

Amended 12235

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 June 6, 2013

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

12315 Proposed Alternative Method Permit or Closure Plan Application **CONS. DIV DIST. 3**

Type of action:  Below grade tank registration  
43-21165  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

NOV 03 2014

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: 4001 NORTH BUTLER AVENUE, BUILDING 7101 FARMINGTON NM 87401  
Facility or well name: JICARILLA O 3E  
API Number: 30-043-21165 OCD Permit Number:  
U/L or Qtr/Qtr   O   Section   10   Township   22N   Range   3W   County: SANDOVAL  
Center of Proposed Design: Latitude   36.146806°   N Longitude   107.140858°   W NAD:  1927  1983  
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   20   mil  LLDPE  HDPE  PVC  Other \_\_\_\_\_  
 String-Reinforced  
Liner Seams:  Welded  Factory  Other \_\_\_\_\_ Volume: 8,000 bbl Dimensions: L 130 x W 60 x D 10

3.  Below-grade tank: Subsection I of 19.15.17.11 NMAC  
Volume: \_\_\_\_\_ bbl Type of fluid: \_\_\_\_\_  
Tank Construction material: \_\_\_\_\_  
 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 4' HOG WIRE WITH ONE STRAND OF BARBED WIRE ON TOP.

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. **Variations 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

<p>Within 100 feet of a wetland.          - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p><b><u>Temporary Pit Non-low chloride drilling fluid</u></b></p>	
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 300 feet of a wetland.          - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p><b><u>Permanent Pit or Multi-Well Fluid Management Pit</u></b></p>	
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>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</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>Within 500 feet of a wetland.          - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</p>	<input type="checkbox"/> Yes <input type="checkbox"/> 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<sub>2</sub>S, 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> 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	<input type="checkbox"/> Yes <input type="checkbox"/> No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	<input type="checkbox"/> Yes <input type="checkbox"/> No

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> 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: Jonathan D. Kelly Approval Date: 11/5/2014

Title: Compliance Officer 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: 06/19/14

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.*

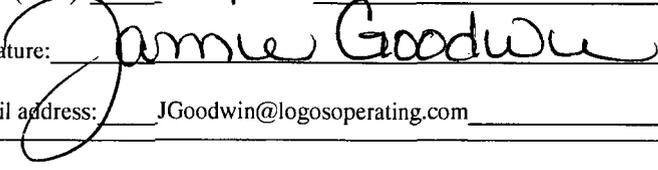
- Proof of Closure Notice (surface owner and division)
- Proof of Deed Notice (required for on-site closure for private land only)
- Plot Plan (for on-site closures and temporary pits)
- Confirmation Sampling Analytical Results (if applicable)
- Waste Material Sampling Analytical Results (required for 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 36.146806° N Longitude 107.140858° W NAD:  1927  1983

**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): Jamie Goodwin Title: Regulatory Technician

Signature:  Date: 11/03/14

e-mail address: JGoodwin@logosoperating.com Telephone: 505-330-9333

**Logos Operating, LLC  
San Juan Basin  
Closure Report**

**Lease Name: JICARILLA O 3E  
API NO: 30-043-21165**

In accordance with Rule 19.15.17.12 NMAC the following information describes the closure requirements of temporary pits on Logos Operating, LLC (Logos) locations. This is Logos' standard procedure for all temporary pits. A Separate plan will be submitted for any temporary pit that does not conform to this plan.

All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of the pit closure. Closure report will be filed on C-144 and incorporated the following:

- Detail on Capping and Covering, where applicable **(See report)**
- Plot Plan (Pit diagram) **(Included as an attachment)**
- Inspection reports **(Included as an attachment)**
- Sampling Results **(Included as an attachment)**
- C-105 **(Included as an attachment)**
- Copy of Deed Notice will be filed with County Clerk **(Not required on Federal, State or Tribal land as stated by FAQ dated October 30, 2008)**

**General Plan**

- 1 All free standing liquids will be removed at the start of the pit closure process from the pit and disposed of in a division-approved facility or recycle, reuse or reclaim the liquids in a manner that the appropriate division district office approves.

**All recovered liquids were disposed of at Basin Disposal (permit #NM-01-005) and any sludge or soil required to be removed to facilitate closure was hauled to Envirotech Land Farm (Permit #NM-01-011) and JFJ Landfarm % IEI (Permit #NM-01-0010B).**

- 2 The preferred method of closure for all temporary pits will be on-site burial, assuming that all criteria listed in sub-section (D) of 19.15.17.13 are met.

**The pit was closed using onsite burial.**

- 3 The surface owner shall be notified of Logos proposed closure plan using a means that provides proof of notice i.e., certified mail, return receipt requested.

**The closure process notification to the landowner was sent via certified mail. (See attached)  
Due to confusion on surface owner notification the NMOCD was not notified. In the future Logos will notify the NMOCD of the Closure operation.**

- 4 Within 6 months of the Rig Off status occurring Logos will ensure that temporary pits are closed, re-contoured, and reseeded.

**The closure plan requirements were met due to rig move off date as noted on C-105. (See attached).  
Pit closure extension to 7/16/14 was requested of the BIA per letter dated 3/5/14 and approved.**

- 5 Notice of Closure will be given to the Aztec Division office between 72 hours and one week of closure via email, or verbally, The notification of closure will include the following:

- i. Operator's name
- ii. Location by Unit Letter, Section, Township, and Range. Well name and API Number

**Notification is attached.**

- 6 Pit contents shall be mixed with non-waste containing, earthen material in order to achieve the solidification process. The solidification process will be accomplished using a combination of natural drying and mechanically mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed a safe and stable. The mixing ratio shall not exceed 3 parts clean soil to 1 part pit contents.

Logos mixed the pit contents with non-waste containing, earthen material in order to achieve the solidification process. The solidification process was accomplished by using a combination of natural drying and mechanically mixing. Pit contents were mixed with non-waste, earthen material to a consistency that is deemed as safe and stable. The mixing ratio consisted of not more than 3 parts clean soil to 1 part pit contents.

- 7 A five point composite sample will be taken of the pit using sampling tools and all samples tested per 19.15.17.13(D)(5). In the event that the criteria are not met, all contents will be handled per 9.15.17.13(D)(7) i.e., Dig and haul.

**A five point composite sample was taken of the pit using sampling tools and all samples tested per 19.15.17.13(D)(5). (Sample results attached).**

Components	Tests Method	Limit (mg/Kg)	Results (ppm)
Benzene	EPA SW-846 8021B or 8015M	10	ND
BTEX	EPA SW-846 8021B or 8260B	50	0.87
TPH	EPA SW-846 418.1	2500	392
GRO/DRO	EPA SW-846 8015M	1000	156
Chlorides	EPA 300.0	40000	1370

- 8 Upon completion of solidification and testing, Logos will fold the outer edges of the trench liner to overlap the waste material in the pit area, then install a geomembrane cover over the waste material in the pit to prevent collections of infiltration water after the soil cover is in place; geomembrane a 20-mil, string reinforced, LLDPE liner, or equivalent complying with EPA SW-846 method 9090A requirements.

**The pit material passed solidification and testing standards. Logos folded the outer edges of the trench liner to overlap the waste material in the pit area, then installed a geomembrane cover over the waste material and folded liner as per 19.15.17.13(8)(a)(b).**

- 9 The pit area will be backfilled with compacted, non-waste containing, earthen material. A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater.

**The pit area was then backfilled with compacted, non-waste containing, earthen material. More than four feet of cover was achieved and the cover included one foot of suitable material to establish vegetation at the site.**

- 10 Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a large scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.

**The pit area was re-contoured to match fit, shape, line, form and texture of the surrounding area. Reshaping included drainage control, to prevent ponding and erosion. Natural drainages were unimpeded and water bars and/or silt traps were placed in areas where needed to prevent erosion on a large scale. Final re-contour has a uniform appearance with smooth surface, fitting the natural landscape.**

- 11 Notification will be sent to OCD when the reclaimed area is seeded.

**Provision 11 was accomplished in accordance with NMOCD 19.15.17.13(5)(d) Notification will be sent to the OCD when re-vegetation is established.**

- 12 Logos shall seed the distributed areas the first growing season after the operator closes the pit. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mix will be used on federal lands. Vegetative cover will be established that will reflect a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and will equal seventy (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 maintain that cover thorough two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.

**Provision 12 was accomplished in accordance with NMOCD 19.15.17.13(5)(d) Notification will be sent to the OCD when re-vegetation is established.**

- 13 The temporary pit will be located with a steel marker, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial. The marker will be flush with the ground to allow access of the active well pad and for safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the operator's information at the time of all wells on the pad are abandoned. The operator's information will include the following: Operator Name, Lease Name, Well Name and number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.

**Provision 13 was accomplished by installing a steel marker in the temporary pit, no less than four inches in diameter, cemented in a hole three feet deep in the center of the onsite burial. The marker is flush with the ground to allow access of the active well pad and for safety concerns. The top of the marker contains a welded steel 12" square plate that indicates the onsite burial of the temporary pit. The plate contains the following: Operator's name, Lease Name, Well Name and number, Unit Number, Section, Township, Range and an indicator that the marker is an onsite burial location.**

The plate will be easily removable and a four foot tall riser will be threaded into the top of the collar marker and welded around the base with the following operator's information at the time of all wells on the pad are abandoned. The riser will also indicate that the marker is for an onsite burial location.

**Operator Name: LOGOS  
Lease Name & Well Number: JICARILLA O 3E  
Unit Letter: O  
Section: 10  
Township: 22N  
Range: 3W  
API#: 30-043-21165  
OBL**

- 14 Logos inspected and documented daily and weekly reports on the above Temporary Pit. Logos inspected any liner breeches, fluid seeps or spills, HC's on top of temporary pit, free of miscellaneous solid waste or debris, discharge line integrity, fence integrity, any dead wildlife or livestock and inspection of the freeboard. Logos will provide maintained documentation of inspections upon request.

**Inspection Start Date: 12/9/13**

**Inspection End Date: 6/11/14**

**NOTE: During start and end dates of temporary pit inspections liner tear and holes were noted and repaired during the weekly inspections. In the future Logos will maintain logs in accordance with OCD ruling 19.15.17.12(B)(3).**

## Tamra Sessions

---

**From:** Tamra Sessions  
**Sent:** Friday, September 6, 2013 9:30 AM  
**To:** Merldine Oka (merldineoka@jicarillaoga.com)  
**Cc:** Isaac Julian (iajulian@yahoo.com); Kurt Sandoval (kurt.sandoval@bia.gov); Kristina Graham  
**Subject:** SURFACE OWNER NOTIFICATION 09/06/13 - Temporary Pit - Jicarilla O 3E  
**Attachments:** Jicarilla Pit Notice.docx

Please see our attached notice for temporary pit for the following new drill location:

Jicarilla O 3E  
O – Sec 10 – T22N – R03W  
919' FSL & 1738' FEL

Tamra Sessions  
Logos Resources, LLC  
Operations Technician  
tsessions@logosresourcesllc.com  
505-330-9333



4001 N. Butler Ave  
Farmington, NM 87401  
Phone: (505) 436-2627  
Fax: (505) 832-3095

---

Date: September 6, 2013

To: Jicarilla Apache Nation

Re: Surface Owner Notification for On-Site Burial

Ms. Merldine Oka  
Jicarilla Apache Nation  
Oil and Gas Administration  
#6 Dulce Rock Road  
Dulce, NM 87528

Re: Jicarilla O 3E  
O - Sec 10 - T22N - R03W  
919' FSL & 1738' FEL

Dear Ms. Oka,

According to NMOCD rules, Logos Operating, LLC is notifying you that there will be a temporary pit on the subject well and that they intend to bury the drill cuttings in the reserve pit, assuming that they qualify as per Subsection D of 19.15.17.13 NMAC. No action is required on your part. If you have any questions, please do not hesitate to call me.

Regards,

*Tamra Sessions*

Tamra Sessions  
Operations Technician

**DISTRICT I**  
 1025 E. Fremont Dr., Hobbs, N.M. 88240  
 Phone: (575) 593-6103 Fax: (575) 526-0720

**DISTRICT II**  
 514 S. First St., Artesia, N.M. 88203  
 Phone: (575) 746-1233 Fax: (575) 746-0780

**DISTRICT III**  
 1800 Rio Grande St., Artesia, N.M. 87410  
 Phone: (505) 854-0170 Fax: (505) 854-0170

**DISTRICT IV**  
 1825 S. St. Francis Dr., Santa Fe, NM 87505  
 Phone: (505) 476-3400 Fax: (505) 476-3400

State of New Mexico  
 Energy, Minerals & Natural Resources Department

Form C-102  
 Revised August 1, 2011

Submit one copy to appropriate  
 District Office

**OIL CONSERVATION DIVISION**  
 1220 South St. Francis Dr.  
 Santa Fe, NM 87505

AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

*API Number		*Pool Code	*Pool Name
		39189	Lindrith Gallup-Dakota, West
*Property Code	*Property Name		*Well Number
311962	JICARILLA O		3E
*OGRID No.	*Operator Name		*Elevation
289408	LOGOS RESOURCES, LLC		7072'

**10 Surface Location**

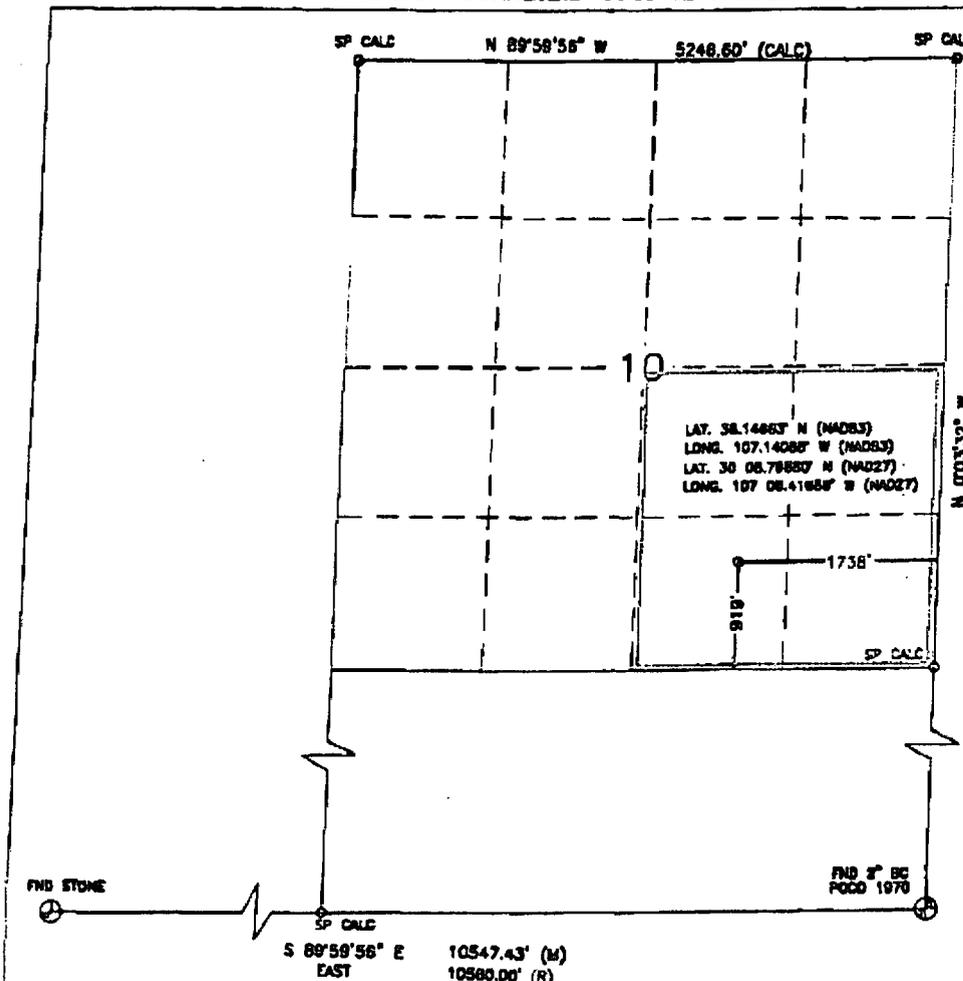
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	10	22N	3W		919'	SOUTH	1738'	EAST	SANDOVAL

**11 Bottom Hole Location If Different From Surface**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
*Dedicated Acres			*Joint or InHD		*Consolidation Code		*Order No.		
160 acres									

**NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION**

18



**17 OPERATOR CERTIFICATION**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or undivided mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

*Tamra Sessions* 07/09/13  
 Signature Date

Tamra Sessions  
 Printed Name

tsessions@logosresourcesllc.com  
 E-mail Address

**18 SURVEYOR CERTIFICATION**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

AUGUST 14, 2012  
 Date of Survey

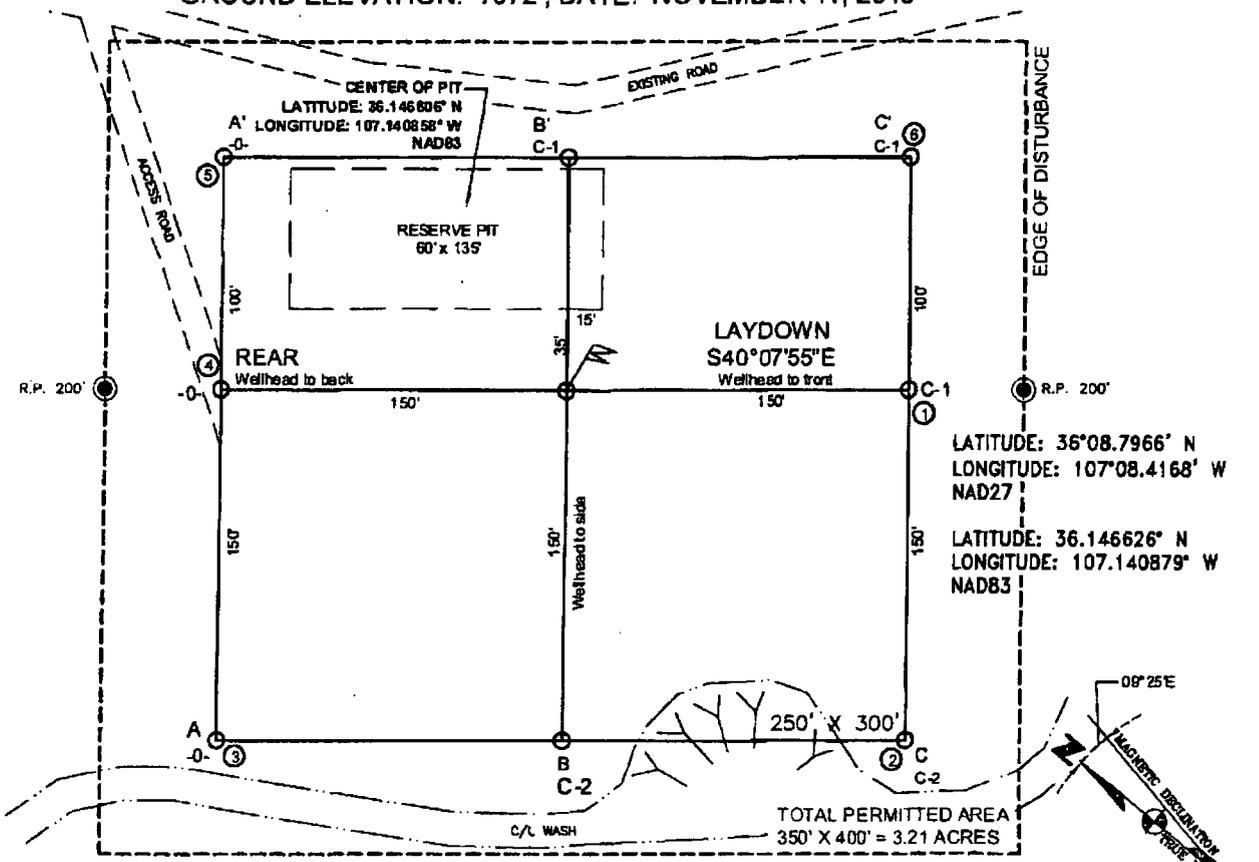
Signature and Seal of Registered Surveyor  
*David Russell*



DAVID RUSSELL  
 Certificate Number 10201

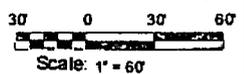
# LOGOS OPERATING, LLC

JICARILLA O #3E, 919' FSL & 1738' FEL  
 SECTION 10, T-22-N, R-3-W, NMPM, SANDOVAL COUNTY, NM  
 GROUND ELEVATION: 7072', DATE: NOVEMBER 11, 2013



**NOTES:**

1. VECTOR SURVEYS IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.
2. RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).





**envirotech**  
Analytical Laboratory

## Analytical Report

### Report Summary

Client: Logos Operating, LLC

Chain Of Custody Number: 17472

Samples Received: 10/29/2014 8:27:00AM

Job Number: 12035-0069

Work Order: P410123

Project Name/Location: Jicarilla 0 #3E

Entire Report Reviewed By:

Date: 10/31/14

\_\_\_\_\_  
Tim Cain, Laboratory Manager

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.

Logos Operating, LLC  
PO Box 18  
Flora Vista NM, 87415

Project Name: Jicarilla 0 #3E  
Project Number: 12035-0069  
Project Manager: Sheena Leon

**Reported:**  
31-Oct-14 15:34

### Analytical Report for Samples

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Drill Pit	P410123-01A	Soil	10/28/14	10/29/14	Glass Jar, 4 oz.

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# envirotech

Analytical Laboratory

Logos Operating, LLC PO Box 18 Flora Vista NM, 87415	Project Name: Jicarilla 0 #3E Project Number: 12035-0069 Project Manager: Sheena Leon	Reported: 31-Oct-14 15:34
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**Drill Pit**  
**P410123-01 (Solid)**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Volatile Organics by EPA 8021</b>									
Benzene	ND	0.10	mg/kg	1	1444019	10/29/14	10/29/14	EPA 8021B	
Toluene	0.11	0.10	mg/kg	1	1444019	10/29/14	10/29/14	EPA 8021B	
Ethylbenzene	0.14	0.10	mg/kg	1	1444019	10/29/14	10/29/14	EPA 8021B	
p,m-Xylene	0.43	0.20	mg/kg	1	1444019	10/29/14	10/29/14	EPA 8021B	
o-Xylene	0.19	0.10	mg/kg	1	1444019	10/29/14	10/29/14	EPA 8021B	
Total Xylenes	0.62	0.10	mg/kg	1	1444019	10/29/14	10/29/14	EPA 8021B	
Total BTEX	0.87	0.10	mg/kg	1	1444019	10/29/14	10/29/14	EPA 8021B	
<i>Surrogate: 4-Bromochlorobenzene-PID</i>		100 %		50-150	1444019	10/29/14	10/29/14	EPA 8021B	
<b>Nonhalogenated Organics by 8015</b>									
Gasoline Range Organics (C6-C10)	16.7	9.98	mg/kg	1	1444019	10/29/14	10/29/14	EPA 8015D	
Diesel Range Organics (C10-C28)	156	29.9	mg/kg	1	1444018	10/29/14	10/29/14	EPA 8015D	
<i>Surrogate: o-Terphenyl</i>		106 %		50-200	1444018	10/29/14	10/29/14	EPA 8015D	
<i>Surrogate: 4-Bromochlorobenzene-FID</i>		93.0 %		50-150	1444019	10/29/14	10/29/14	EPA 8015D	
<b>Total Petroleum Hydrocarbons by 418.1</b>									
Total Petroleum Hydrocarbons	392	35.0	mg/kg	1	1444025	10/29/14	10/29/14	EPA 418.1	

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Logos Operating, LLC PO Box 18 Flora Vista NM, 87415	Project Name: Jicarilla 0 #3E Project Number: 12035-0069 Project Manager: Sheena Leon	Reported: 31-Oct-14 15:34
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**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
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**Batch 1444019 - Purge and Trap EPA 5030A**

**Blank (1444019-BLK1)**

Prepared & Analyzed: 29-Oct-14

Benzene	ND	0.002	mg/kg							
Toluene	ND	0.002	"							
Ethylbenzene	ND	0.002	"							
p,m-Xylene	ND	0.004	"							
o-Xylene	ND	0.002	"							
Total Xylenes	ND	0.002	"							
Total BTEX	ND	0.002	"							
Surrogate: 4-Bromochlorobenzene-PID	0.379		"	0.399		94.9	50-150			

**LCS (1444019-BS1)**

Prepared & Analyzed: 29-Oct-14

Benzene	19.7	0.10	mg/kg	20.0		98.6	75-125			
Toluene	20.0	0.10	"	20.0		100	70-125			
Ethylbenzene	20.3	0.10	"	20.0		102	75-125			
p,m-Xylene	41.1	0.20	"	40.0		103	80-125			
o-Xylene	20.3	0.10	"	20.0		102	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.399		"	0.400		99.9	50-150			

**Matrix Spike (1444019-MS1)**

Source: P410117-01

Prepared & Analyzed: 29-Oct-14

Benzene	19.4	0.10	mg/kg	20.0	ND	97.3	75-125			
Toluene	19.9	0.10	"	20.0	ND	99.4	70-125			
Ethylbenzene	20.0	0.10	"	20.0	ND	100	75-125			
p,m-Xylene	40.4	0.20	"	39.9	ND	101	80-125			
o-Xylene	20.0	0.10	"	20.0	ND	100	75-125			
Surrogate: 4-Bromochlorobenzene-PID	0.399		"	0.399		99.9	50-150			

**Matrix Spike Dup (1444019-MSD1)**

Source: P410117-01

Prepared & Analyzed: 29-Oct-14

Benzene	20.2	0.10	mg/kg	20.0	ND	101	75-125	4.14	15	
Toluene	20.7	0.10	"	20.0	ND	104	70-125	4.21	15	
Ethylbenzene	20.9	0.10	"	20.0	ND	104	75-125	4.40	15	
p,m-Xylene	42.2	0.20	"	40.0	ND	106	80-125	4.39	15	
o-Xylene	20.9	0.10	"	20.0	ND	104	75-125	4.38	15	
Surrogate: 4-Bromochlorobenzene-PID	0.405		"	0.400		101	50-150			

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Logos Operating, LLC PO Box 18 Flora Vista NM, 87415	Project Name: Jicarilla 0 #3E Project Number: 12035-0069 Project Manager: Sheena Leon	Reported: 31-Oct-14 15:34
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**Nonhalogenated Organics by 8015 - Quality Control**

**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1444018 - DRO Extraction EPA 3550M**

**Blank (1444018-BLK1)** Prepared: 29-Oct-14 Analyzed: 30-Oct-14

Diesel Range Organics (C10-C28)	ND	25.0	mg/kg							
<i>Surrogate: o-Terphenyl</i>	38.6		"	40.0		96.6	50-200			

**LCS (1444018-BS1)** Prepared & Analyzed: 29-Oct-14

Diesel Range Organics (C10-C28)	463	25.0	mg/kg	499		92.6	38-132			
<i>Surrogate: o-Terphenyl</i>	39.9		"	40.0		99.8	50-200			

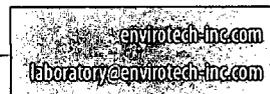
**Matrix Spike (1444018-MS1)** Source: P410117-01 Prepared & Analyzed: 29-Oct-14

Diesel Range Organics (C10-C28)	507	39.9	mg/kg	499	53.5	90.9	38-132			
<i>Surrogate: o-Terphenyl</i>	43.4		"	39.9		109	50-200			

**Matrix Spike Dup (1444018-MSD1)** Source: P410117-01 Prepared & Analyzed: 29-Oct-14

Diesel Range Organics (C10-C28)	540	40.0	mg/kg	500	53.5	97.4	38-132	6.33	20	
<i>Surrogate: o-Terphenyl</i>	42.7		"	40.0		107	50-200			

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Logos Operating, LLC  
 PO Box 18  
 Flora Vista NM, 87415

Project Name: Jicarilla 0 #3E  
 Project Number: 12035-0069  
 Project Manager: Sheena Leon

Reported:  
 31-Oct-14 15:34

### Nonhalogenated Organics by 8015 - Quality Control

#### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1444019 - Purge and Trap EPA 5030A

##### Blank (1444019-BLK1)

Prepared & Analyzed: 29-Oct-14

Gasoline Range Organics (C6-C10)	ND	0.20	mg/kg							
Surrogate: 4-Bromochlorobenzene-FID	0.347		"	0.399		86.9	50-150			

##### LCS (1444019-BS1)

Prepared & Analyzed: 29-Oct-14

Gasoline Range Organics (C6-C10)	286	9.99	mg/kg	292		98.1	80-120			
Surrogate: 4-Bromochlorobenzene-FID	0.363		"	0.400		90.8	50-150			

##### Matrix Spike (1444019-MS1)

Source: P410117-01

Prepared & Analyzed: 29-Oct-14

Gasoline Range Organics (C6-C10)	283	9.98	mg/kg	291	ND	97.3	75-125			
Surrogate: 4-Bromochlorobenzene-FID	0.363		"	0.399		91.0	50-150			

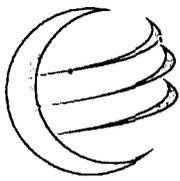
##### Matrix Spike Dup (1444019-MSD1)

Source: P410117-01

Prepared & Analyzed: 29-Oct-14

Gasoline Range Organics (C6-C10)	297	9.99	mg/kg	292	ND	102	75-125	4.80	15	
Surrogate: 4-Bromochlorobenzene-FID	0.370		"	0.400		92.5	50-150			

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Analytical Laboratory

Logos Operating, LLC	Project Name:	Jicarilla 0 #3E	<b>Reported:</b> 31-Oct-14 15:34
PO Box 18	Project Number:	12035-0069	
Flora Vista NM, 87415	Project Manager:	Sheena Leon	

## Total Petroleum Hydrocarbons by 418.1 - Quality Control

### Envirotech Analytical Laboratory

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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#### Batch 1444025 - 418 Freon Extraction

<b>Blank (1444025-BLK1)</b>			Prepared & Analyzed: 29-Oct-14							
Total Petroleum Hydrocarbons	ND	34.9	mg/kg							
<b>Duplicate (1444025-DUP1)</b>			Source: P410123-01 Prepared & Analyzed: 29-Oct-14							
Total Petroleum Hydrocarbons	416	35.0	mg/kg		392			5.98	30	
<b>Matrix Spike (1444025-MS1)</b>			Source: P410123-01 Prepared & Analyzed: 29-Oct-14							
Total Petroleum Hydrocarbons	2310	34.9	mg/kg	2010	392	95.2	80-120			

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Analytical Laboratory

Logos Operating, LLC  
PO Box 18  
Flora Vista NM, 87415

Project Name: Jicarilla 0 #3E  
Project Number: 12035-0069  
Project Manager: Sheena Leon

**Reported:**  
31-Oct-14 15:34

## Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference

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# CHAIN OF CUSTODY RECORD

17472

Client: <b>Loops Operating</b>	Project Name / Location: <b>Juarula O #3E</b>	ANALYSIS / PARAMETERS														
Email results to: <b>S. Leon</b>	Sampler Name: <b>S. Leon</b>	TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE				Sample Cool	Sample Intact
Client Phone No.:	Client No.: <b>12035-0009</b>															

Sample No./ Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE			Sample Cool	Sample Intact	
					HNO <sub>3</sub>	HCl	(M)															
Drill Pit	10/29/14	12:00	P410123-01	4 to 2 glasses			X	X	X							X					✓	✓

Relinquished by: (Signature) <i>Sheema Leon</i>	Date	Time	Received by: (Signature) <i>Gene Zagon</i>	Date	Time
	10/29/14	5:30		10/29/14	8:27
Relinquished by: (Signature)			Received by: (Signature)		
Sample Matrix					
Soil <input checked="" type="checkbox"/> Solid <input type="checkbox"/> Sludge <input type="checkbox"/> Aqueous <input type="checkbox"/> Other <input type="checkbox"/>					

Sample(s) dropped off after hours to secure drop off area.

BUSH

**envirotech** 3.7  
Analytical Laboratory

5795 US Highway 64 • Farmington, NM 87401 • 505-632-0615 • Three Springs • 65 Mercado Street, Suite 115, Durango, CO 81301 • laboratory@envirotech-inc.com

Table 1, Summary of Analytical Results  
 Logos Operating, LLC  
 Jicarilla O #3E  
 Drill Pit Closure and Backfill Material Sampling Report  
 Sandoval County, New Mexico  
 Project Number 12035-0046

Sample Description	Sample Number	Date	TPH USEPA Method 418.1 (ppm)	TPH USEPA Method 8015 (ppm)	Benzene USEPA Method 8021 (ppm)	BTEX USEPA Method 8021 (ppm)	Chlorides USEPA Method 300.0 (ppm)
NMOCD/RCRA Standards	NA	NA	2500	1000	.10	50	80000
<b>Drill Pit Composite</b>	1	1/29/2014	<b>17900</b>	<b>13100</b>	6.57	<b>61.2</b>	1370
NMOCD/RCRA Standards	NA	NA	NA	NA	NA	NA	600
<b>Backfill Material Composite</b>	2	1/29/2014	NS	NS	NS	NS	19.0

NS = Not Sampled

ND = Non-Detect at Stated Method's Detection Limit

\* Values in **BOLD** above regulatory standards



## Analytical Report

### Report Summary

Client: Logos Operating, LLC  
Chain Of Custody Number: 16580  
Samples Received: 1/29/2014 4:29:00PM  
Job Number: 12035-0046  
Work Order: P401089  
Project Name/Location: Jicarilla 0 #3E

Entire Report Reviewed By:

A handwritten signature in black ink, appearing to read 'Tim Cain', is written over a horizontal line.

Date: 2/5/14

Tim Cain, Laboratory Manager

The results in this report apply to the samples submitted to Envirotech's Analytical Laboratory and were analyzed in accordance with the chain of custody document supplied by you, the client, and as such are for your exclusive use only. The results in this report are based on the sample as received unless otherwise noted. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. If you have any questions regarding this analytical report, please don't hesitate to contact Envirotech's Laboratory Staff.





Logos Operating, LLC	Project Name: Jicarilla 0 #3E	<b>Reported:</b> 05-Feb-14 14:15
PO Box 18	Project Number: 12035-0046	
Flora Vista NM, 87415	Project Manager: Tiffany McIntosh	

**Analytical Report for Samples**

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Drill Pit Composite	P401089-01A	Soil	01/29/14	01/29/14	Glass Jar, 4 oz.
Backfill Material Composite	P401089-02A	Soil	01/29/14	01/29/14	Glass Jar, 4 oz.

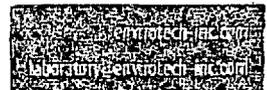
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5796 US Highway 64, Farmington, NM 87401

Ph (505) 632-0615 Fx (505) 632-1865

Three Springs - 65 Mercado Street, Suite 115, Durango, CO 81301

Ph (970) 259-0615 Fr (800) 362-1879



Logos Operating, LLC PO Box 18 Flora Vista NM, 87415	Project Name: Jicarilla 0 #3E Project Number: 12035-0046 Project Manager: Tiffany McIntosh	Reported: 05-Feb-14 14:15
--	--	------------------------------

**Drill Pit Composite  
P401089-01 (Solid)**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes	
		Limit	Units							
<b>Volatile Organics by EPA 8021</b>										
Benzene	6.57	0.05	mg/kg	1	1405012	01/30/14	02/04/14	EPA 8021B		
Toluene	22.1	0.05	mg/kg	1	1405012	01/30/14	02/04/14	EPA 8021B		
Ethylbenzene	5.54	0.05	mg/kg	1	1405012	01/30/14	02/04/14	EPA 8021B		
p,m-Xylene	18.4	0.05	mg/kg	1	1405012	01/30/14	02/04/14	EPA 8021B		
o-Xylene	8.72	0.05	mg/kg	1	1405012	01/30/14	02/04/14	EPA 8021B		
Total Xylenes	27.1	0.05	mg/kg	1	1405012	01/30/14	02/04/14	EPA 8021B		
Total BTEX	61.2	0.05	mg/kg	1	1405012	01/30/14	02/04/14	EPA 8021B		
Surrogate: Bromochlorobenzene		127 %		80-120	1405012	01/30/14	02/04/14	EPA 8021B	S-02	
Surrogate: 1,3-Dichlorobenzene		142 %		80-120	1405012	01/30/14	02/04/14	EPA 8021B	S-02	
<b>Nonhalogenated Organics by 8015</b>										
Gasoline Range Organics (C6-C10)	177	4.98	mg/kg	1	1405012	01/30/14	02/04/14	EPA 8015D		
Diesel Range Organics (C10-C28)	13100	29.9	mg/kg	1	1405013	01/30/14	02/03/14	EPA 8015D		
<b>Total Petroleum Hydrocarbons by 418.1</b>										
Total Petroleum Hydrocarbons	17900	200	mg/kg	10	1405016	01/30/14	01/30/14	EPA 418.1		
<b>Cation/Anion Analysis</b>										
Chloride	1370	9.92	mg/kg	1	1405017	01/30/14	01/30/14	EPA 300.0		

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Logos Operating, LLC	Project Name: Jicarilla 0 #3E	Reported: 05-Feb-14 14:15
PO Box 18	Project Number: 12035-0046	
Flora Vista NM. 87415	Project Manager: Tiffany McIntosh	

**Backfill Material Composite  
P401089-02 (Solid)**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						

**Cation/Anion Analysis**

Chloride	19.0	9.87	mg/kg	1	1405017	01/30/14	01/30/14	EPA 300.0	
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Logos Operating, LLC	Project Name: Jicarilla 0 #3E	Reported: 05-Feb-14 14:15
PO Box 18	Project Number: 12035-0046	
Flora Vista NM, 87415	Project Manager: Tiffany McIntosh	

**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
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**Batch 1405012 - Purge and Trap EPA 5030A**

Blank (1405012-BLK1)		Prepared: 29-Jan-14 Analyzed: 03-Feb-14								
Benzene	ND	0.05	mg/kg							
Toluene	ND	0.05	"							
Ethylbenzene	ND	0.05	"							
p,m-Xylene	ND	0.05	"							
o-Xylene	ND	0.05	"							
Total Xylenes	ND	0.05	"							
Total BTEX	ND	0.05	"							
Surrogate: 1,3-Dichlorobenzene	41.4		ug/L	50.0		82.7	80-120			
Surrogate: Bromochlorobenzene	45.4		"	50.0		90.8	80-120			

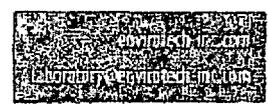
Duplicate (1405012-DUP1)		Source: P401086-01 Prepared: 29-Jan-14 Analyzed: 03-Feb-14								
Benzene	ND	0.50	mg/kg		ND					30
Toluene	9.90	0.50	"		10.2			3.13		30
Ethylbenzene	4.00	0.50	"		4.00			0.166		30
p,m-Xylene	45.0	0.50	"		44.8			0.417		30
o-Xylene	12.0	0.50	"		12.0			0.337		30
Surrogate: 1,3-Dichlorobenzene	53.7		ug/L	50.0		107	80-120			
Surrogate: Bromochlorobenzene	58.6		"	50.0		117	80-120			

Matrix Spike (1405012-MS1)		Source: P401086-01 Prepared: 29-Jan-14 Analyzed: 03-Feb-14								
Benzene	45.3		ug/L	50.0	ND	90.5	39-150			
Toluene	68.5		"	50.0	20.4	96.2	46-148			
Ethylbenzene	57.2		"	50.0	7.99	98.5	32-160			
p,m-Xylene	181		"	100	89.6	91.5	46-148			
o-Xylene	71.2		"	50.0	24.1	94.3	46-148			
Surrogate: 1,3-Dichlorobenzene	54.9		"	50.0		110	80-120			
Surrogate: Bromochlorobenzene	59.9		"	50.0		120	80-120			

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5796 US Highway 64, Farmington, NM 87401  
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 Ph (970) 259-0615 Fx (800) 362-1879





Logos Operating, LLC PO Box 18 Flora Vista NM, 87415	Project Name: Jicarilla 0 #3E Project Number: 12035-0046 Project Manager: Tiffany McIntosh	Reported: 05-Feb-14 14:15
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**Nonhalogenated Organics by 8015 - Quality Control**  
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch 1405012 - Purge and Trap EPA 5030A**

<b>Blank (1405012-BLK1)</b>		Prepared: 29-Jan-14 Analyzed: 03-Feb-14								
Gasoline Range Organics (C6-C10)	ND	5.00	mg/kg							
<b>Duplicate (1405012-DUP1)</b>		Source: P401086-01 Prepared: 29-Jan-14 Analyzed: 03-Feb-14								
Gasoline Range Organics (C6-C10)	446	49.9	mg/kg		442			0.854	30	
<b>Matrix Spike (1405012-MS1)</b>		Source: P401086-01 Prepared: 29-Jan-14 Analyzed: 03-Feb-14								
Gasoline Range Organics (C6-C10)	1.31		mg/L	0.450	0.88	94.4	75-125			

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Ph (970) 259-0615 Fr (800) 362-1879





Logos Operating, LLC PO Box 18 Flora Vista NM, 87415	Project Name: Jicarilla 0 #3E Project Number: 12035-0046 Project Manager: Tiffany McIntosh	Reported: 05-Feb-14 14:15
--	--	------------------------------

**Nonhalogenated Organics by 8015 - Quality Control**  
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

**Batch 1405013 - DRO Extraction EPA 3550C**

<b>Blank (1405013-BLK1)</b>		Prepared: 29-Jan-14 Analyzed: 30-Jan-14								
Diesel Range Organics (C10-C28)	ND	30.0	mg/kg							
<b>Duplicate (1405013-DUP1)</b>		Source: P401086-01 Prepared: 29-Jan-14 Analyzed: 30-Jan-14								
Diesel Range Organics (C10-C28)	9060	30.0	mg/kg		9070			0.0775	30	
<b>Matrix Spike (1405013-MS1)</b>		Source: P401086-01 Prepared: 29-Jan-14 Analyzed: 30-Jan-14								
Diesel Range Organics (C10-C28)	8560	31.6	mg/kg	263	9070	NR	75-125			SPK1

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Ph (970) 259-0615 Fr (800) 362-1879



Logos Operating, LLC	Project Name:	Jicarilla 0 #3E	Reported: 05-Feb-14 14:15
PO Box 18	Project Number:	12035-0046	
Flora Vista NM, 87415	Project Manager:	Tiffany McIntosh	

**Total Petroleum Hydrocarbons by 418.1 - Quality Control**

**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1405016 - 418 Freon Extraction</b>										
<b>Blank (1405016-BLK1)</b> Prepared & Analyzed: 30-Jan-14										
Total Petroleum Hydrocarbons	20.0	20.0	mg/kg							
<b>Duplicate (1405016-DUP1)</b> Source: P401089-01 Prepared & Analyzed: 30-Jan-14										
Total Petroleum Hydrocarbons	23700	199	mg/kg		17900			28.0	30	
<b>Matrix Spike (1405016-MS1)</b> Source: P401089-01 Prepared & Analyzed: 30-Jan-14										
Total Petroleum Hydrocarbons	6600		mg/L	500	4480	425	80-120			SPK1

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Logos Operating, LLC PO Box 18 Flora Vista NM, 87415	Project Name: Jicarilla 0 #3E Project Number: 12035-0046 Project Manager: Tiffany McIntosh	Reported: 05-Feb-14 14:15
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**Cation/Anion Analysis - Quality Control**  
**Envirotech Analytical Laboratory**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Batch 1405017 - Anion Extraction EPA 300.0</b>										
<b>Blank (1405017-BLK1)</b>				Prepared & Analyzed: 30-Jan-14						
Chloride	ND	9.96	mg/kg							
<b>LCS (1405017-BS1)</b>				Prepared & Analyzed: 30-Jan-14						
Chloride	505	9.94	mg/kg	497		102	90-110			
<b>Matrix Spike (1405017-MS1)</b>				Source: P401089-02 Prepared & Analyzed: 30-Jan-14						
Chloride	547	9.95	mg/kg	498	19.0	106	80-120			
<b>Matrix Spike Dup (1405017-MSD1)</b>				Source: P401089-02 Prepared & Analyzed: 30-Jan-14						
Chloride	552	9.87	mg/kg	494	19.0	108	80-120	0.949	20	

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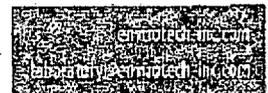


Logos Operating, LLC	Project Name:	Jicarilla 0 #3E	<b>Reported:</b> 05-Feb-14 14:15
PO Box 18	Project Number:	12035-0046	
Flora Vista NM, 87415	Project Manager:	Tiffany McIntosh	

**Notes and Definitions**

- SPK1 The spike recovery for this QC sample is outside of control limits.
- S-02 The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference

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# CHAIN OF CUSTODY RECORD

10/10

Client: <u>Logos Operating</u>			Project Name / Location: <u>Jicarilla #3E</u>			ANALYSIS / PARAMETERS															
Email results to: <u>T. McIntosh/S. Leon</u>			Sampler Name: <u>T. McIntosh/S. Leon</u>			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE			Sample Cool	Sample Intact		
Client Phone No.: <u>505-320-0430</u>			Client No.: <u>12035-0040</u>																		
Sample No. / Identification	Sample Date	Sample Time	Lab No.	No./Volume of Containers	Preservative			TPH (Method 8015)	BTEX (Method 8021)	VOC (Method 8260)	RCRA 8 Metals	Cation / Anion	RCI	TCLP with H/P	CO Table 910-1	TPH (418.1)	CHLORIDE			Sample Cool	Sample Intact
					HNO <sub>3</sub>	HCl	Other														
<u>Dry Pa Composite</u>	<u>11/29/14</u>	<u>11:23</u>	<u>P401089-01</u>	<u>1-4 OZ Jar</u>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>Backfill Material Composite</u>	<u>11/29/14</u>	<u>11:30</u>	<u>P401089-02</u>	<u>1-4 OZ Jar</u>			<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Relinquished by: (Signature) <u>[Signature]</u>				Date	Time	Received by: (Signature) <u>[Signature]</u>				Date	Time										
Relinquished by: (Signature) <u>[Signature]</u>						Received by: (Signature) <u>[Signature]</u>															
Sample Matrix Soil <input type="checkbox"/> Solid <input checked="" type="checkbox"/> Sludge <input checked="" type="checkbox"/> Aqueous <input type="checkbox"/> Other <input type="checkbox"/>																					
<input type="checkbox"/> Sample(s) dropped off after hours to secure drop off area.																					







**Pit Closure Form:**

Date: 6-19-14

Well Name: JICARILLA O 3E

Footages: 919' FSL & 1738' FEL Unit Letter: O

Section: 10, T-22N, R-3W, County: SANDOVAL State: NM

Contractor Closing Pit: WSS

Construction Inspector: \_\_\_\_\_

Inspector Signature: Wayne [Signature]

Date: 6-19-14

## Tamra Sessions

---

**From:** Tamra Sessions  
**Sent:** Wednesday, March 5, 2014 9:49 AM  
**To:** Kurt Sandoval (kurt.sandoval@bia.gov)  
**Cc:** Mike, Deedra; Marlana Reval (marlena.reval@bia.gov); Wayne Ritter  
**Subject:** FW: Jicarilla Pit Closure Extension\_Jicarilla O 3E\_03-05-14  
**Attachments:** Jicarilla Pit closure ext letter scan.pdf

Sorry, corrected well name in body of letter.

Tamra  
505-330-9333

**From:** Tamra Sessions  
**Sent:** Wednesday, March 5, 2014 9:47 AM  
**To:** Kurt Sandoval (kurt.sandoval@bia.gov)  
**Cc:** Mike, Deedra; Marlana Reval (marlena.reval@bia.gov); Wayne Ritter  
**Subject:** Jicarilla Pit Closure Extension\_Jicarilla O 3E\_03-05-14

Please see attached letter, with location and date information, requesting pit closure extension for the Jicarilla O 3E.

Tamra Sessions  
Logos Resources, LLC  
Operations Technician  
[tsessions@logosresourcesllc.com](mailto:tsessions@logosresourcesllc.com)  
505-330-9333



4001 N. Butler Blvd. Bldg 7101  
Farmington, NM 87401  
Phone: (505) 436-2626  
Fax: (505) 832-3095

March 5, 2014

BIA Jicarilla Agency  
P.O. Box 167  
Dulce, NM 87528

**RE: Pit Closure Extension – Jicarilla O 3E well - Jicarilla Lease 417  
UL O, Section 10, T22N, R03W; API 30-043-21165**

Dear Mr. Kurt Sandoval,

Logos Operating is requesting a pit closure extension of 90 days. Due to unusual seasonal rains/snow and now due to freezing conditions and ice in the pit, we will not meet the original timeline and would like to request an extension.

The completion date was 01/17/14 and the required 90 day closure date is 04/17/14. The 90 day pit closure extension will end on 07/16/14.

Very truly yours,

A handwritten signature in black ink, appearing to read "Tamra Sessions", is written over the typed name.

Tamra Sessions  
Operations Technician  
Logos Resources, LLC



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF INDIAN AFFAIRS  
JICARILLA AGENCY  
P.O. BOX 167  
DULCE, NEW MEXICO 87528



IN REPLY REFER TO:  
Energy & Minerals Management

MAR 5 2014

Ms. Tamra Sessions  
Logos Resources, LLC  
4001 North Butler Boulevard, Building 7101  
Farmington, New Mexico 87401

Dear Ms. Sessions:

This is in response to your request, dated **March 5, 2014**, for permission to perform work on the following location, which is on Tribal Surface:

**Lease No. 417, Jicarilla O #3E:**

Located in Section 10, Township 22 North, Range 3 West, N.M.P.M. Rio Arriba County, New Mexico (API No. 30-043-21165).

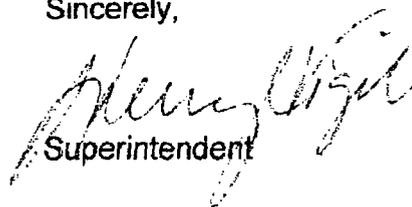
**Scope of Work:**

Notice of 90-day pit closure extension ending July 16, 2014, due to inclement weather conditions.

The Bureau of Indian Affairs, Jicarilla Agency, hereby grant Logos Resources, LLC and its contractor's permission to perform work of the above indicated location. Please submit an affidavit of completion and/or final report when completed.

If you should have any questions or concerns, please contact Mr. Kurt Sandoval, Acting Realty Officer, at (575) 759-3936.

Sincerely,

  
Superintendent

cc: Jicarilla Oil and Gas Administration

## Tamra Sessions

---

**From:** Tamra Sessions  
**Sent:** Friday, May 9, 2014 10:58 AM  
**To:** 'Cascindra Willie'  
**Cc:** Bryce Hammond (brycehammond@jicarillaoga.com); Mike, Deedra  
**Subject:** FW: Jicarilla O 3E\_Pit Closure 72hr Notice  
**Attachments:** Jicarilla Pit Closure 72hr Noitce scan.pdf

Cascindra here is a copy of the letter we are mailing to the BLA.

Tamra  
505-330-9333

**From:** Tamra Sessions  
**Sent:** Friday, May 9, 2014 10:53 AM  
**To:** Jonathan Kelly (jonathan.kelly@state.nm.us)  
**Cc:** brandon.powell@state.nm.us; Wayne Ritter  
**Subject:** Jicarilla O 3E\_Pit Closure 72hr Notice

Logos Operating is giving 72hr notice of plans to start temporary pit closure operations on Wednesday 05/14/14. Bureau of Indian Affairs Jicarilla Agency is being notified via certified mail. Please contact Wayne Ritter at 505-320-0436 for any questions or concerns. Thank you.

*Jicarilla O 3E  
API 30-043-21165  
O – Sec 10 – T22N – R03W  
Jicarilla Apache Lease #417*

Tamra Sessions  
Logos Resources, LLC  
Operations Technician  
[tsessions@logosresourcesllc.com](mailto:tsessions@logosresourcesllc.com)  
(c) 505-330-9333  
(o) 505-436-3790 ext 103



4001 N. Butler Ave  
Farmington, NM 87401  
Phone: (505) 436-2627  
Fax: (505) 832-3095

Date: May 9, 2014

To: Bureau of Indian Affairs Jicarilla Agency

Re: Surface Owner Notification for Temporary Pit Closure

Bureau of Indian Affairs  
Jicarilla Agency  
P.O. Box 167  
Dulce, NM 87528

Re: Jicarilla O 3E  
API #30-043-21165  
UL O, Section 10, T22N, R03W

Dear Mr. Kurt Sandoval,

According to NMOCD rules, Logos Operating, LLC is notifying you that temporary pit closure operations will begin on May 14, 2014 on the Jicarilla O 3E. Drill cuttings will be buried in the reserve pit, as they qualify as per Subsection D of 19.15.17.13 NMAC. No action is required on your part. If you have any questions, please do not hesitate to contact me.

Regards,

A handwritten signature in black ink, appearing to read "Tamra Sessions", is written over a horizontal line.

Tamra Sessions  
Operations Technician  
[tsessions@logosresourcesllc.com](mailto:tsessions@logosresourcesllc.com)  
505-330-9333

**SENDER: COMPLETE THIS SECTION**

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

BTA  
 Jicarilla Agency  
 P.O. Box 167  
 Dulce, NM 87528

2. Article Number  
 (Transfer from service label)

7013 2250 0001 2785 5453

PS Form 3811, February 2004

Domestic Return Receipt

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature

X *[Signature]*

Agent  
 Addressee

B. Received by (Printed Name)

*[Printed Name]*

C. Date of Delivery

5-12-14

D. Is delivery address different from item 1?  Yes  
 If YES, enter delivery address below:  No

3. Service Type

Certified Mail  Express Mail  
 Registered  Return Receipt for Merchandise  
 Insured Mail  C.O.D.

4. Restricted Delivery? (Extra Fee)

Yes

5453 5822 1000 0522 E102

**U.S. Postal Service**  
**CERTIFIED MAIL RECEIPT**  
 (Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at [www.usps.com](http://www.usps.com)  
 DULCE NM 87528

Postage	\$ 0.49
Certified Fee	\$3.30
Return Receipt Fee (Endorsement Required)	\$2.70
Restricted Delivery Fee (Endorsement Required)	\$0.00
<b>Total Postage &amp; Fees</b>	<b>\$ 6.49</b>

0401  
 03  
 Postmark Here  
 6  
 NM  
 05/09/2014

Sent to *BTA - Jicarilla Agency*  
 Street, Apt. No. or PO Box No. *P.O. Box 167*  
 City, State, ZIP+4 *Dulce NM 87528*

102595-02-M-1540



**Reclamation Form:**

Date: 6-23-14

Well Name: JICARILLA O 3E

Footages: 919' FSL & 1738' FEL Unit Letter: O

Section: 10, T-22N, R-3W, County: SANDOVAL State: NM

Reclamation Contractor: WSS

Reclamation Start Date: 5-14-14

Reclamation Complete Date: 6-23-14

Road Completion Date: 6-23-14

Seeding Date: 8-17-14

**PIT MARKER STATUS**

(When Required) Picture of Marker set needed

Date Marker Placed: 9-1-14

Latitude: 36.146806

Longitude: 107.140858

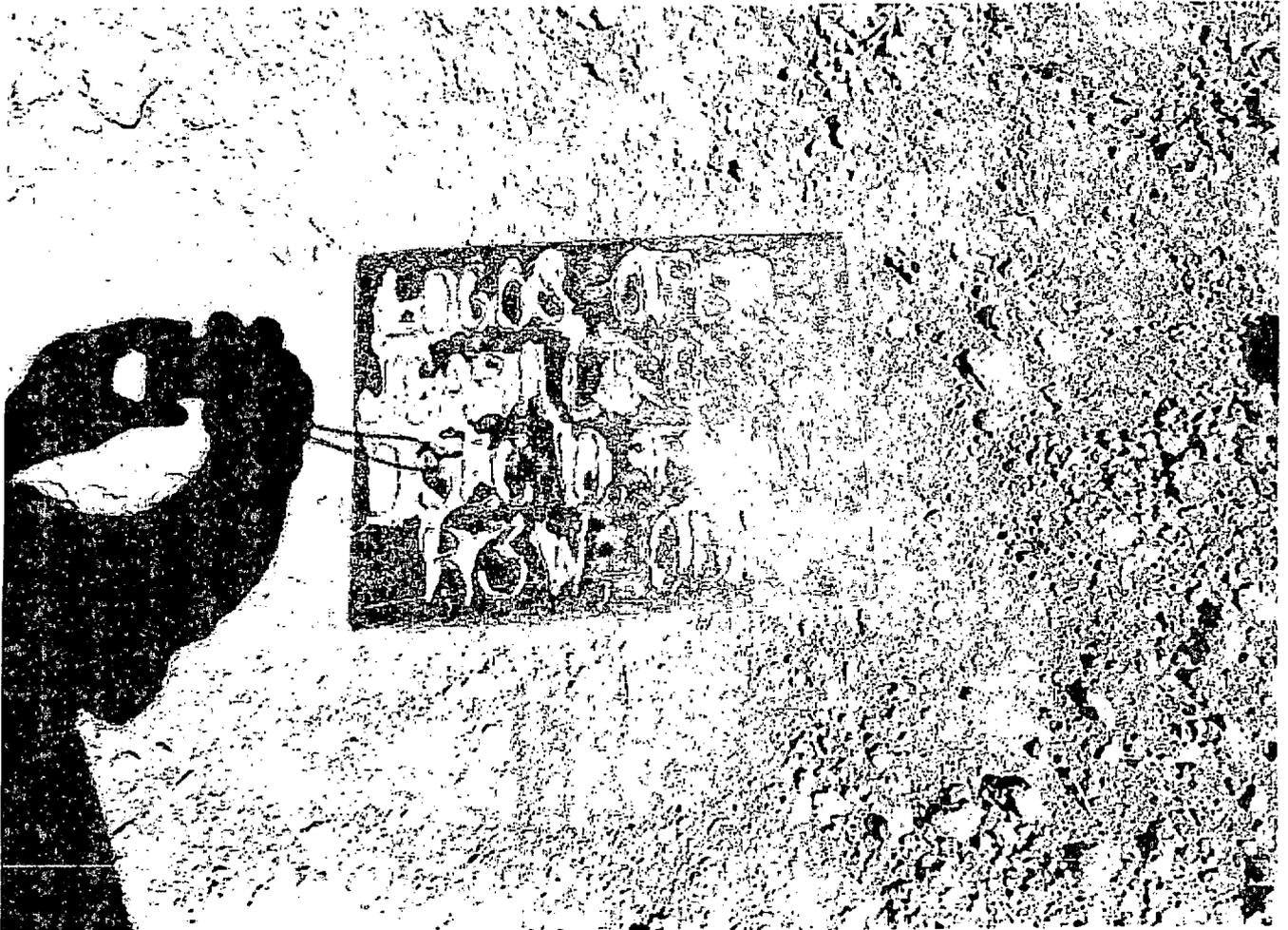
Date Pit Manifold Removed: NA

Construction Inspector Signature: Wayne P...

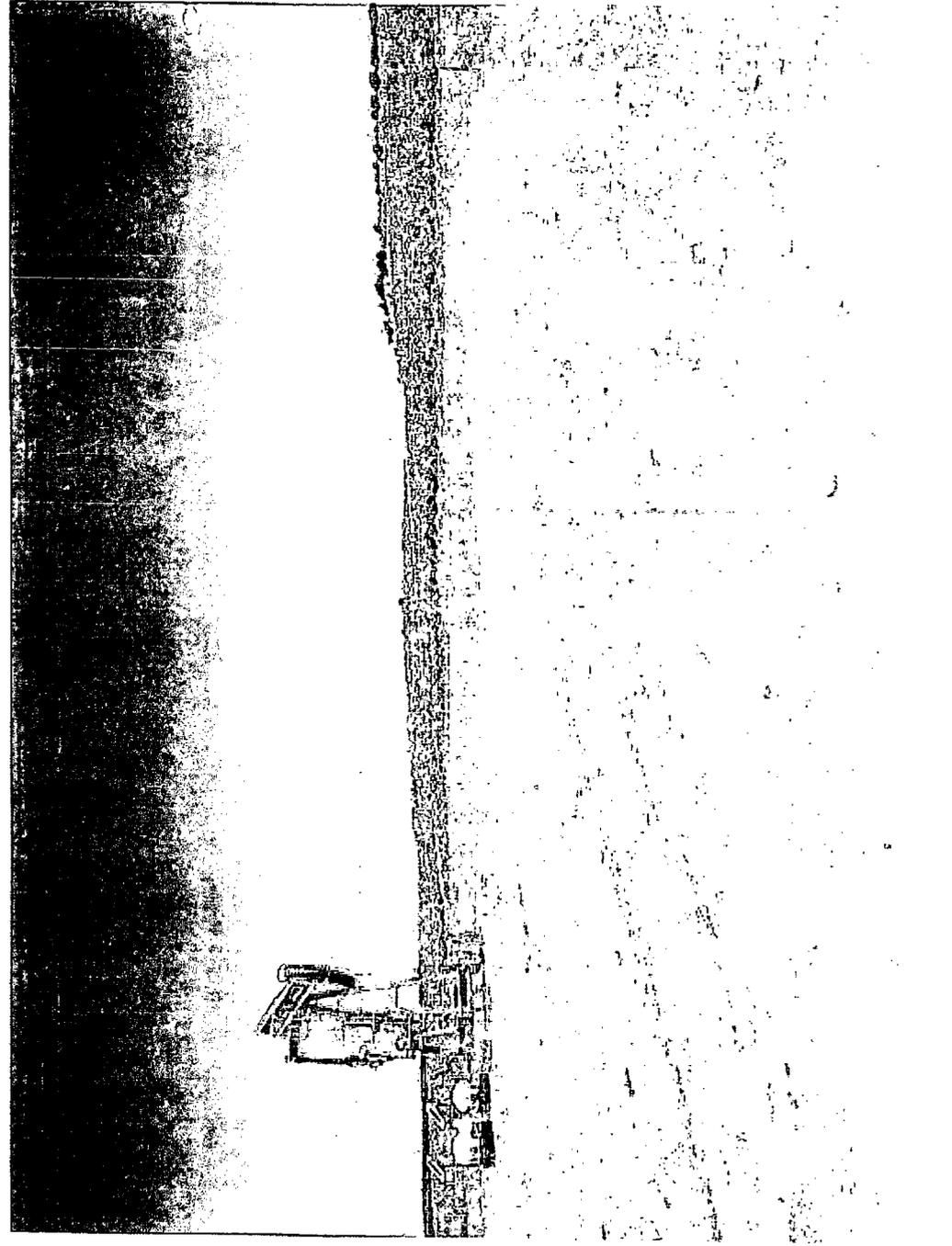
Date Inspected: 6-23-14



LOGOS OPERATING, LLC.  
 JICARILLA O #3E  
 JICARILLA APACHE LEASE #417  
 API #30-043-21165  
 919' FSL 1738' FEL  
 O-SEC. 10-T22N-R3W  
 SANDOVAL COUNTY, NM  
 OFFICE # 505-436-2627  
 AFTER HRS #866-598-6220



LOGOS OPERATING, LLC.  
 JICARILLA O #3E  
 JICARILLA APACHE LEASE #417  
 API #30-043-21165  
 919' FSL 1738' FEL  
 O-SEC. 10-T22N-R3W  
 SANDOVAL COUNTY, NM



### Temporary Pit Weekly Inspection Form

<b>WELL NAME:</b>	RICARILLA O 3E			<b>API NO:</b>	30-043-21165		
<b>LEGAL:</b>	<b>Section:</b>	10	<b>Township:</b>	22N	<b>Range:</b>	3W	
<b>Drilling RD Date:</b>	12/21/2013						

Inspector's Name	RAMSEY HATALIE	RAMSEY HATALIE	RAMSEY HATALIE	RAMSEY HATALIE	RAMSEY HATALIE	RAMSEY HATALIE	RAMSEY HATALIE	RAMSEY HATALIE	RAMSEY HATALIE	RAMSEY HATALIE	RAMSEY HATALIE	RAMSEY HATALIE
WEEK #	1	2	3	4	5	6	7	8	9	10	11	12
DATE	01/01/14	01/10/14	01/14/14	02/29/14	03/03/14	03/24/14	04/05/14	04/12/14	04/22/14	04/28/14	05/13/14	05/19/14
Well sign on location (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Any liner breeches (Y/N)	N	Y	Y	N	N	Y	Y	N	N	N	N	N
Any fluid seeps/spills (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N
HC's on top of temp. pit (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N
Temp pit free of misc. Solid Waste/Debris (Y/N)	LEARANCE/	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Discharge Line Integrity Good (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N
Fence Integrity Good (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Any Dead Wildlife/ Stock (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N
Freeboard to be 2' or > Est. (ft)	Y (8')	Y (8')	Y (8')	Y (12')	Y (10')	Y (8')	Y (8')	Y (8')	Y (10')	Y (12')	Y (8')	Y (8')
Was the OCO contacted (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N
Pictures taken (Y/N)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Comments:	8' CLEARANCE	8' CLEARANCE/LINER ON NORTHEAST OF PIT TORN @ 2 PLACES BUT STILL HAS CLEARANCE ABOUT 5' FROM FLUID LEVEL	8' CLEARANCE/NORTHEAST CORNER PIT HAS HOLE IN IT, IT HAS ABOUT 5' CLEARANCE FROM HOLE TO TOP OF FLUID	12' CLEARANCE	10' CLEARANCE	8' CLEARANCE/NORTHEAST SIDE ABOUT 20 YRDS, 2 HOLES, ITS ABOUT 2' FROM TOP AND STILL HAVE 6' CLEARANCE	8' CLEARANCE/NE OF PIT ABOUT 20 YRDS THERE IS A HOLE, BUT IT STILL HAS 6' CLEARANCE BEFORE IT REACHES LIQUID	8' CLEARANCE/HAD HOLE IN IT, CLEAN IT & PATCH BOTH HOLES	10' CLEARANCE	12' CLEARANCE	8' CLEARANCE	8' CLEARANCE





4001 N. Butler Ave  
Farmington, NM 87401  
Phone: (505) 436-2627  
Fax: (505) 832-3095

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Date: October 30, 2014

OIL CONS. DIV DIST. 3

To: NMOCD

NOV 03 2014

Re: Closure Permit #12235  
Jicarilla O 3E  
API 30-043-21165

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Dear NMOCD,

Logos Operating, LLC (289408) has reviewed their information regarding your email request dated 10/20/14 for general issues encountered on our submitted closure report.

- No copy of NMOCD Closure Notification included with permit.
  - Please find attached explanation on NMOCD Pit Closure notification.
- Please see attached copy of the TPH 418.1, TPH8015, and BTEX 8021 Environmental Sample Result. Witnessed 10/28/14 by NMOCD.

Regards,

A handwritten signature in black ink that reads "Jamie Goodwin". The signature is written in a cursive, flowing style.

Jamie Goodwin  
Regulatory Technician