District 1 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

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 Applied	-+:
	ation
Type of action: Below grade tank registration	
Permit of a pit or proposed alternative method	
$\Box$ Closure of a pit, below-grade tank, or proposed alternative method $\Box$ Modification to an existing permit/or registration	
Closure plan only submitted for an existing permitted or non-permitted to	nit, below-grade tank.
or proposed alternative method	pri, cerci, grude taint,
Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alt	ernative reauest
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surfa	ce water, ground water or the
environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental author	ity's rules, regulations or ordinances.
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: <u>30-045-35506</u> OCD Permit Number:	
U/L or Qtr/Qtr <u>B</u> Section <u>08</u> Township <u>23N</u> Range <u>08W</u> County: <u>San</u>	Juan
Center of Proposed Design: Latitude <u>36.247876°N</u> Longitude <u>107.702198°W</u>	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 Drilli	ng Fluid 🛛 yes 🔲 no
Lined 🔲 Unlined Liner type: Thickness 20 mil 🛛 LLDPE 🗌 HDPE 🔲 PVC 🗌 Other	
String-Reinforced	
Liner Seams: 🛛 Welded 🖾 Factory 🗌 Other Volume: <u>8,000</u> bbl Dimensions: L_	<u>135'</u> x W <u>60'</u> x D <u>15'</u>
3.	
Below-grade tank: Subsection 1 of 19.13.17.11 NMAC	NUVUTED 14 14 NII ANNE NII
	nict s
Tank Construction material:	520110
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: Thicknessmil 🔲 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 res	idence, school, hospital,
institution or church)	
Four foot neight, four strands of barbed wire evenly spaced between one and four feet	
XI Alternate Please specify: 4' hog wire with one strand of barbed wire on top	

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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)

#### 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

#### 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.

». <u>Siting Criteria (regarding permitting)</u> : 19.15.17.10 NMAC <i>Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below.</i> 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. -	☐ 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							
<ul> <li>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)</li> <li>Written confirmation or verification from the municipality; Written approval obtained from the municipality</li> </ul>	🗋 Yes 🛛 No						
<ul> <li>Within the area overlying a subsurface mine. (Does not apply to below grade tanks)</li> <li>Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division</li> </ul>	🗌 Yes 🖾 No						
<ul> <li>Within an unstable area. (Does not apply to below grade tanks)</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society: Topographic map</li> </ul>							
Within a 100-year floodplain. (Does not apply to below grade tanks) - FEMA map							
Below Grade Tanks							
<ul> <li>Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗌 No						
<ul> <li>Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;</li> <li>NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	🗋 Yes 🗋 No						
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)							
<ul> <li>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.)</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗋 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						

<ul> <li>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🖾 No					
Temporary Pit Non-low chloride drilling fluid						
<ul> <li>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).</li> <li>Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	Yes 🗍 No					
<ul> <li>Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	Yes 🗋 No					
<ul> <li>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;</li> <li>NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>	🗌 Yes 🗍 No					
<ul> <li>Within 300 feet of a wetland.</li> <li>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	🗌 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					
<ul> <li>Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.</li> <li>Visual inspection (certification) of the proposed site; Aerial photo; Satellite image</li> </ul>	🗌 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.						
<ul> <li>NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site</li> </ul>						
<ul> <li>Within 500 feet of a wetland.</li> <li>US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site</li> </ul>	Yes 🗌 No					
<ul> <li>10.</li> <li>Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 N Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the doc attached.</li> <li>Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC</li> <li>Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC</li> <li>Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC</li> <li>Design Plan - based upon the appropriate requirements of 19.15.17.10 NMAC</li> <li>Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC</li> <li>Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.1 and 19.15.17.13 NMAC</li> <li>Previously Approved Design (attach copy of design) API Number: or Permit Number: or Permit Number:</li> </ul>	MAC <i>suments are</i> NMAC 5.17.9 NMAC					
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 doc attached.	<i>uments are</i> 15.17.9 NMAC					

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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				
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     Leak Detection and Structural Integrity Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC     Luner 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     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 19.15.17.9 NMAC and 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 Fl	uid Management Pit				
<ul> <li>☐ Alternative</li> <li>Proposed Closure Method: ☐ Waste Excavation and Removal</li> <li>☐ Waste Removal (Closed-loop systems only)</li> <li>☑ On-site Closure Method (Only for temporary pits and closed-loop systems)</li> <li>☑ In-place Burial ☐ On-site Trench Burial</li> <li>☐ Alternative Closure Method</li> </ul>					
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be a 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	attached to the				
Siting Criteria (regarding on-site closure methods only): 19:13:17:10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable sour provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. P 19:15:17:10 NMAC for guidance.	ce material are lease refer to				
<ul> <li>Ground water is less than 25 feet below the bottom of the buried waste.</li> <li>NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells</li> </ul>	□ Yes ⊠ No □ NA				
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ⊠ No ☐ NA				
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells					
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					
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					
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence Yes X No at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site					
Written confirmation or verification from the municipality; Written approval obtained from the municipality	🗋 Yes 🗌 No				
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	🗌 Yes 🛛 No				
Vithin 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	Υ
- 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	
<ul> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	
Within a 100-year floodplain. FEMA map	$\Box \operatorname{Yes} \boxtimes \operatorname{No}$
16.       On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plane 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.         Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.13 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 canned 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	an. Please indicate, 11 NMAC 15.17.11 NMAC ot be achieved)
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 believed and be	ef.
Name (Print): <u>Tamra Sessions</u> Title: <u>Operations Technician</u>	
in Instenion 2-13-14	
Signature: Date: Date:	
e-mail address: tsessions@logosresourcesllc.com Telephone: 505-330-9333	
e-mail address: tsessions@logosresourcesllc.com Telephone: 505-330-9333 18 Telephone: 505-330-9333 OCD Approval: X Permit Application (including closure plan) Closure Plan (only) CCD Conditions (see attachment)	
e-mail address: tsessions@logosresourcesllc.com Telephone: 505-330-9333 e-mail address: tsessions@logosresourcesllc.com Telephone: 505-330-9333 0CD Approval: X Permit Application (including closure plan) Closure Plan (only) CCD Conditions (see attachment) 0CD Representative Signature: Approval Date: 2/25/	12014
Signature:       Date:	2014
Signature:	2014
Signature:	2014
Signature:	the closure report. complete this
Signature:	the closure report. complete this
Signature:	the closure report. complete this
Signature: Date:   Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: Date: <pdate:< p=""> Date: Date: Date: &lt;</pdate:<>	the closure report. complete this
Signature: Date:   e-mail address: tsessions@logosresourcesllc.com   Telephone: 505-330-9333   18. OCD Approval:   OCD Approval: Permit Application (including closure plan)   Ital: OCD Conditions (see attachment)   OCD Representative Signature: ONATO, Permit Application (including closure plan)   Ital: OCD Permit Number:   Ital: OCD Permit Number:   19. Closure Report (required within 60 days of closure completion):   19. Closure Report (required within 60 days of closure completion):   19. Closure Report is required to obtain an approved closure plan prior to implementing any closure activities and submitting   The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not section of the form until an approved closure plan has been obtained and the closure activities have been completed.   20. Closure Method:   19. Closure Method:   19. Closure Method:   19. Alternative Closure Method   11. Closure Report Attachment Checklist:   21. Closure Report Attachment Checklist:	the closure report. complete this
Signature:       Date:	the closure report. complete this
Signature:       Date:	the closure report. complete this
Signature:	the closure report. complete this

22. Operator Closure Certification:	
I hereby certify that the information and attachments submitted with this closure report belief. I also certify that the closure complies with all applicable closure requirements	t is true, accurate and complete to the best of my knowledge and 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

RCVD FEB 14'14 OIL CONS. DIV. DIST. 3

#### 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.

#### C-144 Temporary Pit Closure Plan Attachment Item #13 a.

Per 19.15.17.13 F (3) The operator shall place a steel marker at the center of an onsite burial. The steel marker shall be not less than four inches in diameter and shall be cemented in a three-foot deep hole at a minimum. The steel marker shall extend at least four feet above mean ground level and at least three feet below ground level. The operator name, lease name and well number and location, including unit letter, section, township and range, and that the marker designates an onsite burial location shall be welded, stamped or otherwise permanently engraved into the metal of the steel marker. A person shall not build permanent structures over an onsite burial without the appropriate division district office's written approval. A person shall not remove an onsite burial marker without the division's written permission.

Logos Operating has requested a variance for the visible marker that should 'extend at least four feet above mean ground level'. Logos operating plans to use a steel plate at least 12" x 12", flush with ground level and contain the same information as the four foot riser would have as per the rule. Upon the abandonment of all the wells on the pad, the plate will be removed and replaced with a four foot tall riser containing the same information as per the rule.



# 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 replace O=orphaned C=the file is closed)	s ed, J, (	(qua	rte	rs a rs a	nre 1 nre s	=NW malle:	2=NE : st to lai	3=SW 4=SI rgest) (N	E) IAD83 UTM in m	eters)	(1	n feet)	
POD Number	POD Sub- Code basin	County	Q y 64	Q 16	Q 4	Sec	Tws	Rng	×		Distance	Depth Well	Depth Water	Water Column
SJ 02686		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
SJ 03978 POD1		SJ	1	2	1	22	23N	08W	259816	4011541 🌍	4161	500	260	240
SJ 01709		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			
SJ 00960 S-2		SJ	3	2	3	36	24N	08W	263147	4016909* 🥁	6356			
SJ 00960 S-3		SJ	2	4	3	36	24N	08W	263336	4016707* 🌍	6470			
SJ 00870		SJ		2	3	36	24N	08W	263248	4017010* 💮	6485	250		
SJ 01304		SJ			2	01	23N	08W	263823	4015987* 🔂	6768	100		
SJ 01334		SJ			2	01	23N	08W	263823	4015987* 🌍	6768	90	40	50
SJ 01710		SJ		1	3	25	23N	09W	252985	4009203* 🌍	6949	550	173	377
SJ 01712		SJ		2	4	27	24N	09W	251195	4018933* 🏹	7290	528	515	13
SJ 01335		RA			1	31	24N	07W	264672	4017581* 🌍	8019	185		
SJ 01131		RA		1	4	19	24N	07W	265313	4020131*	9760	1700	400	1300
										Avera	ge Depth to	Water:	366 1	feet
											Minimum	Depth:	40 1	ieet
							<u> </u>				Maximum	Depth:	690 1	eet
Record Count: 15	_		-		-	-								
UTMNAD83 Radius Se	earch (in met	ers):												
Easting (X): 25716	8		No	rthi	ing	(Y):	401	4752		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.



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.



# MO-TE DRILLING, INC.

	DAY Thur
DHILLEH Zuch M	LEFT TOWN ARRIVED FIELD
HELPER Bob H.	LEFT FIELD ARRIVED TOWN
HELPER Jun H.	TOTAL FOOTAGE TODAY
RIG NO. 207 0	DATE 1-17-13 CLIENT & Logos Operating
BEGIN WORK ON HOLE NO. L	PAOS H 5 AT FEET
BEGIN WORK ON HOLE NO	Tost hole G'4 AT FEET
TIME FROM TO	
8 45 9.20	inter to location
930 1000 p	
1000 1015 17	1 6/4 From O to 65
1015 1115 To	a out whit I have test for water
1115 1130 Dr	11 6/4 from 65 to 120
11 00 Tri	a out wait I have tot for water
1991 ba	ck fill hole.
100 215 D	we tack to yord
	VO WATER
	2 54WD 50-60 Shale
10:20	2 TSTSAND GO'-70 stole/Clay
20'- 50	SAND/Clay. 70:50 Shell
	Lay 80'-90' Clay
40:50	Sandaton/Clay 90-100 Slay
BIT RECORD	EQULAGE KO'-110' Standalage / Clay
	110-120' Sood Clay Mix
n Bir Communiter and an and an and a second	
	1 Day Rig 3500 "
CIACULATION MA	MATERIAL   Day Supervisor 77500
	Water Lent Meter 100 "
	<u> </u>
O. OF LOADS OF WATER	source Total 468672

Form 316 (March 20	()-4 ()12)	ŝ	L BI	L EPARTIN JREAU (	JNITED ST MENT OF T OF LAND I	FATE FHE I MAN	S INTERIOR AGEMENT			W				FORA OMB 1 Expires: (	4 APPROVED 10. 1014-0137 October 31, 2014
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NHOCDA

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

- According to the iWaters Database from the State Engineers Office, 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'. 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 (NMOCD 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 Blancot-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.

### **Tamra Sessions**

From: Sent: To: Cc: Subject: Tamra Sessions Thursday, February 13, 2014 2:25 PM Mark Kelly (mkelly@blm.gov) Kristina Graham; Wayne Ritter Warner-Caldwell 3B\_Surface Owner Notification for Temporary Pit 02-13-14

Warner-Caldwell 3B B, Section 8, T23N, R08W San Juan County

According to NMOCD rules, Logos Operating, LLC is notifying you that there will be 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. Please let me know if I need to add anyone else to this notification.

1

Thank you,

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

DISTRICT I State of New Mexico 1625 N. French Dr., Hobbs, N.M. 88840 Phone: (675) 393-6161 Fex: (575) 393-0720 Form C-102 Energy, Minerals & Natural Resources Department Revised August 1, 2011 Submit one copy to appropriate DISTRICT II 811 S. First St., Artesia, N.M. 88210 Phone: (575) 748-1283 Par: (575) 748-9720 OIL CONSERVATION DIVISION **District** Office 1220 South St. Francis Dr. DISTRICT III Santa Fe, NM 87505 1000 Rio Bresos Rd., Astec, N.M. 87410 Phone: (505) 334-6178 Fax: (506) 334-6170 DISTRICT IV □ AMENDED REPORT 1220 S. St. Francis Dr., Santa Fe, NM 67505 Phone: (505) 476-3460 Fax: (505) 476-3462 WELL LOCATION AND ACREAGE DEDICATION PLAT <sup>1</sup>API Number Pool Code \*Pool Name NAGEEZI GALLUP • Well Number <sup>4</sup>Property Code Property Name WARNER -CALDWELL 3B OGRID No. <sup>8</sup>Operator Name Elevation LOGOS OPERATING, LLC 289408 6867' <sup>10</sup> Surface Location UL or lot no. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line Connty 23-N 8-W 384 NORTH B 8 1960 EAST SAN JUAN <sup>11</sup> Bottom Hole Location If Different From Surface UL or lot no. Section Township Lot Idn Feet from the North/South line | Feet from the Range East/West line County <sup>a</sup> Dedicated Acres <sup>18</sup> Joint or Infill <sup>14</sup> 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 S89'25'33"W 2625.35 17 OPERATOR CERTIFICATION FND BLM FND BLM Ψ 384 "1947" BC I hereby certify that the information contained here "1947" BC **4** is true and complete to the best of my knowledge and 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 hereinfore entered by the 2655. 1960' Э"С B.L.M. S00°30'1 LATITUDE: 36"14.8749' N LONGITUDE: 107°42.1073' W <u>е</u> Signature Date NAD27 Ö m Printed Name LATITUDE: 36.247927" N LONGITUDE: 107.702401\* W E-mail Address NAD83 FND BLM SURVEYOR CERTIFICATION "1947" BC I hereby certify that the well location shown on this pla was plotted from field noise of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. -09°33 E Antimation . SEPTEMBER 4 W. RUSS Date of Survey Signature and Seal of BASIS OF BEARING: 15703 BETWEEN FOUND MONUMENTS AT THE NORTHEAST CORNER AND THE EAST QUARTER CORNER OF SECTION 8, TOWNSHIP 23 NORTH, RANGE 8 WEST, N.M.P.M. SAN JUAN COUNTY, NEW MEXICO. ű. G NORTH ROFESSIONA LINE BEARS: S 00'30'19" E A DISTANCE OF 2655.74 FEET AS MEASURED BY G.P.S. LOCAL GRID NAD83. GLEN W. RUS **Certificate** Number 15703



# LOGOS OPERATING, LLC

WARNER-CALDWELL #3B, 384' FNL & 1960' FEL SECTION 8, T-23-N, R-8-W, NMPM, SAN JUAN COUNTY, NM GROUND ELEVATION: 6867', DATE: AUGUST 12, 2013/RVSD: NOVEMBER 4, 2013







HORIZ. SCALE: 1" = 50' VERT. SCALE: 1" = 30'

#### NOTE:

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.

# Logos Operating, LLC San Juan Basin Temporary Pit Design and Construction Plan

In accordance with Rule 19 15 17 the following information describes the design and construction for temporary pits on Logos Operating Company's locations; this is Logos Operating's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit that does not conform to this plan.

#### General Plan

- 1 Logos Operating will design and construct a temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public health and environment
- 2 Prior to constructing the pit, topsoil will be stockpiled in the construction zone for later use in restoration
- 3 Logos Operating will post a well sign, not less than 12' by 14', on the well site prior to construction of the temporary pit. The sign will list the operator on record as the operator, the location of the well by unit letter, section, township rang, and emergency telephone numbers
- 4 Logos Operating shall construct all new fences unitizing 48' steel mesh field-fence (hogwire) on the bottom with a single strand of barbed wire on top. T-posts shall be installed every 12 feet and corners shall be anchored utilizing a secondary T-post. Temporary pits will be fenced at all times excluding drilling or overwork operations, when the front side of the fence will be temporarily removed for operational purposes
- 5 Logos Operating shall construct the temporary pit so that the foundation and interior slopes are firm and free of rocks, debris, sharp edges or irregularities to prevent liner failure
- 6 Logos Operating shall construct the pit so that the slopes are no steeper than two horizontal feet to 1 vertical foot
- 7 Pit walls will be walked down by a crawler type tractor following construction
- 8 All temporary pits will be lined with a 20-mil, string reinforced, LLDPE liner, complying with EPA SW-846 method 9090A requirements
- 9 Geotextile will be installed beneath the liner when rocks, debris, sharp edges or irregularities cannot be avoided
- 10 All liners will be anchored in the bottom of a compacted earth-filled trench at least 18 inches deep
- 11 Logos Operating will minimize liner seams and orient them up and down, not across a slope. Factory seams will be used whenever possible. Logos Operating will ensure all field seams are welded by qualified personnel. Field seams will be overlapped four to six inches and will be oriented parallel to the line of maximum slope. Logos Operating will minimize the number of field seams in corners and irregularly shaped areas
- 12 The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or a manifold system
- 13 The pit shall be protected from run-off by constructing and maintaining diversion ditched around the location or around the perimeter of the pit in some cases
- 14 The volume of the pit shall not exceed 10 acre-feet, including freeboard
- 15 Temporary blow pits will be constructed to allow gravity flow to discharge into lined drill pit
- 16 The lower half of the blow pit (nearest lined pit) will be lined with the same 20 mil liner. The upper half of the blow pit will remain unlined as allowed in Rule 19 15 17 11 F 11
- 17 Logos Operating will not allow freestanding liquids to remain on the unlined portion of temporary blow pit

# Logos Operating, LLC San Juan Basin Temporary Pit Maintenance and Operating Plan

In accordance with Rule 19 15 17 the following information described the operation and maintenance of temporary pits on Logos Operating Company locations. This is Logos Operating's standard procedure for all temporary pits. A separate plan will be submitted for any temporary pit that does not conform to this plan.

#### General Plan

- 1 Logos Operating will operate and maintain a temporary pit to contain liquids and solids and prevent contamination of fresh water and protect public health and environment
- 2 Logos Operating will conserve drilling fluids by transferring liquids to pits ahead of the rigs whenever possible. All other drilling fluids will be disposed at Basin Disposal, Inc. Permit # NM-01-005
- 3 Logos Operating will not discharge or store any hazardous waste in any temporary pit
- 4 If any pit liner's integrity is compromised or if any penetration of the liner occurs above the liquid's surface, then Logos Operating shall notify the Aztec Division office by phone or email within 48 hours of the discovery and repair the damage or replace the liner
- 5 If a leak develops below the liquid's level, Logos Operating shall remove all liquids above the damaged liner within 48 hours and repair the damage or replace the liner. Logos Operating shall notify the Aztec Division office by phone or email within 48 hours of the discovery for leaks less than 25 barrels. Logos Operating shall notify the Aztec division office as required pursuant to Subsection B of 19 15 3 116 NMAC shall be reported within twenty-four (24) hours of discovery of leaks greater than 25 barrels. In addition, immediate verbal notification pursuant to Subsection B, Paragraph (1) and Subparagraph (d) of 19 15 3 116 NMAC shall be reported to the division's Environmental Bureau Chief
- 6 The liner shall be protected from any fluid force or mechanical damage through the use of mud pit slides, or manifold system
- 7 The pit shall be protected from run-off by constructing and maintaining diversion ditches around the location or around the perimeter of the pit in some cases
- 8 Logos Operating shall immediately remove any visible layer or oil from the surface of temporary pit after cessation of a drilling or workover operation. Oil absorbent booms will be utilized to contain and remove oil from the pit's surface. An oil absorbent boom will be stored on-site until closure of pit
- 9 Only fluids generated during the drilling or workover process may be discharged into a temporary pit
- 10 Logos Operating will maintain the temporary pit free of miscellaneous solid waste or debris
- 11 During drilling or workover operations, Logos Operating will inspect the temporary pit at least once daily to ensure compliance with this plan. Inspections will be logged in the IADC reports. Logos Operating will file this log with the Aztec Division office upon closure of the pit
- 12 After drilling or workover operations, Logos Operating will inspect the temporary pit weekly so long as liquids remain in the temporary pit. A log of the inspections will be stored at Logos Operating's office electronically and will be filed with the Aztec Division office upon closure of the pit
- 13 Logos Operating shall maintain at least two feet of freeboard for a temporary pit
- 14 Logos Operating shall remove all free liquids from a temporary pit within 60 days from the date the operator releases the drilling or workover rig
- 15 Logos Operating shall remove all free liquids from cavitations put within 48 hours after completing cavitations. Logos Operating may request additional time to remove liquids from Aztec Division office if it is not feasible to remove liquids within 48 hours

# Logos Operating, LLC San Juan Basin Temporary Pit Closure Plan

In accordance with Rule 19.15.17.13 NMAC the following information describes the closure requirements of temporary pits on Logos Operating Company's locations. This is Logos Operating's 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
- Plot Plan (Pit diagram)
- Inspection reports
- Sampling Results
- C-105
- Copy of Deed Notice will be filed with County Clerk

#### 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
- 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
- 3 The surface owner shall be notified of Logos Operating's proposed closure plan using a means that provides proof of notice i.e., certified mail, return receipt requested
- 4 Within 6 months of the Rig Off status occurring Logos Operating will ensure that temporary pits are closed, re-contoured, and reseeded
- 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
- 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
- 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 19.15.17.13 (D)(7) i.e., Dig and haul

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	80,000

- 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.
- 9 Pit area will be backfilled with compacted, non-waste containing, earthen material with chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0. 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
- 10 Re-contouring of location will match fit, shape, line, form and texture of the surrounding area. Reshaping 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
- 11 Notification will be sent to OCD when the reclaimed area is seeded
- 12 Logos Operating shall seed the disturbed 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 mixed 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
- 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 upon the abandonment of all the wells on the pad. The marker will be a four foot tall riser 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
  - a. If the well goes into production, then an alternate interim marking system will be used to allow for safer and more efficient operations. A minimum 4" O.D. steel pipe will be set at least 36" deep at the center of the pit. A threaded collar will be on the top of the pipe. A minimum 12" x 12" steel plate will be welded atop the threaded collar. Top of the plate will be flush with ground level. The steel plate will contain the Operator Name, Lease Name, Well Number, and location information including unit letter, section, township and range, and that the marker designates an onsite burial location. This information will be welded, stamped or otherwise permanently engraved into the metal of the plate. Upon the abandonment of all the wells on the pad, the plate will be removed and replaced with a four foot tall riser containing the same information as described for the steel plate.