District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
Department
Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-144
Revised April 3, 2017

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or Proposed Alternative Method Permit or Closure Plan Application

Type of action:
- ☐ Below grade tank registration
- ☐ Permit of a pit or proposed alternative method
- ☒ Closure of a pit, below-grade tank, or proposed alternative method
- ☐ Modification to an existing permit/or registration
- ☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: LOGOS Operating, LLC OGRID #: 289408
Address: 2010 Afton Place, Farmington, NM 87401
Facility or well name: Rosa Unit 043
API Number: 30-039-07954 OCD Permit Number: BGT 1
U/L or Qtr/Qtr J Section 19 Township 31N Range 04W County: Rio Arriba
Center of Proposed Design: Latitude 36.8820075 Longitude -107.293039 NAD83
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☐ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no
☐ Lined ☐ Unlined Liner type: Thickness _____mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____bbl Dimensions: L_____ x W_____ x D_____

3.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 60 bbl Type of fluid: Produced Water
Tank Construction material: Fiberglass w/ banded 20 mil HDPE secondary liner
☒ Secondary containment with leak detection ☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness _____mil ☐ HDPE ☐ PVC ☐ Other _____

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC *(Applies to permanent pits, temporary pits, and below-grade tanks)*
☐ Chain link, six feet in height, two strands of barbed wire at top *(Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)*
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
☐ Alternate. Please specify_____

6.
Netting: Subsection E of 19.15.17.11 NMAC *(Applies to permanent pits and permanent open top tanks)*

☐ Screen ☐ Netting ☐ Other_____

☐ Monthly inspections (If netting or screening is not physically feasible)

7.
Signs: Subsection C of 19.15.17.11 NMAC

☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

8.
Variances and Exceptions:
Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.

☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.
Siting Criteria (regarding permitting): 19.15.17.10 NMAC

***Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below.* Siting criteria does not apply to drying pads or above-grade tanks.**

General siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. - ☐ NM Office of the State Engineer - iWATERS database search; ☐ USGS; ☐ Data obtained from nearby wells	☐ Yes ☐ No ☒ NA
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit . NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)** - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)** - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. **(Does not apply to below grade tanks)** - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. **(Does not apply to below grade tanks)** - FEMA map	☐ Yes ☐ No
Below Grade Tanks	
Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)	
Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No

10.
Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.
Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ A List of wells with approved application for permit to drill associated with the pit.
☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.
Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC
Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.
Proposed Closure: 19.15.17.13 NMAC
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below-grade Tank ☐ Multi-well Fluid Management Pit ☐ Alternative

Proposed Closure Method: ☒ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
☐ In-place Burial ☐ On-site Trench Burial
☐ Alternative Closure Method

14.
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
- ☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☒ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC
Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☐ No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☐ No
Within a 100-year floodplain. - FEMA map	☐ Yes ☐ No

16.
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) ***Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.
Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

18.
OCD Approval: ☐ Permit Application (including closure plan) ☒ Closure ~~Plan (only)~~ ☐ OCD Conditions (see attachment)

OCD Representative Signature: _____ **Approval Date:** 5/28/2020

Title: Environmental Specialist **OCD Permit Number:** _____

19.
Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☐ **Closure Completion Date:** 12/17/2019

20.
Closure Method:

☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)

☐ If different from approved plan, please explain.

21.
Closure Report Attachment Checklist: ***Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.***

- ☒ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☐ Plot Plan (for on-site closures and temporary pits)
- ☒ Confirmation Sampling Analytical Results (if applicable)
- ☐ Waste Material Sampling Analytical Results (required for on-site closure)
- ☐ Disposal Facility Name and Permit Number
- ☒ Soil Backfilling and Cover Installation
- ☐ Re-vegetation Application Rates and Seeding Technique
- ☒ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude _____ Longitude _____ NAD: ☐ 1927 ☐ 1983

22.
Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Marie E. Florez Title: Regulatory Specialist

Signature: Date: 3/25/2020

e-mail address: mflorez@logosresourcellc.com Telephone: 505-787-2218

Williams Production Co., LLC
San Juan Basin: New Mexico Assets
Below-Grade Tank Removal
Closure Plan

In accordance with Rule 19.15.17.13 NMAC, the following plan describes the general closure requirements of below-grade tanks (BGT) on Williams Production Co, LLC (WPX) locations in the San Juan Basin of New Mexico. This is WPX's standard closure procedure for all BGTs regulated under Rule 19.15.17 NMAC and operated by WPX. For those closures which do not conform to this standard closure plan, a separate well/pit specific closure plan will be developed and utilized.

Closure Condition and Timing:
Pursuant to 19.15.17.13 (A) NMAC, WPX will initiate closure of any BGT should any one of these conditions occur:

- The Division requires closure because of imminent danger to fresh water, public health or the environment.
- The integrity of the BGT fails. Notification will be within 48 to the Division and closure will schedule as specified in 19.15.17.12 (A) (5) NMAC.
- WPX chooses to take the BGT out-of-service due to operational needs. Closure under these conditions will be closed within 60 days of cessation of the BGTs operation.
- BGTs installed prior to June 16, 2008 that do not meet the requirements under 19-15-17.11.I (6) NMAC and WPX chooses not to retrofit or upgrade. Closure under these conditions will be completed within five years (by June 16, 2013).

The fiberglass tank referenced was permitted and closed.

General Plan Requirements:

1. Prior to initiating any BGT Closure except in the case of any emergency, WPX will review County Tax Records for the current surface owner of record. The surface owner of record will be notified of the intent to closure the BGT by certified mail and a copy of this notification will be included in the closure report. In the case of an emergency, the surface owner of record will be notified as soon as practical.

The closure process notification to the landowner was sent via email. See attached. Well is located on the USDS Forest Service.

2. Notice of Closure will be given to the Aztec District office between 72 hours and one week of the scheduled closure via email or phone. The notification of closure will include the following:
    a. Operators Name (WPX)
    b. Well Name and API number
    c. Location (USTR)

Notification is attached.

3. All piping will be rerouted to an alternative produced water storage/ disposal location (e.g. surface tank, temporary frac tank,....). The well will be temporarily shut-in until the rerouting is completed.

All piping has been re-routed to the new above grade tank (AGT) set on location.

4. All produced water will be removed from the BGT following discharge-pipe rerouting. Produced water will be disposed at one of the following NMOCD approved facilities depending on the proximity of the BGT site: Rosa Unit SWD #1 (Order: SWD-916, API: 30-039-27055), Rosa Unit #94 (Order: SWD-3RP-1003.0, AID: 30-039-23035), Jillson Fed. SWD #001 (Order: R10168/R10168A, API: 30-039-25465), Middle Mesa SWD #001 (Order: SWD-350-0, API: 30-045-27004) and/or Basin Disposal (Permit: NM-01-0005).

All recovered liquids were disposed of at Rosa Unit SWD #1 (Order: SWD-916, API: 30-039-27055).

5. Solids and sludges will be shoveled and/or vacuumed out of disposal at Envirotech (Permit Number NM-01-0011).

Any sludge or soil required to be removed to facilitate closure was hauled to Envirotech (Permit Number NM-01-0011).

6. WPX will obtain prior approval from NMOCD to dispose, recycle, reuse, or reclaim the BGT and provide documentation of the disposition of the BGT in the closure report. Steel materials will be recycled or reused as approved by the Division. Fiberglass tanks will be empty, cut up or shredded, and EPA cleaned for disposal as solid waste. Liners materials will be cleaned without soils of contaminated material for disposal as solid waste. Fiberglass tanks and liner materials will meet the conditions of paragraph 1 subsection D of 19.15.9.712 NMAC. Disposal will be at a licensed disposal facility, presently San Juan Regional Landfill operated by Waste management under NMED Permit SWM-052426.

The fiberglass tank was disposed of in a division-approved manner.

7. Any equipment associated with the BGT that is no longer required for some other purpose, following the closure will be removed from the location.

Equipment associated to the well has been re-routed to the above grade tank (AGT).

8. Following removal of the tank and any liner material, a five-point composite sample will be tanked of the excavation and tested per 19.15.17.13 (E) (4) NMAC as identified in Table 1. Grab samples will be collected from any area that is wet, discolored or showing other evidence of a release. Results will be report to the Division following receipt from the lab on Form C-141.

A five point composite sample was taken of the fiberglass tank using sampling tools and all samples tested per 19.15.17.13. Sample results & C-141 attached.

Table 1: Closure Criteria for BGTS

Components	Testing Methods	Closure Limits (mg/Kg)
Benzene	EPA SW-846 Method 8021B or 8260B	0.2
BTEX	EPA SW-846 Method 8021B or 8260B	50
TPH	EPA SW-846 Method 418.1[(1)]	100
Chlorides	EPA SW-846 Method 300.1[(1)]	250[(2)]

[(1)]Method modified for solid waste.
[(2)]If background concentration of Chlorides greater than 250 mg/Kg, then higher concentration will be used for closure.

9. If the Division and/or WPX determine there is a release, WPX will comply with 19.15.3.116 NMAC and 19.15.1.19 NMAC.

No release was encountered during the fiberglass closure.

10. Upon completion of the tank removal, the excavation will be backfilled with non-waste earthen material compacted and covered with a minimum of one foot of top soil or background thickness whichever is greater and to existing grade. The surface will be re-contoured to match the native grade and prevent ponding.

The fiberglass tank area was backfilled, leveled and included one foot of topsoil cover.

11. For those portions of the former pit area no longer required for production activities, WPX will seed the disturbed areas the first growing season after the pit is covered. Seeding will be accomplished via drilling on the contour whenever practical, or by other Division-approved methods. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintained that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs. *Note: if a surface owner agreement requires reseeding or other surface restoration that do not meet the revegetation requirements of 19.15.17.13.I NMAC then WPX will submit the proposed alternative with written documentation that the surface owner agrees to the alternative, for Division approval.*

Will comply at the time of final reclamation.

12. For those portions of the former pit area required for production activities, reseeding will be done at well abandonment, and following the procedure noted above.

Will comply at the time of final reclamation.

Closure report:

All closure activities will include proper documentation and will be submitted to OCD with 60 days of the BGT closure on a Closure Report using Division Form C-144. The report will include the following:

- Proof of Closure notice (surface owner & NMOCD) – **Attached.**
- Backfilling & Cover installation – **Pictures of excavation and AGT replacement.**
- Site Diagram with Coordinates – **Attached.**
- Available inspection reports – **N/A.**
- Confirmation Sampling Analytical Results – **Attached.**
- Disposal Facility Name(s) and Permit number(s) – **In Closure Report.**
- Application Rate & Seeding Techniques – **Active well site; no need to seed at this time.**
- Photo Documentation of Reclamation – **Active well site; no need to reclaim.**

Marie Florez

From: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>
Sent: Friday, September 6, 2019 8:26 AM
To: Larissa Farrell; Tamra Sessions
Cc: Kelly, Jonathan, EMNRD; Powell, Brandon, EMNRD
Subject: Fiberglass BGT on Logos Rosa Unit #43 30-039-07954
Attachments: P1560584.JPG; P1560585.JPG; P1560583.JPG

Follow Up Flag: Follow up
Flag Status: Flagged

Larissa,

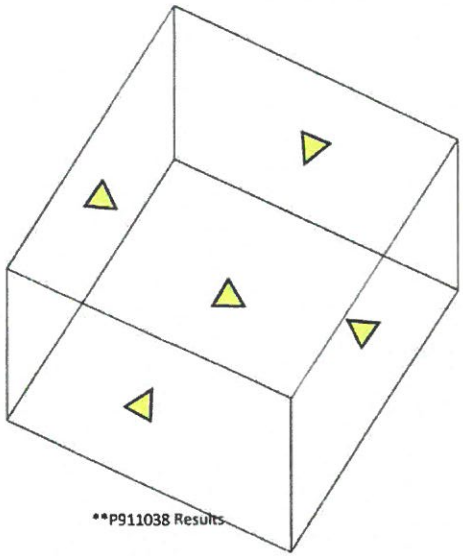
OCD inspectors found a Fiberglass below grade tank on the Rosa Unit #43 30-039-07954 that does not meet the design requirements of 19.15.11.I.(6) NMAC

After reviewing the Well files Logos only has an approved Closure Plan only and should have closed this BGT no later than June 16, 2013.

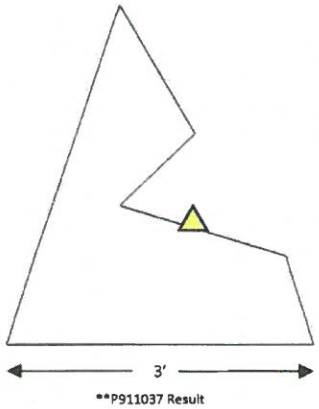
To come into compliance please complete all necessary work no later than December 6, 2019 once completed please send photos of closed BGT so the compliance can be cleared.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

Well Name: Rosa Unit 043 API: 30-039-07954
Aerial Map
Unit J, Section 19, T31N, R4W
Rio Arriba County, NM



**P911038 Results



**P911037 Result

Legend	Rosa Unit 043 – API: 30-039-07954 Sampling Diagram Unit J, Section 19, T31N, R5W Rio Arriba County, NM	LOGOS RESOURCES II, LLC
Impacted Area Sampling Points		

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party LOGOS Operating, LLC	OGRID 289408
Contact Name Marie E. Florez	Contact Telephone 505-787-2218
Contact email mflorez@logosresourcesllc.com	Incident # *(assigned by OCD)*
Contact mailing address 2010 Afton Place, Farmington, NM 87401	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Rosa Unit 043	Site Type Gas
Date Release Discovered N/A	API# *(if applicable)* 30-039-07954

Unit Letter	Section	Township	Range	County
J	19	31N	4W	Rio Arriba

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

No release was encountered during the Fiberglass Closure.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Not required	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☐ The source of the release has been stopped.
- ☐ The impacted area has been secured to protect human health and the environment.
- ☐ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☐ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

N/A

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Marie E. Florez Title: Regulatory Specialist

Signature: _____ Date: 3/25/2020

email: mflorez@logosresourcesllc.com Telephone: 505-787-2218

OCD Only

Received by: _____ Date: _____

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Analytical Laboratory

Analytical Report

Report Summary

Client: Logos Operating, LLC

Samples Received: 11/8/2019
Job Number: 12035-0114
Work Order: P911038
Project Name/Location: Rosa 43

Report Reviewed By: Walter Hinchman Date: 11/15/19

Walter Hinchman, Laboratory Director

Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.
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Envirotech, Inc, holds the Utah TNI certification NM009792018-1 for the data reported.
Envirotech, Inc, holds the Texas TNI certification T104704557-19-2 for the data reported.

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Analytical Laboratory

Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:29

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Rosa 43 P1	P911038-01A	Soil	11/08/19	11/08/19	Glass Jar, 4 oz.
	P911038-01B	Soil	11/08/19	11/08/19	Glass Jar, 4 oz.
Rosa 43 P2	P911038-02A	Soil	11/08/19	11/08/19	Glass Jar, 4 oz.
	P911038-02B	Soil	11/08/19	11/08/19	Glass Jar, 4 oz.

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Analytical Laboratory

Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:29

Rosa 43 P1
P911038-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*98.9 %*		*50-150*	*1946002*	*11/11/19*	*11/12/19*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1946013	11/12/19	11/14/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1946013	11/12/19	11/14/19	EPA 8015D	
Surrogate: n-Nonane		*125 %*		*50-200*	*1946013*	*11/12/19*	*11/14/19*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*85.2 %*		*50-150*	*1946002*	*11/11/19*	*11/12/19*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	**21.4**	20.0	mg/kg	1	1946012	11/12/19	11/13/19	EPA 300.0/9056A	

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Analytical Laboratory

Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:29

Rosa 43 P2
P911038-02 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*98.6 %*		*50-150*	*1946002*	*11/11/19*	*11/12/19*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1946013	11/12/19	11/14/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1946013	11/12/19	11/14/19	EPA 8015D	
Surrogate: n-Nonane		*135 %*		*50-200*	*1946013*	*11/12/19*	*11/14/19*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*84.6 %*		*50-150*	*1946002*	*11/11/19*	*11/12/19*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	1946012	11/12/19	11/13/19	EPA 300.0/9056A	

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Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:29

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1946002 - Purge and Trap EPA 5030A										
Blank (1946002-BLK1)				Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Benzene	ND	0 0250	mg/kg							
Toluene	ND	0 0250	"							
Ethylbenzene	ND	0 0250	"							
p,m-Xylene	ND	0 0500	"							
o-Xylene	ND	0 0250	"							
Total Xylenes	ND	0 0250	"							
Surrogate: 4-Bromochlorobenzene-PID	*8.04*		"	*8.00*		*100*	*50-150*			
LCS (1946002-BS1)				Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Benzene	4 94	0 0250	mg/kg	5.00		98 7	70-130			
Toluene	5 05	0 0250	"	5.00		101	70-130			
Ethylbenzene	4 97	0 0250	"	5.00		99 4	70-130			
p,m-Xylene	9 89	0 0500	"	10.0		98 9	70-130			
o-Xylene	4 93	0 0250	"	5.00		98 5	70-130			
Total Xylenes	14 8	0 0250	"	15.0		98 8	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*8.17*		"	*8.00*		*102*	*50-150*			
Matrix Spike (1946002-MS1)	**Source: P911034-01**			Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Benzene	5 13	0 0250	mg/kg	5.00	ND	103	54 3-133			
Toluene	5 26	0 0250	"	5.00	ND	105	61 4-130			
Ethylbenzene	5 18	0 0250	"	5.00	ND	104	61 4-133			
p,m-Xylene	10 3	0 0500	"	10.0	ND	103	63 3-131			
o-Xylene	5 12	0 0250	"	5.00	ND	102	63 3-131			
Total Xylenes	15 4	0 0250	"	15.0	ND	103	63.3-131			
Surrogate: 4-Bromochlorobenzene-PID	*7.90*		"	*8.00*		*98.7*	*50-150*			
Matrix Spike Dup (1946002-MSD1)	**Source: P911034-01**			Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Benzene	5 08	0 0250	mg/kg	5 00	ND	102	54 3-133	1 01	20	
Toluene	5 19	0 0250	"	5 00	ND	104	61 4-130	1 33	20	
Ethylbenzene	5 12	0 0250	"	5 00	ND	102	61 4-133	1 25	20	
p,m-Xylene	10 2	0 0500	"	10 0	ND	102	63 3-131	1 08	20	
o-Xylene	5 05	0 0250	"	5 00	ND	101	63 3-131	1 36	20	
Total Xylenes	15 2	0 0250	"	15.0	ND	102	63 3-131	1 18	20	
Surrogate: 4-Bromochlorobenzene-PID	*7.88*		"	*8.00*		*98.5*	*50-150*			

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Analytical Laboratory

Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:29

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1946013 - DRO Extraction EPA 3570										
Blank (1946013-BLK1)				Prepared: 11/12/19 1 Analyzed: 11/14/19 1						
Diesel Range Organics (C10-C28)	ND	25 0	mg/kg							
Oil Range Organics (C28-C40)	ND	50 0	"							
Surrogate: n-Nonane	*48.9*		"	*50.0*		*97.7*	*50-200*			
LCS (1946013-BS1)				Prepared: 11/12/19 1 Analyzed: 11/14/19 1						
Diesel Range Organics (C10-C28)	499	25 0	mg/kg	500		99 9	38-132			
Surrogate: n-Nonane	*50.0*		"	*50.0*		*100*	*50-200*			
Matrix Spike (1946013-MS1)	**Source: P911034-01**			Prepared: 11/12/19 1 Analyzed: 11/14/19 1						
Diesel Range Organics (C10-C28)	1530	25 0	mg/kg	500	562	194	38-132			M2
Surrogate: n-Nonane	*66.1*		"	*50.0*		*132*	*50-200*			
Matrix Spike Dup (1946013-MSD1)	**Source: P911034-01**			Prepared: 11/12/19 1 Analyzed: 11/14/19 1						
Diesel Range Organics (C10-C28)	1480	25 0	mg/kg	500	562	184	38-132	3 51	20	M2
Surrogate: n-Nonane	*62.9*		"	*50.0*		*126*	*50-200*			

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Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:29

Nonhalogenated Organics by 8015 - GRO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1946002 - Purge and Trap EPA 5030A										
Blank (1946002-BLK1)				Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Gasoline Range Organics (C6-C10)	ND	20 0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*6.84*		"	*8.00*		*85.5*	*50-150*			
LCS (1946002-BS2)				Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Gasoline Range Organics (C6-C10)	43 8	20 0	mg/kg	50 0		87.6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*6.83*		"	*8.00*		*85.3*	*50-150*			
Matrix Spike (1946002-MS2)		**Source: P911034-01**		Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Gasoline Range Organics (C6-C10)	46 9	20 0	mg/kg	50 0	ND	93 7	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*6.89*		"	*8.00*		*86.1*	*50-150*			
Matrix Spike Dup (1946002-MSD2)		**Source: P911034-01**		Prepared: 11/11/19 0 Analyzed: 11/11/19 2						
Gasoline Range Organics (C6-C10)	46 2	20 0	mg/kg	50 0	ND	92 4	70-130	1 41	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*6.82*		"	*8.00*		*85.2*	*50-150*			

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Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:29

Anions by 300.0/9056A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1946012 - Anion Extraction EPA 300.0/9056A										
Blank (1946012-BLK1)				Prepared: 11/12/19 0 Analyzed: 11/12/19 1						
Chloride	ND	20.0	mg/kg							
LCS (1946012-BS1)				Prepared: 11/12/19 0 Analyzed: 11/12/19 1						
Chloride	251	20 0	mg/kg	250		100	90-110			
Matrix Spike (1946012-MS1)		**Source: P911036-01**		Prepared: 11/12/19 0 Analyzed: 11/12/19 1						
Chloride	264	20 0	mg/kg	250	ND	106	80-120			
Matrix Spike Dup (1946012-MSD1)		**Source: P911036-01**		Prepared: 11/12/19 0 Analyzed: 11/12/19 1						
Chloride	262	20.0	mg/kg	250	ND	105	80-120	0 805	20	

QC Summary Report
Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values my differ slightly.

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Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:29

Notes and Definitions

M2	Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
**	Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

Project Information

Chain of Custody

Page 1 of 1

Page 10 of 10

Client: LOGOS	Report Attention	Lab Use Only	TAT / EPA Program
Project: ROSA 43	Report due by:	Lab WO# P911038	Job Number 1R0350114
Project Manager: L. FARRELL	Attention:		1D 3D RCRA CWA SDWA
Address:	Address:	Analysis and Method	State: NM CO UT AZ TX OK
City, State, Zip	City, State, Zip		
Phone: 505 419 1001	Phone:		
Email: lfarrell@logosresourcesllc.com	Email:		

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	Remarks
12:28	11/8/19	S	2	ROSA 43 P1	1	✓	✓	✓			✓	
12:36	11/8/19	S	2	ROSA 43 P2	2	✓	✓	✓			✓	

Additional Instructions: STAT

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabelling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by:

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6°C on subsequent days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	11/8/19	3:00	Rain Lopez	11/8/19	15:04
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only
Received on Ice: (Y) N
T1 T2 T3
AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other

Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech Analytical Laboratory
5796 US Highway 64, Farmington, NM 87401
Ph (505) 632-1881 Fx (505) 632-1865
24 Hour Emergency Response Phone (800) 362-1879
envirotech-inc.com
labadmin@envirotech-inc.com

envirotech
Analytical Laboratory

Analytical Report

Report Summary

Client: Logos Operating, LLC

Samples Received: 11/8/2019
Job Number: 12035-0114
Work Order: P911037
Project Name/Location: Rosa 43

Report Reviewed By: Walter Hinchman Date: 11/15/19

Walter Hinchman, Laboratory Director

NELAP ACCREDITED TNI LABORATORY

Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise.
Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way.
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Envirotech, Inc, holds the Texas TNI certification T104704657-19-2 for the data reported.

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Analytical Laboratory

Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:28

Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Pit	P911037-01A	Soil	11/08/19	11/08/19	Glass Jar, 4 oz.
	P911037-01B	Soil	11/08/19	11/08/19	Glass Jar, 4 oz.

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Analytical Laboratory

Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:28

Pit
P911037-01 (Solid)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Volatile Organics by EPA 8021									
Benzene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Toluene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Ethylbenzene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
p,m-Xylene	ND	0.0500	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
o-Xylene	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Total Xylenes	ND	0.0250	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8021B	
Surrogate: 4-Bromochlorobenzene-PID		*98.6 %*	*50-150*		*1946002*	*11/11/19*	*11/12/19*	*EPA 8021B*	
Nonhalogenated Organics by 8015 - DRO/ORO									
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg	1	1946013	11/12/19	11/14/19	EPA 8015D	
Oil Range Organics (C28-C40)	ND	50.0	mg/kg	1	1946013	11/12/19	11/14/19	EPA 8015D	
Surrogate: n-Nonane		*137 %*	*50-200*		*1946013*	*11/12/19*	*11/14/19*	*EPA 8015D*	
Nonhalogenated Organics by 8015 - GRO									
Gasoline Range Organics (C6-C10)	ND	20.0	mg/kg	1	1946002	11/11/19	11/12/19	EPA 8015D	
Surrogate: 1-Chloro-4-fluorobenzene-FID		*85.3 %*	*50-150*		*1946002*	*11/11/19*	*11/12/19*	*EPA 8015D*	
Anions by 300.0/9056A									
Chloride	ND	20.0	mg/kg	1	1946012	11/12/19	11/12/19	EPA 300.0/9056A	

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Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:28

Volatile Organics by EPA 8021 - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1946002 - Purge and Trap EPA 5030A										
Blank (1946002-BLK1)				Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Benzene	ND	0 0250	mg/kg							
Toluene	ND	0 0250	"							
Ethylbenzene	ND	0.0250	"							
p,m-Xylene	ND	0 0500	"							
o-Xylene	ND	0 0250	"							
Total Xylenes	ND	0 0250	"							
Surrogate: 4-Bromochlorobenzene-PID	*8.04*		"	*8.00*		*100*	*50-150*			
LCS (1946002-BS1)				Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Benzene	4 94	0 0250	mg/kg	5.00		98 7	70-130			
Toluene	5 05	0 0250	"	5.00		101	70-130			
Ethylbenzene	4 97	0 0250	"	5.00		99 4	70-130			
p,m-Xylene	9 89	0 0500	"	10.0		98 9	70-130			
o-Xylene	4 93	0 0250	"	5.00		98 5	70-130			
Total Xylenes	14 8	0 0250	"	15.0		98 8	70-130			
Surrogate: 4-Bromochlorobenzene-PID	*8.17*		"	*8.00*		*102*	*50-150*			
Matrix Spike (1946002-MS1)	**Source: P911034-01**			Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Benzene	5 13	0 0250	mg/kg	5 00	ND	103	54 3-133			
Toluene	5 26	0 0250	"	5 00	ND	105	61 4-130			
Ethylbenzene	5 18	0 0250	"	5 00	ND	104	61 4-133			
p,m-Xylene	10 3	0 0500	"	10 0	ND	103	63 3-131			
o-Xylene	5 12	0 0250	"	5 00	ND	102	63 3-131			
Total Xylenes	15 4	0 0250	"	15 0	ND	103	63 3-131			
Surrogate: 4-Bromochlorobenzene-PID	*7.90*		"	*8.00*		*98.7*	*50-150*			
Matrix Spike Dup (1946002-MSD1)	**Source: P911034-01**			Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Benzene	5.08	0 0250	mg/kg	5 00	ND	102	54 3-133	1 01	20	
Toluene	5 19	0 0250	"	5 00	ND	104	61 4-130	1 33	20	
Ethylbenzene	5 12	0 0250	"	5 00	ND	102	61 4-133	1 25	20	
p,m-Xylene	10 2	0 0500	"	10 0	ND	102	63 3-131	1 08	20	
o-Xylene	5 05	0 0250	"	5 00	ND	101	63 3-131	1 36	20	
Total Xylenes	15 2	0 0250	"	15 0	ND	102	63 3-131	1 18	20	
Surrogate: 4-Bromochlorobenzene-PID	*7.88*		"	*8.00*		*98.5*	*50-150*			

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Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:28

Nonhalogenated Organics by 8015 - DRO/ORO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1946013 - DRO Extraction EPA 3570										
Blank (1946013-BLK1)				Prepared: 11/12/19 1 Analyzed: 11/14/19 1						
Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
Oil Range Organics (C28-C40)	ND	50.0	"							
Surrogate: n-Nonane	*48.9*		"	*50.0*		*97.7*	*50-200*			
LCS (1946013-BS1)				Prepared: 11/12/19 1 Analyzed: 11/14/19 1						
Diesel Range Organics (C10-C28)	499	25.0	mg/kg	500		99.9	38-132			
Surrogate: n-Nonane	*50.0*		"	*50.0*		*100*	*50-200*			
Matrix Spike (1946013-MS1)	**Source: P911034-01**			Prepared: 11/12/19 1 Analyzed: 11/14/19 1						
Diesel Range Organics (C10-C28)	1530	25.0	mg/kg	500	562	194	38-132			M2
Surrogate: n-Nonane	*66.1*		"	*50.0*		*132*	*50-200*			
Matrix Spike Dup (1946013-MSD1)	**Source: P911034-01**			Prepared: 11/12/19 1 Analyzed: 11/14/19 1						
Diesel Range Organics (C10-C28)	1480	25.0	mg/kg	500	562	184	38-132	3.51	20	M2
Surrogate: n-Nonane	*62.9*		"	*50.0*		*126*	*50-200*			

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Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:28

Nonhalogenated Organics by 8015 - GRO - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1946002 - Purge and Trap EPA 5030A										
Blank (1946002-BLK1)				Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Gasoline Range Organics (C6-C10)	ND	20 0	mg/kg							
Surrogate: 1-Chloro-4-fluorobenzene-FID	*6.84*		"	*8.00*		*85.5*	*50-150*			
LCS (1946002-BS2)				Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Gasoline Range Organics (C6-C10)	43 8	20 0	mg/kg	50 0		87 6	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*6.83*		"	*8.00*		*85.3*	*50-150*			
Matrix Spike (1946002-MS2)		**Source: P911034-01**		Prepared: 11/11/19 0 Analyzed: 11/11/19 1						
Gasoline Range Organics (C6-C10)	46 9	20 0	mg/kg	50 0	ND	93 7	70-130			
Surrogate: 1-Chloro-4-fluorobenzene-FID	*6.89*		"	*8.00*		*86.1*	*50-150*			
Matrix Spike Dup (1946002-MSD2)		**Source: P911034-01**		Prepared: 11/11/19 0 Analyzed: 11/11/19 2						
Gasoline Range Organics (C6-C10)	46 2	20 0	mg/kg	50 0	ND	92 4	70-130	1 41	20	
Surrogate: 1-Chloro-4-fluorobenzene-FID	*6.82*		"	*8.00*		*85.2*	*50-150*			

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Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:28

Anions by 300.0/9056A - Quality Control

Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1946012 - Anion Extraction EPA 300.0/9056A										
Blank (1946012-BLK1)				Prepared: 11/12/19 0 Analyzed: 11/12/19 1						
Chloride	ND	20 0	mg/kg							
LCS (1946012-BS1)				Prepared: 11/12/19 0 Analyzed: 11/12/19 1						
Chloride	251	20 0	mg/kg	250		100	90-110			
Matrix Spike (1946012-MS1)	**Source: P911036-01**			Prepared: 11/12/19 0 Analyzed: 11/12/19 1						
Chloride	264	20 0	mg/kg	250	ND	106	80-120			
Matrix Spike Dup (1946012-MSD1)	**Source: P911036-01**			Prepared: 11/12/19 0 Analyzed: 11/12/19 1						
Chloride	262	20 0	mg/kg	250	ND	105	80-120	0 805	20	

QC Summary Report
Comment:
Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values my differ slightly.

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Logos Operating, LLC	Project Name:	Rosa 43	
PO Box 18	Project Number:	12035-0114	**Reported:**
Flora Vista NM, 87415	Project Manager:	Larissa Farrell	11/15/19 16:28

Notes and Definitions

M2	Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference
**	Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.

Project Information | Chain of Custody | Page 1 of 1

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Client: LOGOS	Report Attention
Project: ROSA #3	Report due by:
Project Manager: Larissa Tarrell	Attention:
Address:	Address:
City, State, Zip	City, State, Zip
Phone: 505 419-1100	Phone:
Email: Katie.lee@logosresourcesllc.com	Email:

Lab Use Only: Lab WO# P911037 | Job Number 12035-0114

TAT: 1D | 3D

EPA Program: RCRA | CWA | SDWA

State: NM ✓ | CO | UT | AZ | TX | OK

Analysis and Method

Time Sampled	Date Sampled	Matrix	No Containers	Sample ID	Lab Number	DRO/ORO by 8015	GRO/DRO by 8015	BTEX by 8021	VOC by 8260	Metals 6010	Chloride 300.0	Remarks
12:16	11/8	S	2	P1+	1	✓	✓	✓			✓	
12:28												
10:38												

Additional Instructions: STAT

I, (field sampler), attest to the validity and authenticity of this sample. I am aware that tampering with or intentionally mislabeling the sample location, date or time of collection is considered fraud and may be grounds for legal action. Sampled by:

Samples requiring thermal preservation must be received on ice the day they are sampled or received packed in ice at an avg temp above 0 but less than 6°C on subsequent days.

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	11/8/19	3:20	Raia Lopez	11/8/19	15:06
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time

Lab Use Only
Received on ice: (Y) / N
T1 ____ T2 ____ T3 ____
AVG Temp °C 4

Sample Matrix: S - Soil, Sd - Solid, Sg - Sludge, A - Aqueous, O - Other ____
Container Type: g - glass, p - poly/plastic, ag - amber glass, v - VOA

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for on the report.

envirotech Analytical Laboratory
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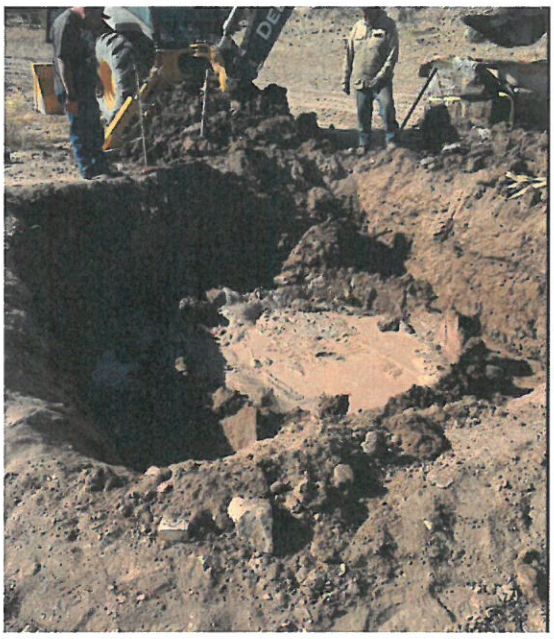


COGUS OPERATING, LLC