTD	1080156	LCS Dup	15.64	15.65	15.59	15.71	125423038	1080156
Naphthalene-d8-ISTD	1080156	Blank	11.69	11.70	11.64	11.76	125423036	1080156
Naphthalene-d8-ISTD	1080156	LCS	11.70	11.70	11.64	11.76	125423037	1080156
Naphthalene-d8-ISTD	1080156	LCS Dup	11.70	11.70	11.64	11.76	125423038	1080156
Phenanthrene-d10-ISTD	1080156	Blank	18.10	18.11	18.05	18.17	125423036	1080156
Phenanthrene-d10-ISTD	1080156	LCS	18.10	18.11	18.05	18.17	125423037	1080156
Phenanthrene-d10-ISTD	1080156	LCS Dup	18.10	18.11	18.05	18.17	125423038	1080156
1,4-Dichlorobenzene-d4-ISTD	2226371	MS	9.120	9.120	9.060	9.180	125423046	1080156
Acenaphthene-d10-ISTD	2226371	MS	15.64	15.65	15.59	15.71	125423046	1080156

QUALITY CONTROL

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IS RetTime

Parameter	Sample	Type	Reading	CCVISM	Low	High	File	PrepSet
Naphthalene-d8-ISTD	2226371	MS	11.70	11.70	11.64	11.76	125423046	1080156
Phenanthrene-d10-ISTD	2226371	MS	18.10	18.11	18.05	18.17	125423046	1080156
1,4-Dichlorobenzene-d4-ISTD	2227250	Unknown	9.120	9.120	9.060	9.180	125423044	1080156
Acenaphthene-d10-ISTD	2227250	Unknown	15.64	15.65	15.59	15.71	125423044	1080156
Naphthalene-d8-ISTD	2227250	Unknown	11.70	11.70	11.64	11.76	125423044	1080156
Phenanthrene-d10-ISTD	2227250	Unknown	18.10	18.11	18.05	18.17	125423044	1080156

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
TCLP 2,4,5-Trichlorophenol	1080156	0.0184	0.0246	0.025	39.3 - 111	73.6	98.4	mg/L	28.8	30.0
TCLP 2,4,6-Trichlorophenol	1080156	0.018	0.0232	0.025	38.2 - 109	72.0	92.8	mg/L	25.2	30.0
TCLP 2,4-Dinitrotoluene	1080156	0.0183	0.0225	0.025	36.3 - 132	73.2	90.0	mg/L	20.6	30.0
TCLP 2-Methylphenol (o-Cresol)	1080156	0.0128	0.0162	0.025	23.0 - 87.8	51.2	64.8	mg/L	23.4	30.0
TCLP 3&4-Methylphenol (m&p-Creso	1080156	0.012	0.0154	0.025	14.9 - 92.5	48.0	61.6	mg/L	24.8	30.0
TCLP Hexachlorobenzene	1080156	0.0183	0.0207	0.025	44.4 - 117	73.2	82.8	mg/L	12.3	30.0
TCLP Hexachlorobutadiene	1080156	0.0141	0.0156	0.025	17.2 - 88.9	56.4	62.4	mg/L	10.1	30.0
TCLP Hexachloroethane	1080156	0.0126	0.0145	0.025	14.6 - 88.8	50.4	58.0	mg/L	14.0	30.0
TCLP Nitrobenzene	1080156	0.0148	0.0191	0.025	34.3 - 113	59.2	76.4	mg/L	25.4	30.0
TCLP Pentachlorophenol	1080156	0.0126	0.0189	0.025	15.7 - 129	50.4	75.6	mg/L	40.0 *	30.0
TCLP Pyridine (Reg. Limit 5)	1080156	0.00605	0.00672	0.025	0.0753 - 83.4	24.2	26.9	mg/L	10.6	30.0

MS

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
TCLP 2,4,5-Trichlorophenol	2226371	0.246	0	0.0039	0.250	33.7 - 116	96.8		mg/L		30.0
TCLP 2,4,6-Trichlorophenol	2226371	0.241	0	0.0039	0.250	20.1 - 131	94.8		mg/L		30.0
TCLP 2,4-Dinitrotoluene	2226371	0.223	0	0.0039	0.250	31.8 - 135	87.6		mg/L		30.0
TCLP 2-Methylphenol (o-Cresol)	2226371	0.159	0	ND	0.250	10.6 - 106	63.6		mg/L		30.0
TCLP 3&4-Methylphenol (m&p-Creso	2226371	0.149	0	ND	0.250	0.100 - 149	59.6		mg/L		30.0
TCLP Hexachlorobenzene	2226371	0.223	0	0.0039	0.250	35.9 - 125	87.6		mg/L		30.0
TCLP Hexachlorobutadiene	2226371	0.152	0	0.0039	0.250	11.1 - 88.5	59.2		mg/L		30.0
TCLP Hexachloroethane	2226371	0.153	0	0.0039	0.250	8.41 - 88.1	59.6		mg/L		30.0
TCLP Nitrobenzene	2226371	0.198	0	0.0039	0.250	28.7 - 119	77.6		mg/L		30.0
TCLP Pentachlorophenol	2226371	0.184	0	0.0052	0.250	8.33 - 141	71.5		mg/L		30.0
TCLP Pyridine (Reg. Limit 5)	2226371	0.0992	0	ND	0.250	0.100 - 97.2	39.7		mg/L		30.0

SPCC

Parameter	Sample	RF	Minimum	File
TCLP 2,4-Dinitrophenol	619121	46.6	0.050	125423035
TCLP 4-Nitrophenol	619121	62.6	0.050	125423035
TCLP Hexachlorocyclopentadiene	619121	45.2	0.050	125423035
TCLP N-Nitroso-n-propylamine	619121	53.9	0.050	125423035

Surrogate

Parameter	Sample	Type	Reading	Known	Units	Recover%	Limits%	File
2,4,6-Tribromophenol	619121	CCV	47.9	100	mg/L	47.9	9.79 - 123	125423035
2-Fluorobiphenyl-SURR	619121	CCV	53.2	50.0	mg/L	106	0.100 - 131	125423035

QUALITY CONTROL

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Surrogate

Parameter	Sample	Type	Reading	Known	Units	Recover%	Limits%	File
2-Fluorophenol-SURR	619121	CCV	53.0	100	mg/L	53.0	5.36 - 80.2	125423035
4-Terphenyl-d14-SURR	619121	CCV	55.5	50.0	mg/L	111	0.100 - 137	125423035
Nitrobenzene-d5-SURR	619121	CCV	52.2	50.0	mg/L	104	0.100 - 131	125423035
Phenol-d6-SURR	619121	CCV	53.8	100	mg/L	53.8	0.100 - 66.5	125423035
2,4,6-Tribromophenol	1080156	Blank	0.0465	0.100	mg/L	46.5	9.79 - 123	125423036
2,4,6-Tribromophenol	1080156	LCS	0.0452	0.100	mg/L	45.2	9.79 - 123	125423037
2,4,6-Tribromophenol	1080156	LCS Dup	0.0539	0.100	mg/L	53.9	9.79 - 123	125423038
2-Fluorobiphenyl-SURR	1080156	Blank	20.4	50.0	mg/L	40.8	0.100 - 131	125423036
2-Fluorobiphenyl-SURR	1080156	LCS	18.9	50.0	mg/L	37.8	0.100 - 131	125423037
2-Fluorobiphenyl-SURR	1080156	LCS Dup	22.1	50.0	mg/L	44.2	0.100 - 131	125423038
2-Fluorophenol-SURR	1080156	Blank	27.7	100	mg/L	27.7	5.36 - 80.2	125423036
2-Fluorophenol-SURR	1080156	LCS	26.2	100	mg/L	26.2	5.36 - 80.2	125423037
2-Fluorophenol-SURR	1080156	LCS Dup	30.8	100	mg/L	30.8	5.36 - 80.2	125423038
4-Terphenyl-d14-SURR	1080156	Blank	28.2	50.0	mg/L	56.4	0.100 - 137	125423036
4-Terphenyl-d14-SURR	1080156	LCS	21.8	50.0	mg/L	43.6	0.100 - 137	125423037
4-Terphenyl-d14-SURR	1080156	LCS Dup	28.1	50.0	mg/L	56.2	0.100 - 137	125423038
Nitrobenzene-d5-SURR	1080156	Blank	20.4	50.0	mg/L	40.8	0.100 - 131	125423036
Nitrobenzene-d5-SURR	1080156	LCS	19.5	50.0	mg/L	39.0	0.100 - 131	125423037
Nitrobenzene-d5-SURR	1080156	LCS Dup	24.1	50.0	mg/L	48.2	0.100 - 131	125423038
Phenol-d6-SURR	1080156	Blank	17.0	100	mg/L	17.0	0.100 - 66.5	125423036
Phenol-d6-SURR	1080156	LCS	15.8	100	mg/L	15.8	0.100 - 66.5	125423037
Phenol-d6-SURR	1080156	LCS Dup	20.2	100	mg/L	20.2	0.100 - 66.5	125423038
2,4,6-Tribromophenol	2226371	MS	0.510	1.00	mg/L	51.0	9.79 - 123	125423046
2-Fluorobiphenyl-SURR	2226371	MS	0.232	0.500	mg/L	46.4	0.100 - 131	125423046
2-Fluorophenol-SURR	2226371	MS	0.324	1.00	mg/L	32.4	5.36 - 80.2	125423046
4-Terphenyl-d14-SURR	2226371	MS	0.274	0.500	mg/L	54.8	0.100 - 137	125423046
Nitrobenzene-d5-SURR	2226371	MS	0.225	0.500	mg/L	45.0	0.100 - 131	125423046
Phenol-d6-SURR	2226371	MS	0.196	1.00	mg/L	19.6	0.100 - 66.5	125423046
2,4,6-Tribromophenol	2227250	Unknown	0.504	1.00	mg/L	50.4	9.79 - 123	125423044
2-Fluorobiphenyl-SURR	2227250	Unknown	0.195	0.500	mg/L	39.0	0.100 - 131	125423044
2-Fluorophenol-SURR	2227250	Unknown	0.362	1.00	mg/L	36.2	5.36 - 80.2	125423044
4-Terphenyl-d14-SURR	2227250	Unknown	0.274	0.500	mg/L	54.8	0.100 - 137	125423044
Nitrobenzene-d5-SURR	2227250	Unknown	0.238	0.500	mg/L	47.6	0.100 - 131	125423044
Phenol-d6-SURR	2227250	Unknown	0.194	1.00	mg/L	19.4	0.100 - 66.5	125423044

Analytical Set 1081201

EPA 8081A

Blank

Parameter	PrepSet	Reading	MDL	MQL	Units	File
TCLP Chlordane	1080338	ND	0.0183	0.020	mg/L	125428406
TCLP Endrin	1080338	ND	0.000538	0.001	mg/L	125428406
TCLP gamma-BHC (Lindane)	1080338	ND	0.000385	0.001	mg/L	125428406
TCLP Heptachlor	1080338	ND	0.000207	0.001	mg/L	125428406
TCLP Heptachlor Epoxide	1080338	ND	0.00066	0.001	mg/L	125428406
TCLP Methoxychlor	1080338	ND	0.000898	0.001	mg/L	125428406

QUALITY CONTROL

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Parameter	PrepSet	Reading	MDL	MQL	Units	File
TCLP Toxaphene	1080338	ND	0.000169	0.0002	mg/L	125428406

CCV

Parameter	Reading	Known	Units	Recover%	Limits%		File
TCLP Endrin	0.0495	0.050	mg/L	98.9	70.0 - 130		125428405
TCLP Endrin	0.0438	0.050	mg/L	87.6	70.0 - 130		125428413
TCLP gamma-BHC (Lindane)	0.0498	0.050	mg/L	99.6	70.0 - 130		125428405
TCLP gamma-BHC (Lindane)	0.0443	0.050	mg/L	88.7	70.0 - 130		125428413
TCLP Heptachlor	0.048	0.050	mg/L	96.0	70.0 - 130		125428405
TCLP Heptachlor	0.0403	0.050	mg/L	80.6	70.0 - 130		125428413
TCLP Heptachlor Epoxide	0.0471	0.050	mg/L	94.2	70.0 - 130		125428405
TCLP Heptachlor Epoxide	0.0425	0.050	mg/L	85.1	70.0 - 130		125428413
TCLP Methoxychlor	0.0523	0.050	mg/L	105	70.0 - 130		125428405
TCLP Methoxychlor	0.0348	0.050	mg/L	69.6	70.0 - 130	*	125428413

LCS Dup

Parameter	PrepSet	LCS	LCSD	Known	Limits%	LCS%	LCSD%	Units	RPD	Limit%
TCLP Endrin	1080338	0.0676	0.0689	0.100	42.6 - 137	67.6	68.9	mg/L	1.90	30.0
TCLP gamma-BHC (Lindane)	1080338	0.068	0.0664	0.100	33.0 - 129	68.0	66.4	mg/L	2.38	30.0
TCLP Heptachlor	1080338	0.0627	0.0622	0.100	24.2 - 129	62.7	62.2	mg/L	0.801	30.0
TCLP Heptachlor Epoxide	1080338	0.0661	0.0669	0.100	40.8 - 128	66.1	66.9	mg/L	1.20	30.0
TCLP Methoxychlor	1080338	0.082	0.0872	0.100	33.3 - 146	82.0	87.2	mg/L	6.15	30.0

MS

Parameter	Sample	MS	MSD	UNK	Known	Limits	MS%	MSD%	Units	RPD	Limit%
TCLP Endrin	2227250	0.00267	0	ND	0.005	24.3 - 151	53.4		mg/L		30.0
TCLP gamma-BHC (Lindane)	2227250	0.00247	0	ND	0.005	21.3 - 144	49.4		mg/L		30.0
TCLP Heptachlor	2227250	0.00221	0	ND	0.005	14.9 - 138	44.2		mg/L		30.0
TCLP Heptachlor Epoxide	2227250	0.00262	0	ND	0.005	29.9 - 133	52.4		mg/L		30.0
TCLP Methoxychlor	2227250	0.00273	0	ND	0.005	10.3 - 183	54.6		mg/L		30.0

Surrogate

Parameter	Sample	Type	Reading	Known	Units	Recover%	Limits%	File
Decachlorobiphenyl		CCV	0.0455	0.100	mg/L	45.5	10.0 - 150	125428405
Decachlorobiphenyl		CCV	0.0404	0.100	mg/L	40.4	10.0 - 150	125428413
Tetrachloro-m-Xylene (Surr)		CCV	0.0477	0.100	mg/L	47.7	10.0 - 150	125428405
Tetrachloro-m-Xylene (Surr)		CCV	0.0474	0.100	mg/L	47.4	10.0 - 150	125428413
Decachlorobiphenyl	1080338	Blank	0.051	0.100	mg/L	51.0	10.0 - 150	125428406
Decachlorobiphenyl	1080338	LCS	0.061	0.100	mg/L	61.0	10.0 - 150	125428407
Decachlorobiphenyl	1080338	LCS Dup	0.0513	0.100	mg/L	51.3	10.0 - 150	125428408
Tetrachloro-m-Xylene (Surr)	1080338	Blank	0.0611	0.100	mg/L	61.1	10.0 - 150	125428406
Tetrachloro-m-Xylene (Surr)	1080338	LCS	0.0707	0.100	mg/L	70.7	10.0 - 150	125428407
Tetrachloro-m-Xylene (Surr)	1080338	LCS Dup	0.0668	0.100	mg/L	66.8	10.0 - 150	125428408
Decachlorobiphenyl	2227250	MS	0.00233	0.005	mg/L	46.6	10.0 - 150	125428412
Tetrachloro-m-Xylene (Surr)	2227250	MS	0.00257	0.005	mg/L	51.4	10.0 - 150	125428412

QUALITY CONTROL

SPL The Science of Sure

CYOA-C

City ofl Yoakum
JC Foutz
808 HWY 77A
Yoakum, TX 77995-

Project
1071733

Printed 09/18/2023

* Out RPD is Relative Percent Diflerence: abs(r1-r2) / mean(r1,r2) * 100% Recover% is Recovery Percent: result / known * 100%

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 ofl the calibration curve); MSD -Matrix Spike Duplicate (replicate ofl the matrix spike; same solution and amount ofl target analyte added to the MS is added to a third aliquot ofl sample; quantifles matrix bias and precision.); ICV - Initial Calibration Verification; LCS Dup - Laboratory Control Sample Duplicate (replicate LCS; analyzed when there is insufficient sample flor duplicate or MSD; quantifles accuracy and precision.); Surrogate - Surrogate (mimics the analyte ofl interest but is unlikely to be flound in environmental samples;added to analytical samples flor QC purposes. **ANSI/ASQC E4 1994 Refl#4 TRADE QA Resources Guide.); MS - Matrix Spike (same solution and amount ofl target analyte added to the LCS is added to a second aliquot ofl sample; quantifles matrix bias.); BFB - Bromofluorobenzene, GC/MS Tuning Compound (mass intensity used as tuning acceptance criteria.); IS Areas - Internal Standard Area (The area ofl the internal stadard relative to a check standard. Internal Standard is a known concentration ofl an analyte(s) that is not a sample component or standard that is added to the sample and standard and is used to measure the relative responses ofl other analytes in the same sample or standard.); IS RetTime - Internal Standard Retention Time (the time the internal standard comes ofl the column. Internal Stardard is a known concentration ofl an analyte(s) that is not a sample component or standard that is added to the sample and standard and is used to measure the relative responses ofl other analytes in the same sample or standard.); DFTPP - GC/MS Tuning Compound

1071733 CoC Print Group 001 of 001

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

CHAIN OF CUSTODY

Printed 08/29/2023 Page 1 of 2

City of Yoakum
JC Foutz
808 HWY 77A
Yoakum, TX 77995-

CYOA -C
106

Lab Number 1227250
PO Number 13-0329
Phone 361/293-6321

Belt Press Sludge

☑ Hand Delivered by Client to Region or LAB

Matrix: Solid & Chemical Materials

Sample Collection Start
Date: 8-31-23 Time: 8AM
Sampler Printed Name: PHIL SMITH
Sampler Affiliation: PLANT OPERATOR
Sampler Signature: Phil Smith

Samples Radioactive? ☐ Samples Contains Dioxin? ☐ Samples Biological Hazard? ☐

2 Glass Qt w/Teflon lined lid

NELAC	*AgT	TCLP Silver	EPA 6020A CAS:7440-22-4 (14.0 days)
NELAC	*AsT	TCLP Arsenic	EPA 6020A CAS:7440-38-2 (14.0 days)
NELAC	*BaT	TCLP Barium	EPA 6020A CAS:7440-39-3 (14.0 days)
NELAC	*CdT	TCLP Cadmium	EPA 6020A CAS:7440-43-9 (14.0 days)
NELAC	*CrT	TCLP Chromium	EPA 6020A CAS:7440-47-3 (14.0 days)
NELAC	*Hg*	TCLP Mercury	EPA 7470 A CAS:7439-97-6 (14.0 days)
NELAC	*PbT	TCLP Lead	EPA 6020A CAS:7439-92-1 (14.0 days)
NELAC	*SeT	TCLP Selenium	EPA 6020A CAS:7782-49-2 (14.0 days)
NELAC	*TCL	TCLP Extraction Non-Volatile	EPA 1311 (14.0 days)
NELAC	TABN	MS TCLP Semivolatile Analysis	EPA 8270C (7.00 days)
NELAC	TG50	GC TCLP Herbicide	EPA 8151 (7.00 days)
NELAC	TG80	GC TCLP Pesticide	EPA 8081A (7.00 days)
NELAC	TVOA	MS TCLP Volatile Analysis	EPA 8260B (14.0 days)
NELAC	TVOX	TCLP Extraction ZHE Volatiles	EPA 1311ZHE (14.0 days)

1 Glass 4 oz w/Teflon lined lid

1071733 CoC Print Group 001 of 001

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SPL
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CHAIN OF CUSTODY

Printed 08/29/2023 Page 2 of 2

City of Yoakum
JC Foutz
808 HWY 77A
Yoakum, TX 77995-

CYOA -C
106

NELAC	!PCB	Polychlorinated Biphenyls	EPA 8082 (7.00 days)
Subcontract	SALM	Salmonella Sludge (SUB)	SM 9260D CAS:ABL2
NELAC	TS%	Total Solids for Dry Wt Conversi	SM2540 G-1997 /MOD

0 Z -- No bottle required

Subcontract	100S	SUB Shipped	
	ARDW	As Received to Dry Weight Basis	Calculation

Ambient Conditions/Comments

Date	Time	Relinquished	Received
8-31-23	8 AM	Printed Name PHIL SMITH Affiliation PLANT OPERATOR	Printed Name UPS Affiliation
		Signature	Signature
8/31/23	10AM	Printed Name UPS Affiliation	Printed Name Rayshawn Thompson SPL, Inc. Affiliation
		Signature	Signature
		Printed Name Affiliation	Printed Name Affiliation
		Signature	Signature
		Printed Name Affiliation	Printed Name Affiliation
		Signature	Signature

Sample Received on Ice? [X] Yes [ ] No
Cooler/Sample Secure? [X] Yes [ ] No If Shipped: Tracking Number & Temp - See Attached

The accredited column designates accreditation by A - A2LA, N - NELAC, or z - not listed under scope of accreditation. Unless otherwise specified, ANA-LAB shall provide these ordered services pursuant to our Standard Terms & Conditions Agreement (available for download from the welcome page at <http://www.ana-lab.com>). Ana-Lab personnel collect samples as specified by Ana-Lab SOP # 000323.

Comments


TX 756 0 – 32
UPS NEXT DAY AIR
TRACKING #: 1Z 216 6W1 01 5929 8607
1
9/1 1006 KT
BILLING Date Time Tech
Temp: 5.0/5.0 C
Therm#: 7242 Corr Fact: 0.0 C

1071733 CoC Print Group 001 of 001

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

SPL The Science of Sure

SubContract CHAIN OF CUSTODY

Printed 09/05/2023 Page 1 of 1

Subcontract to:

A & B Labs
10100 East Freeway
Houston TX 77029
713/453-6060

Sample	2227250
Taken:	08/31/2023 08:00:00
	GRAB
Normal TAT	

Belt Press Sludge

1 **Na2S2O3 (0.008%) Polystyrene-100 mL Sterilized**

Requested Test(s)

SALM Salmonella Sludge (SUB)

Previous Results:

SLMT TS% for Salmonella

Previous Results:

Date Time	Relinquished	Date Time	Received
09/05/2023 09:33	Affiliation ANA-LAB	09/05/2023 09:33	Affiliation ANA-LAB
Printed Name	Christi C Parker	Printed Name	Michael D. Gribble
Signature		Signature	
Printed Name	Michael D. Gribble Affiliation ANA-LAB	Printed Name	Affiliation
Signature		Signature	
Printed Name	Affiliation	Printed Name	Affiliation
Signature		Signature	
Printed Name	Affiliation	Printed Name	Affiliation
Signature		Signature	

Sample Received on Ice? Yes No **Method of Shipment:** UPS Bus FedEx Lone Star Hand Delivered Other

Cooler/Sample Secure? Yes No If Shipped: Tracking Number & Temp - See Attached **Hand Delivered to Region [ ]**

The accredited column designates accreditation by A - A2LA, N - NELAC, or z - not listed under scope of accreditation. Unless otherwise specified, ANA-LAB shall provide these ordered services pursuant to our Standard Terms & Conditions Agreement (available for download from the welcome page at <http://www.ana-lab.com>). Ana-Lab personnel collect samples as specified by Ana-Lab SOP #000323.

Comments

Project 1071733

Central TX Region: 8101 Cameron Rd - Ste 305 Austin TX 78754

Email: Kilgore.projectmanager@spl-inc.com

Laboratory Analysis Report

Total Number of Pages: 9

Job ID : 23090392

10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, http://www.ablabs.com

Client Project Name :
Belt Press Sludge

Report To :

Client Name: SPL Kilgore (Formerly Ana-Lab Corp)
Attn: Matthew Brockelman
Client Address: 2600 Dudley Road
City, State, Zip: Kilgore, Texas, 75663

P.O.#.:
Sample Collected By:
Date Collected: 08/31/23

A&B Labs has analyzed the following samples...

Client Sample ID	Matrix	A&B Sample ID
2227250	Sludge	23090392.01

Released By: Senthilkumar Sevukan
Title: Vice President Operations
Date: 9/13/2023

This Laboratory is NELAP (T104704213-23-31) accredited. Effective: 04/13/2023; Expires: 3/31/2024
Scope: Non-Potable Water, Drinking Water, Air, Solid, Biological Tissue, Hazardous Waste

I am the laboratory manager, or his/her designee, and I am responsible for the release of this data package. This laboratory data package has been reviewed and is complete and technically compliant with the requirements of the methods used, except where noted in the attached exception reports. I affirm, to the best of my knowledge that all problems/anomalies observed by this laboratory (and if applicable, any and all laboratories subcontracted through this laboratory) that might affect the quality of the data, have been identified in the Laboratory Review Checklist, and that no information or data have been knowingly withheld that would affect the quality of the data.

Date Received : 09/06/2023 10:20

Report Number: RPT230913149

LABORATORY TERM AND QUALIFIER DEFINITION REPORT

Job ID : 23090392

Date: 9/13/2023

General Term Definition

Back-Wt	Back Weight	Post-Wt	Post Weight
BRL	Below Reporting Limit	ppm	parts per million
cfu	colony-forming units	Pre-Wt	Previous Weight
Conc.	Concentration	Q	Qualifier
D.F.	Dilution Factor	RegLimit	Regulatory Limit
Front-Wt	Front Weight	RPD	Relative Percent Difference
LCS	Laboratory Check Standard	RptLimit	Reporting Limit
LCSD	Laboratory Check Standard Duplicate	SDL	Sample Detection Limit
MS	Matrix Spike	surr	Surrogate
MSD	Matrix Spike Duplicate	T	Time
MW	Molecular Weight	TNTC	Too numerous to count
J	Estimation. Below calibration range but above MDL	MQL	Minimum Quantitation Limit

Qualifier Definition

H3	Sample was received and analyzed past holding time.

LABORATORY TEST RESULTS

Job ID : 23090392

Date 9/13/2023

Client Name: SPL Kilgore (Formerly Ana-Lab Corp)

Attn: Matthew Brockelman

Project Name: Belt Press Sludge

Client Sample ID: 2227250
Date Collected: 08/31/23
Time Collected: 08:00
Other Information:

Job Sample ID: 23090392.01
Sample Matrix Sludge

Test Method	Parameter/Test Description	Result	Units	DF	Rpt Limit	Reg Limit	Q	Date Time	Analyst
SM 2540G	% Moisture								
	% Moisture	82.3	%	1	0.1		H3	09/12/23 17:15	BR
SM 2540G	% Solids								
	Total Solids	17.7	%	1	0.1		H3	09/08/23 10:00	BR
SM 9260D	Salmonella spp.								
	Salmonella[2]	BRL	MPN/g	1	1			09/06/23 16:30	KBK

[2]-Parameter not available for accreditation.

QUALITY CONTROL CERTIFICATE

Job ID : 23090392 **Date :** 9/13/2023

Analysis : % Solids **Method :** SM 2540G **Reporting Units :** %

QC Batch ID : Qb23090807 **Created Date :** 09/08/23 **Created By :** BRose

Samples in This QC Batch : 23090392.01

Sample Preparation : PB23090804 **Prep Method :** SM 2540G **Prep Date :** 09/08/23 07:55 **Prep By :** BRose

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
Total Solids		BRL	%	1	0.1		

QC Type: Duplicate

QC Sample ID: 23090158.07

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
Total Solids	21.8	21.2	%	2.8	20		

QUALITY CONTROL CERTIFICATE

Job ID : 23090392 **Date :** 9/13/2023

Analysis : % Moisture **Method :** SM 2540G **Reporting Units :** %

QC Batch ID : Qb23091208 **Created Date :** 09/12/23 **Created By :** BRose

Samples in This QC Batch : 23090392.01

Sample Preparation : PB23091204 **Prep Method :** SM 2540G **Prep Date :** 09/12/23 08:05 **Prep By :** BRose

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
% Moisture		BRL	%	1	0.1		

QC Type: Duplicate

QC Sample ID: 23090671.01

Parameter	QCSample Result	Sample Result	Units	RPD	RPD CtrlLimit		Qual
% Moisture	91.3	80.8	%	12.2	20		

QUALITY CONTROL CERTIFICATE

Job ID : 23090392 **Date :** 9/13/2023

Analysis : **Salmonella spp.** **Method :** **SM 9260D** **Reporting Units :** **/g**

QC Batch ID : Qb230913139 **Created Date :** 09/06/23 **Created By :** KKodali

Samples in This QC Batch : 23090392.01

QC Type: Method Blank

Parameter	CAS #	Result	Units	D.F.	RptLimit		Qual
Salmonella		BRL	MPN/g	1	1		

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

SubContract CHAIN OF CUSTODY

Printed 09/05/2023 Page 1 of 1

Sample	2227250
Taken: 08/31/2023	08:00:00
	GRAB
Normal TAT	

1 2 3 4 5

Subcontract to:

A & B Labs
10100 East Freeway
Houston TX 77029
713/453-6060

Job ID:23090392

09/06/2023 SPL Kilgore (Formerly An ANA

Belt Press Sludge

4 oz Glass CP 9/5/23

~~Na2S2O3 (0.008%) Polystyrene-100 mL Sterilized~~

1

Requested Test(s)

SALM Salmonella Sludge (SUB)

Previous Results:

SLMT TS% for Salmonella 01A

Previous Results:

Date Time	Relinquished	Date Time	Received
09/05/2023 09:33	Affiliation ANA-LAB; Printed Name Christi C Parker; Signature [signature]	09/05/2023 09:33	Affiliation ANA-LAB; Printed Name Michael D. Gribble; Signature Michael D Gribble
9/5/23	Printed Name Michael D. Gribble; Affiliation ANA-LAB; Signature Michael D Gribble		Printed Name FedEx; Affiliation; Signature
	Printed Name FedEx; Affiliation; Signature	9/6/23 10.20	Printed Name Amber H-Jordan; Affiliation; Signature [signature]
	Printed Name; Affiliation; Signature		Printed Name; Affiliation; Signature

Sample Received on Ice? ☒ Yes ☐ No **Method of Shipment:** ☐ UPS ☐ Bus ☒ FedEx ☐ Lone Star ☐ Hand Delivered ☐ Other

Cooler/Sample Secure? ☐ Yes ☐ No If Shipped: Tracking Number & Temp - See Attached **Hand Delivered to Region [ ]**

The accredited column designates accreditation by A - A2LA, N - NELAC, or z - not listed under scope of accreditation. Unless otherwise specified, ANA-LAB shall provide these ordered services pursuant to our Standard Terms & Conditions Agreement (available for download from the welcome page at <http://www.ana-lab.com>). Ana-Lab personnel collect samples as specified by Ana-Lab SOP #000323.

14.5°C Jks PM

Comments

Fedx 6564346 2

Central TX Region: 3101 Cameron Rd - Ste 305 Austin TX 78754

Project 1071733

Email: Kilgore.projectmanager@spl-inc.com

Form rptSampleSUBNC eated 11/16/2020 v

LDSClient v2.23.8.45

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1. Fold the printed page along the horizontal line.
2. Place label in shipping pouch and affix it to your shipment.

CONSIGNEE COPY - PLEASE PLACE IN FRONT OF POUCH

ORIGIN ID:GGGA (903) 984-0551
SHIPPING
ANA-LAB CORPORATION
2600 DUDLEY RD

KILGORE, TX 75662
UNITED STATES US

SHIP DATE: 05SEP23
ACTWGT: 3.00 LB MAN
CAD: 6622764/CAFE3753
DIMS: 10x10x10 IN

BILL SENDER

TO **SHANTALL CARPENTER/SAMPLES**
ABL2
10100 EAST FWY

HOUSTON TX 770291919
(703) 453-6060

REF
INV
PO
DEPT

FedEx Express

WED - 06 SEP 10:30A
PRICRITY OVERNIGHT

TRK# 0201 **6564 3462 6266**

77029
AB HBYA TX-US **IAH**

Sample Condition Checklist

A&B JobID : **23090392**	Date Received : **09/06/2023**	Time Received : **10:20AM**
Client Name : **SPL Kilgore (Formerly Ana-Lab Corp)**		
Temperature : **16.5°C**	Sample pH : **NA**	
Thermometer ID : **IR5**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**		X	
2.	**Sample(s) in a cooler.**	X		
3.	**If yes, ice in cooler.**	X		
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☐ Soil ☐ Liquid ☐ Sludge ☑ Solid ☐ Cassette ☐ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**Samples were received in appropriate container(s)**	X		
10.	**Sample(s) were received with Proper preservative**			X
11.	**All samples were tagged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's.**	X		
13.	**Bottle count on C-O-C matches bottles found.**	X		
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received with in the hold time.**	X		
16.	**VOA vials completely filled.**			X
17.	**Sample accepted.**	X		
18.	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Sample received in cooler with melted ice, sample does not meet temp requirements. ~EV 9/6/2023

Brought by : FedEx

Received by : EValdez

Check in by/date : EValdez / 09/06/2023

AVG. = 204

WWTP EFF
Collected date/time: 04/03/24 16:00

SAMPLE RESULTS - 03
L1721546

Wet Chemistry by Method 2320B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Alkalinity	214		20.0	20.0	1	04/08/2024 12:36	WG2262602
Alkalinity,Bicarbonate	214		20.0	20.0	1	04/08/2024 12:36	WG2262602
Alkalinity,Carbonate	<20.0		20.0	20.0	1	04/08/2024 12:36	WG2262602
Alkalinity,Hydroxide	<20.0		20.0	20.0	1	04/08/2024 12:36	WG2262602
Phenolphthalein Alkalinity	<20.0		20.0	20.0	1	04/08/2024 12:36	WG2262602

Wet Chemistry by Method 4500P-E

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Phosphorus,Total	4.29		0.152	0.500	10	04/05/2024 17:41	WG2261174

Cp
Tc
Ss
Cn
Sr
Qc
Gl
Al
Sc

WWTP EFF.

Collected date/time: 05/01/24 16:00

SAMPLE RESULTS - 03

L1731306

Wet Chemistry by Method 2320B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l	mg/l			
Alkalinity	200		20.0	20.0	1	05/06/2024 11:59	WG2281089
Alkalinity,Bicarbonate	200		20.0	20.0	1	05/06/2024 11:59	WG2281089
Alkalinity,Carbonate	<20.0		20.0	20.0	1	05/06/2024 11:59	WG2281089
Alkalinity,Hydroxide	<20.0		20.0	20.0	1	05/06/2024 11:59	WG2281089
Phenolphthalein Alkalinity	<20.0		20.0	20.0	1	05/06/2024 11:59	WG2281089

Wet Chemistry by Method 4500P-E

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
	mg/l		mg/l	mg/l			
Phosphorus,Total	4.11		0.152	0.500	10	05/03/2024 16:02	WG2279[illegible]

WG2281089

Wet Chemistry by Method 2320B

QUALITY CONTROL SUMMARY

L1731306-02,03

WWTP EFF.

Collected date/time: 06/12/24 16:00

SAMPLE RESULTS - 03

L1745697

Wet Chemistry by Method 2320B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Alkalinity	198		20.0	20.0	1	06/17/2024 12:15	WG2306600
Alkalinity,Bicarbonate	198		20.0	20.0	1	06/17/2024 12:15	WG2306600
Alkalinity,Carbonate	<20.0		20.0	20.0	1	06/17/2024 12:15	WG2306600
Alkalinity,Hydroxide	<20.0		20.0	20.0	1	06/17/2024 12:15	WG2306600
Phenolphthalein Alkalinity	<20.0		20.0	20.0	1	06/17/2024 12:15	WG2306600

Wet Chemistry by Method 4500P-E

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Phosphorus,Total	4.55		0.152	0.500	10	06/14/2024 17:19	WG2305057

ANALYTICAL REPORT

July 22, 2024

City of Yoakum

Sample Delivery Group: L1754855

Samples Received: 07/10/2024

Project Number:

Description:

Report To: J Foutz
P.O. Box 738
Yoakum, TX 77995

Entire Report Reviewed By:

Lori A Vahrenkamp
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical Services, LLC -Dallas

400 W. Bethany Drive Suite 190 Allen, TX 75013 972-727-1123 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

SAMPLE SUMMARY

EFF L1754855-01 WW

Collected by: Phil Smith
Collected date/time: 07/10/24 10:00
Received date/time: 07/10/24 12:02

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Microbiology by Method Colilert-18	WG2322037	1	07/10/24 14:00	07/10/24 14:00	DLE	Victoria, TX

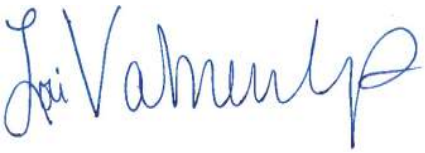
EFF L1754855-02 WW

Collected by: Phil Smith
Collected date/time: 07/10/24 10:00
Received date/time: 07/11/24 10:10

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540C	WG2322182	1	07/12/24 17:38	07/12/24 18:08	QQT	Allen, TX

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Lori A Vahrenkamp
Project Manager

Microbiology by Method Colilert-18

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	MPN/100ml		MPN/100ml	MPN/100ml		date / time	
E.Coli	<1				1	07/10/2024 14:00	WG2322037

Gravimetric Analysis by Method 2540C

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Dissolved Solids	937		33.3	1	07/12/2024 18:08	WG2322182

Method Blank (MB)

(MB) R4093924-1 07/12/24 18:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Total Dissolved Solids	<25.0		25.0	25.0

L1755294-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1755294-01 07/12/24 18:08 • (DUP) R4093924-3 07/12/24 18:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Dissolved Solids	406	403	1	0.742		10

Laboratory Control Sample (LCS)

(LCS) R4093924-2 07/12/24 18:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Dissolved Solids	2410	2450	102	85.0-115	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

ACCREDITATIONS & LOCATIONS

Pace Analytical Services, LLC -Dallas 400 W. Bethany Drive Suite 190 Allen, TX 75013

Arkansas	88-0647	Kansas	E10388
Florida	E871118	Texas	T104704232-23-39
Iowa	408	Oklahoma	8727
Louisiana	30686		

Pace Analytical Services, LLC -Dallas 1606 E. Brazos Street Suite D Victoria, TX 77901

Texas	T104704328-23-21

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

(2)

CITY OF YOAKUM
P.O. BOX 738
YOAKUM, TX 77995

Billing Information:
J.C. FOUTZ
P.O. BOX 738
YOAKUM, TX 77995

Pres Chk

Report to: J.C. FOUTZ

Email To: JFOUTZ@CITYOFYOAKUM.ORG

Project Description:

City/State Collected:

Please Circle: PT MT CT ET

Phone: 361-293-6321

Client Project #

Lab Project #

Collected by (print): PHIL SMITH

Site/Facility ID #

P.O. #

Collected by (signature): Phil Smith

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	ECOLI	TDS	Remarks	Sample # (lab only)
EFF	GRAB	WW		7-10-24	1000	1	X		ecoli ran @ PNVTV	-01
EFF	GRAB	WW		7-10-24	1000	1		X		02

Chain of Custody Page 1 of 1

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L754855

Table #

Acctnum:

Template:

Prelogin:

PM:

PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: TEMP: 16.3°C/16.4°C - IR17 DW

Samples returned via:
__ UPS __ FedEx __ Courier ____

Tracking # 7280 7814 5740

pH ____ Temp ____

Flow ____ Other ____

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7-10-24	12:02PM	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7-10-24	1700	FedEx
Relinquished by : (Signature) FedEx	Date: 7/11/24	Time: 1010	Received for lab by (Signature) PACE

Trip Blank Received: Yes / No HCL / MeoH TBR

Temp: °C Bottles Received:

Date: Time: 7/11/24 1010

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK


FedEx
TRK#
0221 7280 7814 5740
SAT - 27 JUL 12:00P
PRIORITY OVERNIGHT
75013
TX-US
DFW
BC DNEA
950161 11Jul2024 DNEA 581G9/E0E4/C0BB
TX-US

Pace ANALYTICAL SERVICES	DC#_Title: ENV-FRM-ALLE-0017 v15_Sample Condition Upon Receipt
	Effective Date: 12/18/2023

Sample Condition Upon Receipt

☐Dallas ☐Ft Worth ☐Corpus Christi ☐Austin

Client Name: City of Yorktown Project Work order (place label):

Courier: FedEX ☑ UPS ☐ USPS ☐ Client ☐ LSO ☐ PACE ☐ Other: _____

Tracking #: 7280 7814 5740

Custody Seal on Cooler/Box: Yes ☐ No ☑

Received on ice: Wet ☑ Blue ☐ No ice ☐

Receiving Lab 1 Thermometer Used: IR19 **Cooler Temp °C**: 1.9 (Recorded) +0.1 (Correction Factor) 2.0 (Actual)

Receiving Lab 2 Thermometer Used: _____ **Cooler Temp °C**: _____ (Recorded) _____ (Correction Factor) _____ (Actual)

Chain of Custody relinquished	Yes ☑ No ☐
Sampler name & signature on COC	Yes ☑ No ☐
Short HT analyses (<72 hrs)	Yes ☐ No ☑

Temperature should be above freezing to 6°C unless collected same day as receipt in which evidence of cooling is acceptable.

Triage Person: AG Date: 7/11/24

Sufficient Volume received	Yes ☑ No ☐
Correct Container used	Yes ☑ No ☐
Container Intact	Yes ☑ No ☐
Sample pH Acceptable pH Strips:_____	Yes ☐ No ☐ NA ☑
Residual Chlorine Present Cl Strips:_____	Yes ☐ No ☐ NA ☑
Sulfide Present Lead Acetate Strips:_____	Yes ☐ No ☐ NA ☑
Are soil samples (volatiles, TPH) received in 5035A Kits (not applicable to TCLP VOA or PST Program TPH)	Yes ☐ No ☐ NA ☑
Unpreserved 5035A soil frozen within 48 hrs	Yes ☐ No ☐ NA ☑
Headspace in VOA (>6mm)	Yes ☐ No ☐ NA ☑
Project sampled in USDA Regulated Area outside of Texas State Sampled:_____	Yes ☐ No ☐ NA ☑
Non-Conformance(s):	Yes ☐ No ☑

Login Person: JC Date: 7/11

Labeling Person (if different than log-in): _____ Date: _____

Candice Calhoun

From: Tonche, Luis <LTonche@trccompanies.com>
Sent: Thursday, August 15, 2024 1:36 PM
To: Candice Calhoun
Cc: Escutia, Danielle; Wachel, William; citymanager@cityofyoakum.org; jfoutz@cityofyoakum.org; jbennett@cityofyoakum.org
Subject: RE: [EXTERNAL] RE: Application to Renew Permit No. WQ0010463001 - City of Yoakum
Attachments: TRC Response to TCEQ Comments- City of Yoakum.pdf

Ms. Calhoun,

See attached response letter to the comments you sent on August 9th. Let me know if you have any questions or need anything else.

Thank you,

Luis Tonche, P.E.
Project Manager
Design Management Services

505 East Huntland Drive, Suite 250, Austin, TX 78752
D 512.684.3150 | ltonche@trccompanies.com
LinkedIn | Twitter | Blog | TRCcompanies.com

From: Candice Calhoun <Candice.Calhoun@tceq.texas.gov>
Sent: Friday, August 9, 2024 5:49 PM
To: citymanager@cityofyoakum.org
Cc: Wachel, William <WWachel@trccompanies.com>
Subject: [EXTERNAL] RE: Application to Renew Permit No. WQ0010463001 - City of Yoakum

Mr. Mitchell,

My apologies, please disregard items 1 and 3 of the NOD. I just realized that I was sent an email with the correct version of the application. I have updated it in our records.

Only items 2 and 4 of the NOD will need a response, at this time.

Regards,

505 East Huntland Drive
Suite 250
Austin, Texas 78752

T 512.454.8716
TRCcompanies.com
T.B.P.E. #F-8632

August 15, 2024

Ms. Candice Calhoun
Texas Commission on Environmental Quality
Water Quality Division
Applications Review and Processing Team (MC148)
P.O. Box 13087
Austin, Texas 78711-3087

RE: City of Yoakum (CN600625529)
Yoakum Wastewater Treatment Plant (RN102805389)
Application to Renew Wastewater Permit #WQ0010463001 (EPA I.D. No. TX0026034)

Dear Ms. Calhoun:

Below are the responses to the comments TRC received from your letter on August 9, 2024.

1. Comment 1 disregarded as instructed by Candice Calhoun via email sent at 5:49 PM, August 9, 2024.
2. Core Data Form, Section III, item 25 has been revised. See attached revised Core Data Form.
3. Comment 3 disregarded as instructed by Candice Calhoun via email sent at 5:49 PM, August 9, 2024.
4. The NORI portion is correct, no comments.

If additional information is needed, please do not hesitate to contact this office.

Sincerely,

Luis Tonche

Luis Tonche, P.E.
Project Manager

Enclosures

cc: Mr. Michael Mitchell, City Manager
cc: Mr. William Wachel, P.E., Vice President, TRC Engineers, Inc.

(361) 293-6321		(361) 293-3318

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 Yoakum WWTP

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	no street address on file							
	Dunn St.							
	City	Yoakum	**State**	TX	**ZIP**	77995	**ZIP + 4**	
24. County	Dewitt County							

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

25. Description to Physical Location:	Located on the west side of Dunn street and approximately one mile southwest of its intersection with State Highway 111, in Dewitt County, Texas 77995.				
26. Nearest City			**State**	**Nearest ZIP Code**	
Yoakum			TX	77995	

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:	29.27410		**28. Longitude (W) In Decimal:**	-97.15510	
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
29	16	27.76	-97	9	18.37

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)

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

City of Yoakum WWTP

34. Mailing Address:	**P.O. BOX 738**							
	City	**Yoakum**	**State**	**TX**	**ZIP**	**77995**	**ZIP + 4**	
35. E-Mail Address:								

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(361) 293-6321		**(361) 293-3318**

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.