

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
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: 4001 North Butler Ave. Building 7101, Farmington, NM 87401
Facility or well name: Warner-Caldwell 3B
API Number: 30-045-35506 OCD Permit Number: _____
U/L or Qtr/Qtr B Section 08 Township 23N Range 08W County: San Juan
Center of Proposed Design: Latitude 36.248056°N Longitude 107.7025°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 NM
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ For out dated plans. Please update and resubmit
☐ Lined ☐ Unlined Liner type: Thickness _____ BY: Jonathan Kelly
☐ String-Reinforced DATE: 7/1/2014 (505) 334-6178 Ext. 122
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____ bbl Dimensions: L _____ x W _____ x D _____
Low Chloride Drilling Fluid ☐ yes ☐ no
Other _____

3.
☒ Below-grade tank: Subsection I of 19.15.17.11 NMAC
Volume: 95 bbl Type of fluid: Produced Water
Tank Construction material: Metal
☐ 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 _____
RCVD APR 18 '14
OIL CONS. DIV.
DIST. 3

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.

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 300 feet 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 H₂S, 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

☐ 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): Tamra Sessions

Title: Operations Technician

Signature: Tamra Sessions

Date: 4-17-14

e-mail address: tsessions@logosresourcesllc.com

Telephone: 505-330-9333

18.

OCD Approval: ☐ Permit Application

☐ OCD Conditions (see attachment)

OCD Representative Signature: _____

Approval Date: _____

Title: _____

Permit Number: _____

DENIED

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: _____

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

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): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

**Logos Operating, LLC
San Juan Basin
Variance Explanation**

C-144 Item #5 Fencing

Per 19.15.17.11 D (3) The operator shall fence any other pit or below-grade tank to exclude livestock with a 'four foot fence that has at least four strands of barbed wire' evenly spaced in the interval between one foot and four feet above ground level.

Logos Operating has requested a variance on the fencing material and plans to use 4' hog wire with one strand of barbed wire on top.



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<u>SJ 02686</u>			SJ	3	4	2	32	24N	08W	257502	4017472*	2740	690	690	0
<u>SJ 00001</u>			SJ		4	1	12	23N	09W	253534	4014427*	3648	695	630	65
<u>SJ 03978 POD1</u>			SJ	1	2	1	22	23N	08W	259816	4011541	4161	500	260	240
<u>SJ 01709</u>			SJ		1	1	27	23N	08W	259451	4009831*	5424	317	225	92
<u>SJ 00960</u>			SJ	3	3	3	36	24N	08W	262730	4016518*	5835			
<u>SJ 00960 S</u>			SJ	3	1	3	36	24N	08W	262744	4016920*	5982			
<u>SJ 00960 S-2</u>			SJ	3	2	3	36	24N	08W	263147	4016909*	6356			
<u>SJ 00960 S-3</u>			SJ	2	4	3	36	24N	08W	263336	4016707*	6470			
<u>SJ 00870</u>			SJ		2	3	36	24N	08W	263248	4017010*	6485	250		
<u>SJ 01304</u>			SJ		2	01	23N	08W	263823	4015987*	6768	100			
<u>SJ 01334</u>			SJ		2	01	23N	08W	263823	4015987*	6768	90	40		50
<u>SJ 01710</u>			SJ		1	3	25	23N	09W	252985	4009203*	6949	550	173	377
<u>SJ 01712</u>			SJ		2	4	27	24N	09W	251195	4018933*	7290	528	515	13
<u>SJ 01335</u>			RA		1	31	24N	07W	264672	4017581*	8019	185			
<u>SJ 01131</u>			RA		1	4	19	24N	07W	265313	4020131*	9760	1700	400	1300

Average Depth to Water: **366 feet**

Minimum Depth: **40 feet**

Maximum Depth: **690 feet**

Record Count: 15

UTMNAD83 Radius Search (in meters):

Easting (X): 257168

Northing (Y): 4014752

Radius: 10000

***UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

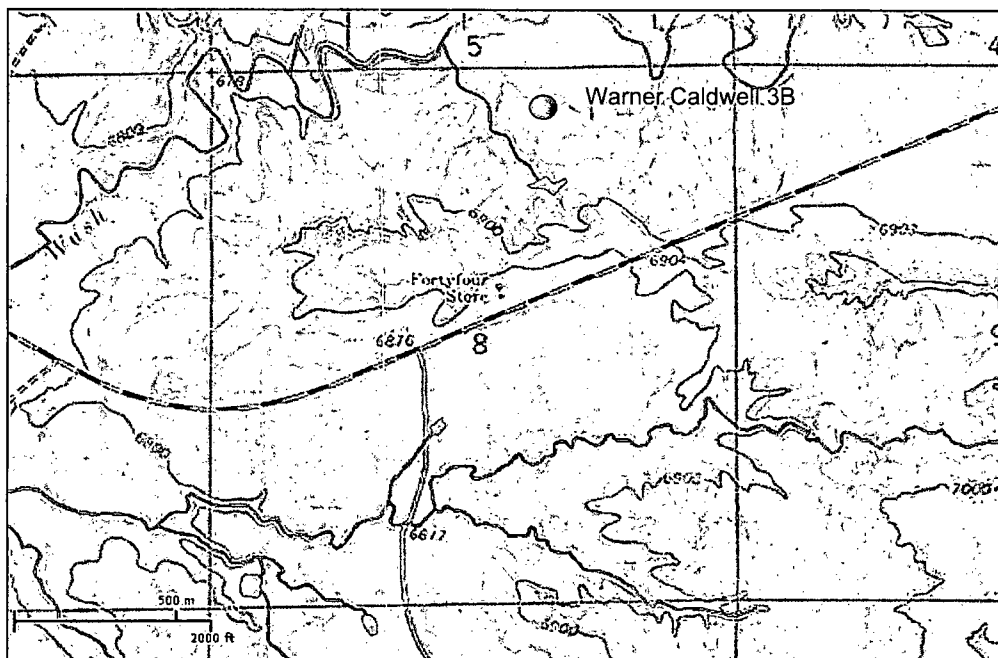


U.S. Fish and Wildlife Service

National Wetlands Inventory

Warner-Caldwell 3B

Sep 11, 2013



Wetlands

- ☐ Freshwater Emergent
- ☐ Freshwater Forested/Shrub
- ☐ Estuarine and Marine Deepwater
- ☐ Estuarine and Marine
- ☐ Freshwater Pond
- ☐ Lake
- ☐ Riverine
- ☐ Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

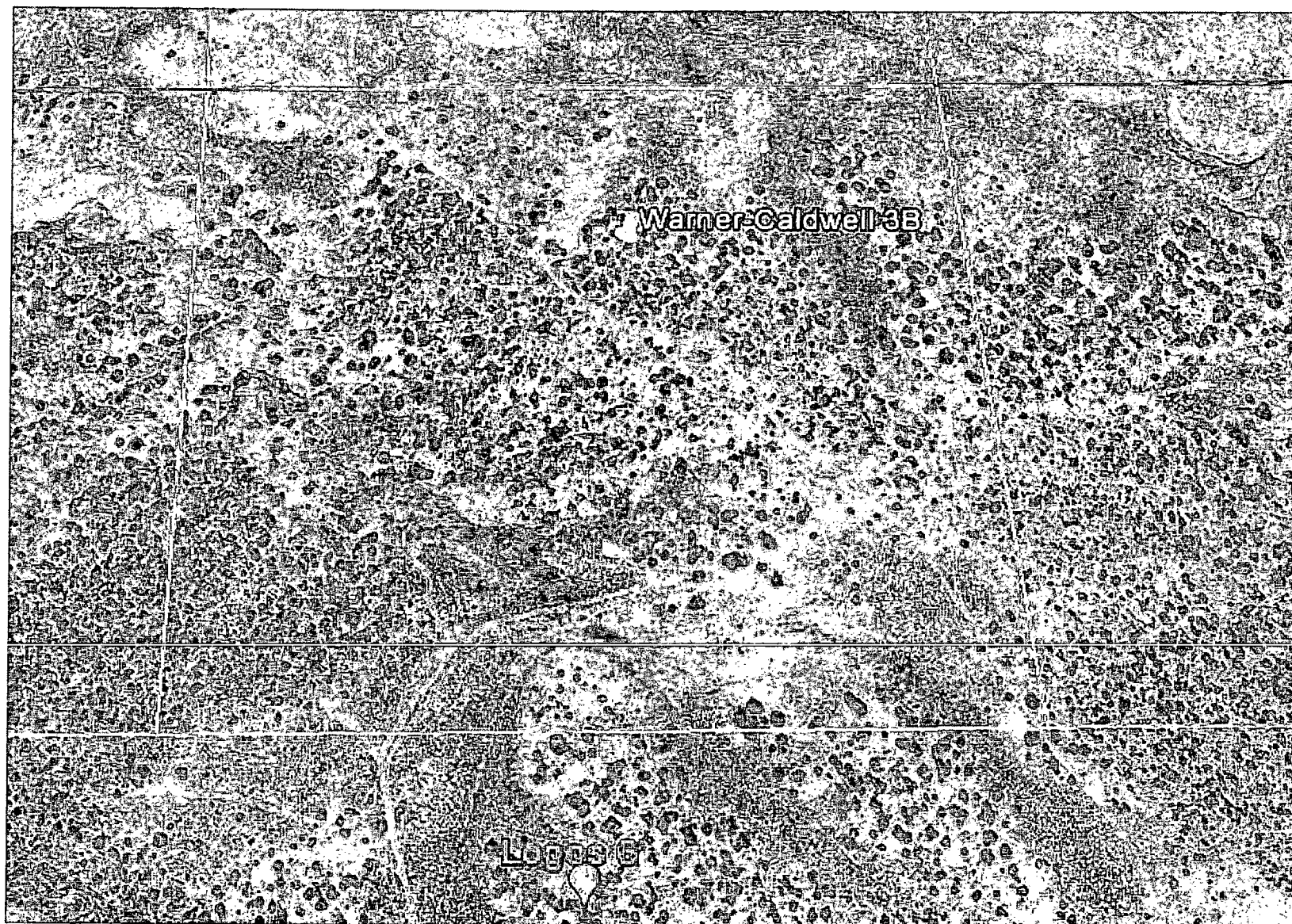
User Remarks:

Unit Letter A, Section 8, Township 23N Range 8W

WARNER CALDWELL 3B – AERIAL MAP

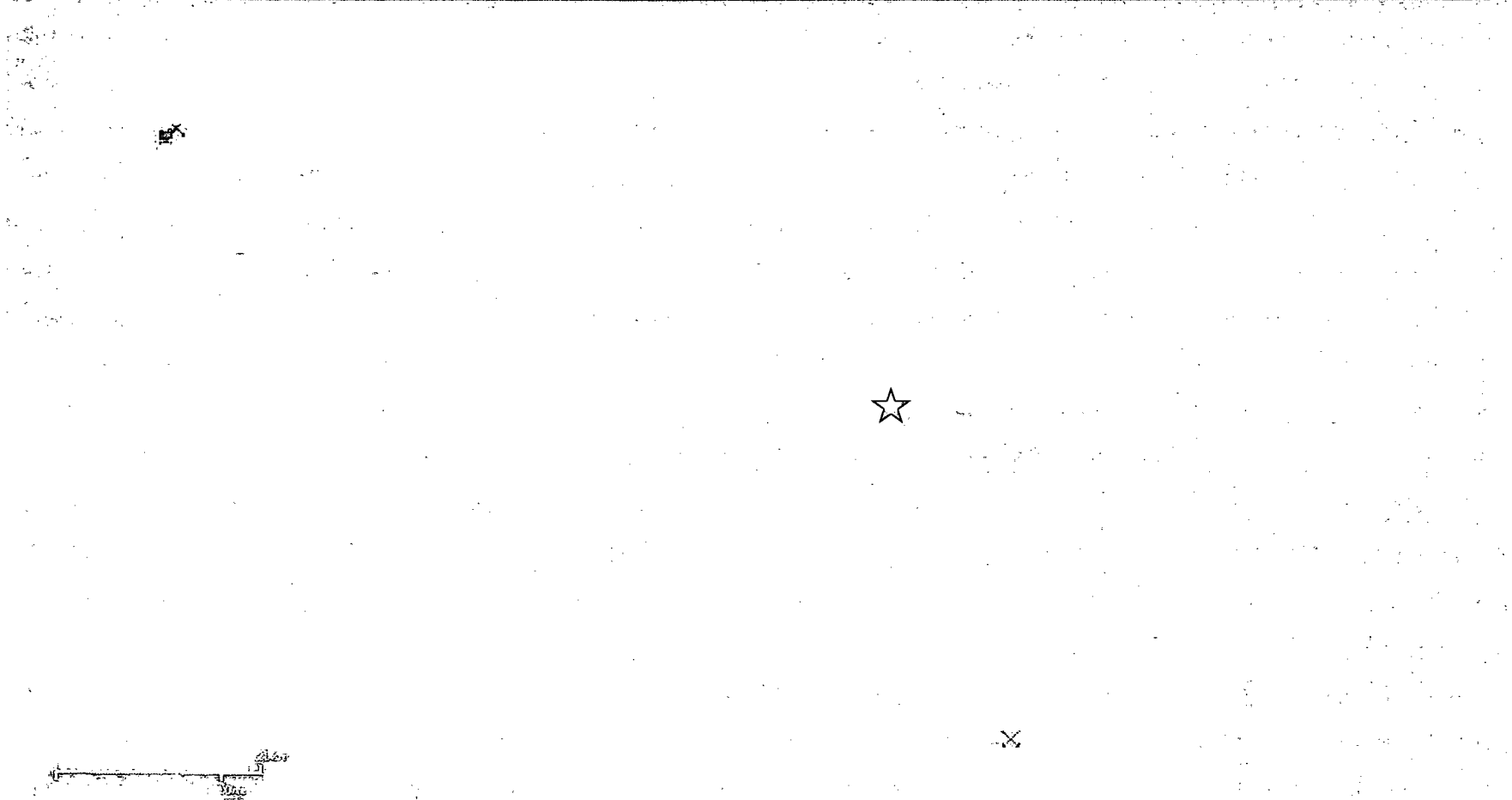
T23N R06W

01/06/2014



MINES, MILLS, AND QUARRIES MAP

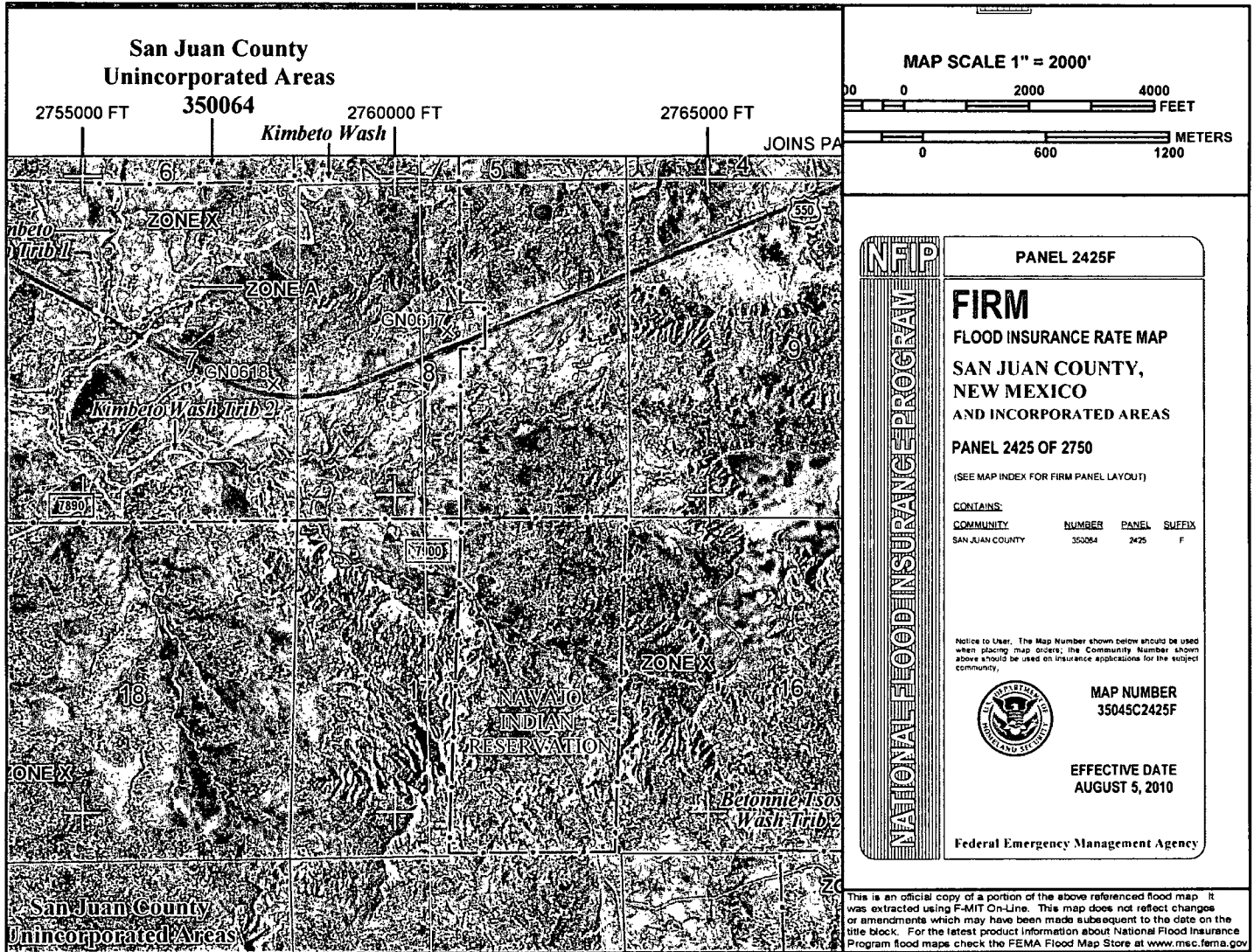
WARNER CALDWELL 3B



Warner Caldwell 3B – Latitude 36.247N / Longitude 107.702W

There are no mines, mills, or quarries within any close distance.

Warner-Caldwell 3B - FEMA MAP



MO-TE DRILLING, INC.

DAY Thur

DRILLER <u>Zach M</u>	LEFT TOWN	ARRIVED FIELD
HELPER <u>Bob H.</u>	LEFT FIELD	ARRIVED TOWN
HELPER <u>Tom H.</u>	TOTAL FOOTAGE TODAY	

RIG NO. 207 DATE 1-17-13 CLIENT Logos Operating

BEGIN WORK ON HOLE NO. Logos #5 AT _____ FEET

BEGIN WORK ON HOLE NO. Test hole G/4 AT _____ FEET

TIME		ACTIVITY
FROM	TO	
8 ⁴⁵	9 ³⁰	Drive to location
9 ³⁰	10 ⁰⁰	Rig Up
10 ⁰⁰	10 ¹⁵	Drill G/4 from 0' to 65'
10 ¹⁵	11 ¹⁵	Trip out, wait 1 hour test for water
11 ¹⁵	11 ³⁰	Drill G/4 from 65' to <u>120</u>
11 ³⁰	1 ⁰⁰	Trip out, ^{ROAD} wait 1 hour test for water
10⁰⁰	11¹⁵	back fill hole.
1 ⁰⁰	2 ¹⁵	Drive back to yard
		NO WATER
		0-10' SAND 50-60' shale
		10-20' SAND 60-70' shale/clay
		20-30' SAND/clay 70-80' shale
		30-40' clay 80-90' clay
		40-50' sandstone/clay 90-100' clay
BIT RECORD		
SIZE & MAKE	SERIAL NO.	FOOTAGE
		100'-110' sandstone/clay
		110'-120' sand/clay mix
		1 Day Rig 3500 ⁰⁰
		1 Day Supervisor 775 ⁰⁰
		Water Level Meter 100 ⁰⁰
		Tax 311 ⁷²
		Total 4686 ⁷²

NO. OF LOADS OF WATER _____ SOURCE _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

APR 04 2013

FORM APPROVED
OMB NO. 1004-0137
Expires: October 31, 2014

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.
NMNM 109398

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.

Report To Lease
Logos #5

8. Lease Name and Well No.
30-045-35423 - 0002

10. Field and Pool or Exploratory
Basin Dakota

11. Sec., T., R., M. or Block and
Survey or Area Sec. 4, T23N, R8W

12. County or Parish
San Juan

13. State
NM

17. Elevation (DF, RKB, RT, GL)*
8887' GL

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other ☐
b. Type of Completion: ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Reavr.

Other:

2. Name of Operator
Logos Operating, LLC

3. Address 4001 North Butler Ave, Building 7101
Farmington, NM 87401

3a. Phone No. (include area code)
505-436-2627

4. Location of Well (Report location clearly and in accordance with Federal requirements)*

671' FSL & 973' FEL

At surface

Same as above.

At top prod. interval reported below

At total depth: Same as above.

14. Date Spudded
01/30/2013

15. Date T.D. Reached
02/19/2013

16. Date Completed 03/13/2013
☐ D & A ☒ Ready to Prod.

18. Total Depth: MD 6443'
TVD

19. Plug Back T.D.: MD 6390'
TVD

20. Depth Bridge Plug Set: MD 6390'
TVD

21. Type Electric & Other Mechanical Logs Run (Submit copy of each)
GR/CCL/CBL/Neutron/Density/Electric

22. Was well cored? ☒ No ☐ Yes (Submit analysis)
Was DST run? ☒ No ☐ Yes (Submit report)
Directional Survey? ☒ No ☐ Yes (Submit copy)

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (H/L)	Top (MD)	Bottom (MD)	Stage Cement Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
12-1/4"	9-5/8" J-55	36	0	343'	N/A	182 cu ft	32 bbls	surface	0
7-7/8"	5-1/2" L-80	17	0	8435'	4267'	890 sks	290 bbls	surface	0

RCU APR 5 '13
OIL CONS. DIV.
DIST. 3

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2-7/8"	6.5# J55 5155'							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) Dakota	6116'	6122'	2 SPF	0.38"	12	open
B)						
C)						
D)						

27. Acid, Fracture, Treatment, Cement Slugs, etc.

Depth Interval	Amount and Type of Material
**5960'-6122'	frac. w/ 2,000 gal of 12% HCl; 10,001# of 100 mesh sand; 41,545# of 40/70 sand; 4,038 BBLs of slickwater.

28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
3/25/13	3/25/13	8.5	→	2.6	TSTM	84			swabbing
Choke Size	Thg. Press. (Wg. SI)	Csg. Press. (Wg. SI)	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
	no tbg	0	→	7	TSTM	237		pumping	

28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						ACCEPTED FOR RECORD
Choke Size	Thg. Press. (Wg. SI)	Csg. Press. (Wg. SI)	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Status	
			→						

*(See instructions and spaces for additional data on page 2)

NMOCDA

CONFIDENTIAL

FARMINGTON FIELD OFFICE
BY William Tambekar

**Logos Operating, LLC
Warner-Caldwell 3B
Temporary Reserve Pit Application
Siting Criteria**

1. According to the iWaters Database from the State Engineers Office, the closest known water well is 2740 meters (1.7 miles) away in Section 32 of T24N R8W. The depth of the well is 690 feet and water depth is 690'. A test water well drilled to 120' on the Logos 5, elevation 6867', found no water. The Warner-Caldwell 3B elevation is also 6867', so ground water depth is 120', therefore ground water depth to bottom of pit is greater than 100'.
2. As shown on the attached topographic map and aerial photos, there are no continuously flowing watercourses within 100' of the well, or any significant watercourses, lakebeds, sinkholes or playa lakes within 200' of the well.
3. There are no permanent residences, schools, hospitals, institutions, or churches within 300' of the well.
4. There are no domestic water wells or springs within 200' of the well. See iWaters Database printout.
5. The well is not located within any municipal boundaries.
6. The well is not within 100' of any wetlands. See attached topographic map and aerial photos.
7. There are no subsurface mines in Section 8, T23N, R8W. See attached map from the NM EMNRD Mining and Mineral Division.
8. The Warner-Caldwell 3B is not located in an "unstable" area. The location is not over a mine and is not on the side of a hill. The location of the excavated pit material will not be located within 100' of a continuously flowing watercourse or 200' from any other watercourse.
9. The attached FEMA map indicates that the proposed location is well outside 100 year floodplain.
10. In the event that the composite pit sample that is mixed 3:1 with native soils does not meet the requirements for onsite burial, the pit contents will be removed and disposed of at the Envirotech Land Farm #2 (NMOCID Permit #11).

Hydro geological report for Warner-Caldwell 3B

Regional Hydro geological context:

The Warner-Caldwell 3B is located on public lands managed by the BLM in San Juan County, New Mexico. The proposed development is situated south of Kimbeto Wash in rolling hillside terrain north of U.S. Highway 550.

A records search of the NM Office of the State Engineer – iWATERS database indicates that the closest known water well is 2740 meters (1.7miles) away in Section 32 of T24N R8W. The depth of the well is 690 feet and water depth is 690'.

According to the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) Web Soil Survey, soils found within the analysis area are comprised of the Fruitland-Persayo-Sheppard complex, hilly, and the Blanco-Notal association, gently sloping.

The Fruitland-Persayo-Sheppard complex is composed of approximately 40 percent Fruitland and similar soils, 30 percent Persayo and similar soils, and 25 percent Sheppard and similar soils. The Fruitland series consists of very deep, well drained and somewhat excessively drained soils that formed in eolian material and moderately coarse textured alluvium and stream alluvium derived from sandstone and shale. Fruitland soils are on stream terraces on valley floors, alluvial fans on valley sides, and summits of mesas, and have slopes of 0 to 30 percent. The Persayo series consists of shallow and very shallow, well drained soils on hills, terraces, and ridges. These soils formed in thin sediments weathered from underlying soft sedimentary bedrock. Slopes are 1 to 50 percent. The Sheppard series consists of very deep, somewhat excessively drained soils that formed in eolian material derived from sandstone. Sheppard soils are on structural benches, alluvial fans, dunes on structural benches, and terraces. Slopes range from 0 to 60 percent.

DISTRICT IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3469

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

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045-35506		*Pool Code 47540	*Pool Name NAGEEZI GALLUP
*Property Code 40413	*Property Name WARNER -CALDWELL		*Well Number 3B
*OGRID No. 289408	*Operator Name LOGOS OPERATING, LLC		*Elevation 6867'

¹⁰ Surface Location

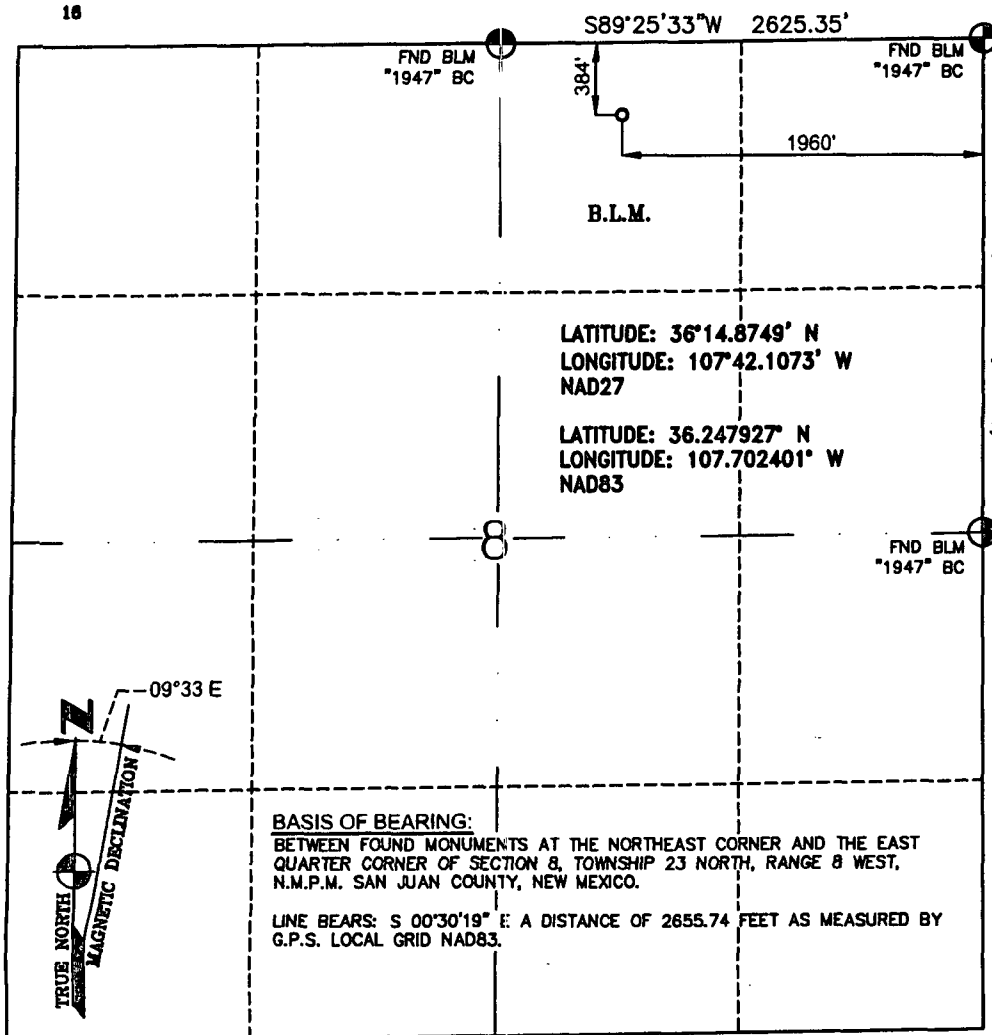
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	8	23-N	8-W		384	NORTH	1960	EAST	SAN JUAN

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
¹³ Dedicated Acres 40.0 NW/NE Sec 8			¹² Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.		

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

16



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 unleased 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 a working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the Division.

Tamra Sessions 1/13/14

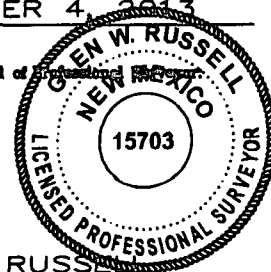
Signature	Date
<i>Tamra Sessions</i>	
Printed Name	
+sessions@logosresourcesllc.com	
E-mail Address	

18 SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plot 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.

SEPTEMBER 4, 2013
Date of Survey

Signature and Seal of Arresting Officer:



GLEN W. RUSSELL
Certificate Number **15703**



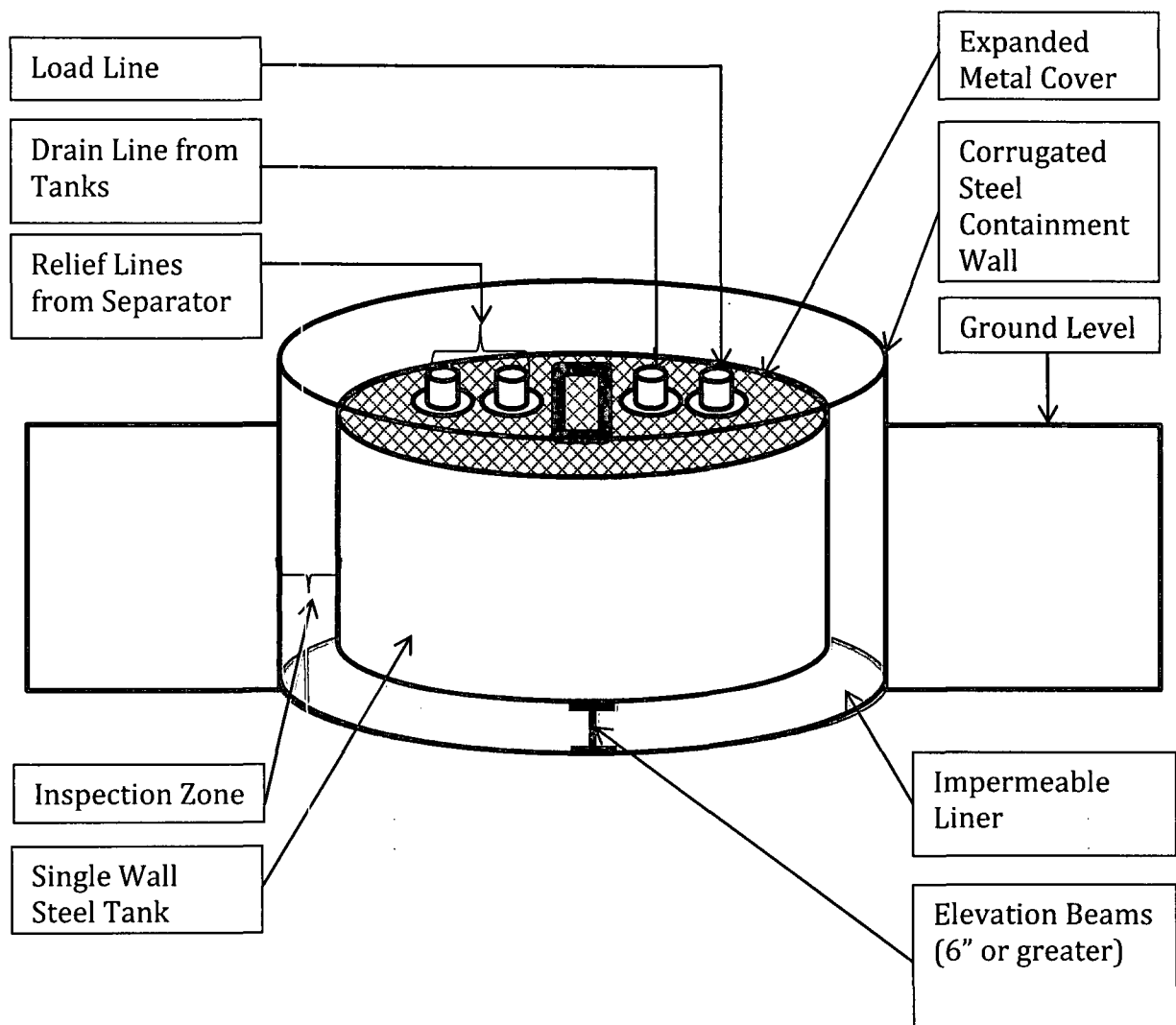
Logos Operating Below Grade Tank Design and Construction Plan

In accordance with NMAC 19.15.17, the following information describes the design and construction plan for below grade tanks (BGT) for Logos Operating, LLC (Logos). This is a standard design and construction plan for Logos.

General Plan in Accordance with 19.15.17.11

1. Logos will design and construct a BGT to contain liquids and solids that is designed to prevent contamination of fresh water and protect public health and the environment.
2. The location of the BGT will be at a battery or well location which contains proper upright signs (in compliance with 19.15.16.8 NMCA).
3. The BGT will be contained within the operating berm and will be protected with fencing to deter unauthorized access. The BGT will have an expanded metal cover.
4. The BGT will be constructed out of steel which is resistant to the particular contents and resistant to damage from sunlight. The pit will be painted to minimize rust and corrosion.
5. The foundation will be level, free of rocks, debris, sharp edges or irregularities to prevent punctures, cracks, indentations of the liner or tank bottom.
6. The BGT will be designed and constructed to prevent surface water run-on from entering the tank. The corrugated steel wall surrounding the pit will be above grade and will prevent water from running into the BGT.
7. The BGT will have a single wall that is capable of being inspected. The BGT will have a corrugated steel wall barrier that prevents the ground from collapsing around the BGT and allows for the BGT to be thoroughly inspected by providing a direct sight line to the BGT bottom and to the BGT impermeable liner.
8. The BGT will be set on beams, six inches or greater, on the liner in way that will protect the bottom of the BGT from sharp objects.
9. The BGT will only be used under manual conditions to drain tank bottoms or to relieve pressure off of separators. Fluid will not be continuously pumped into this tank, therefore, this design is based on 19.15.17.11.1.4.c. The BGT's are located at batteries that have primary water tanks so that the BGT is not used as a primary water pit, it is only used as a drain pit.
10. An impermeable liner will be installed below the BGT so that any leak in the BGT will flow to a visible point on top of the impermeable liner.

**Logos Operating
Below Grade Tank Design**





Logos Operating Below Grade Tank Operation and Maintenance Plan

In accordance with NMAC 19.15.17, the following information describes the operation and maintenance plan for below grade tanks (BGT) for Logos Operating, LLC (Logos). This is a standard procedure for Logos.

General Plan in Accordance with 19.15.17.12

1. Logos will operate and maintain the BGT to contain liquids and solids while maintaining the integrity of the liner, BGT, and corrugated steel wall. The operation and maintenance are plan are designed to prevent contamination of fresh water and protect public health and safety.
2. Logos will not store or discharge hazardous waste into the BGT.
3. If the BGT develops a leak, Logos will remove all of the fluids from the BGT within 48 hours and notify the appropriate division office pursuant to 19.15.29 NMAC. Logos will immediately take the BGT out of service until it is properly repaired or replaced.
4. The BGT will be operated and designed to prevent the collection of surface water run-on.
5. The BGT will be bounded by a corrugated steel wall which will contain an unanticipated release. The BGT and corrugated steel wall are also located inside of the berm which will act as a secondary containment barrier in the event of an unanticipated release.
6. Logos will not allow the BGT to overflow or collect surface water run on.
7. Logos will remove any measurable layer of oil from the BGT.
8. The BGT will be inspected at least monthly and the integrity will be documented annually with records maintained for at least 5 years.
9. The BGT will be operated with adequate freeboard to prevent overtopping of the BGT.



Logos Operating Below Grade Tank Closure Plan

In accordance with NMAC 19.15.17.13, the following information describes the closure plan for below grade tanks (BGT) for Logos Operating, LLC (Logos).

General Plan in Accordance with 19.15.17.13

1. Logos will obtain approval of a closure plan prior to commencing closure operations.
2. Logos will close the BGT by first removing all contents and liners and disposing the contents at an approved facility as necessary.
3. The soils beneath the BGT will be tested as follows:
 - a. A five point composite sample including any obvious staining shall be taken under BGT and will be analyzed for constituents listed in Table I of 19.15.17.13 NMAC.
 - b. Based on the results of the soil test, Logos will obtain approval prior to completing any necessary additional delineation for closure. If the soil tests are at or below the standards of closure, Logos will proceed with closure.

Components	Tests Method	Limit (mg/Kg)
Benzene	EPA SW-846 8021B or 8015M	10
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	2500
GRO/DRO	EPA SW-846 8015M	1000
Chlorides	EPA 300.0	10,000

4. Logos will notify the surface owner by certified mail, return receipt requested, of plans to close the BGT with at least 72 hour notice, but no more than 1 week, prior to any closure operation. The notice will include the well name, API number, and location.
5. Logos will notify the appropriate district office verbally and in writing with at least 72 hours of notice but no more than 1 week. The notice will include well name and API number as well as the location containing unit letter, section, township, and range.
6. Logos will submit a closure report on form C-144 within 60 days of closure completion. The closure report will contain back filling details, capping and covering where applicable, all necessary attachments, certification that all information contained in the report is correct and that the operator has complied with all applicable closure requirements to the best of its knowledge.

7. Logos will remove liquids and sludge from the BGT within 60 days of cessation of operations and dispose of those at a division approved facility.
8. Within 6 months of cessation of operations, Logos will remove the BGT and all associated equipment associated with only the BGT. Equipment that is required for other purposes will remain in place.
9. Upon closing of the BGT, Logos will reclaim the unused BGT location to a safe and stable condition that blends with the surrounding undisturbed area as provided in Paragraph 2 of subsection H of 19.15.17.13 as well as recontouring the area in accordance with paragraph 5 in subsection H of 19.15.17.13 NMAC. The soil cover will be constructed to prevent ponding of water and erosion of the cover material.
10. Areas needed for production operations will be compacted, stabilized, and maintained to minimize dust and erosion as much as practicable.
11. The reclamation of the BGT area will contain a uniform vegetative cover that reflects a life-form ratio of plus or minus fifty (50%) of pre-disturbance levels and a total percent plant cover of at least seventy (70%) of pre-disturbance levels, excluding noxious weeds. The re-vegetation and reclamation obligations imposed by other applicable federal or tribal agencies that manage the lands will supersede these provisions and govern the obligations.
12. Logos will notify the division when reclamation and re-vegetation is complete.