SECTION 25 DRYING PAD/BURIAL THRENCH #4, FACILITY ID [fCS1912236570]

C-144/ Application/ Conditions of Approval

[289408] LOGOS OPERATING, LLC June 2, 2022

0
3
District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
C District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
o/ ,

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 Application
	Type of action: Below grade tank registration FACILITY ID Permit of a pit or proposed alternative method GCS1912236570] 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
	ease 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 vironment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.
	Operator: OGRID #: 289408 Oddrogo: OGRID #: 289408
	Address:2010 Afton Place, Farmington 87401
	Facility or well name:Section 25_Burial Trench_#004
	API# 30-039-31415,30-039-31411,30-039-31410,30-039-31412,30-039-31413,30-039-31358,30-039-31406 ROSA 662 30-039-ROSA 30-039
- 	API Number:See above OCD Permit Number:
ι	J/L or Qtr/QtrDSection25Township31NRange6WCounty:Rio Arriba
0	Center of Proposed Design: Latitude 36.874529 Longitude -107.419438 NAD83
S	Surface Owner: 🛛 Federal 🗌 State 🗌 Private 🗌 Tribal Trust or Indian Allotment
2	
	Yeit: Subsection F, G or J of 19.15.17.11 NMAC
	Temporary: Drilling Workover X Burial Trench/Drying Pad
	Permanent Emergency Cavitation P&A Multi-Well Fluid Management Low Chloride Drilling Fluid yes no
	Lined Unlined Liner type: Thickness 30 mil 🛛 LLDPE 🗌 HDPE 🗌 PVC 🗋 Other
	String-Reinforced
L	Liner Seams: Welded Factory Other Volume: 36,180.19 bbl Dimensions: L_150 x W_150 x D_17'
3.	
	Below-grade tank: Subsection I of 19.15.17.11 NMAC
	/olume:bbl Type of fluid:
r	Tank Construction material:
	Secondary containment with leak detection 🔲 Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
TAM	Visible sidewalls and liner Visible sidewalls only Other
1 2.3	Liner type: Thicknessmil
2 4	
22	Alternative Method:
222	Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.
: 4/	
C	
by 6	
ed l	
Received by OCD: 4/25/2022 8:22:34	Form C-144 Oil Conservation Division Page 1 of 6

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

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

X 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:

9.

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.

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. -	□ 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, 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 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 Temporary Pit using Low Chloride Drilling Fluid 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 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 Form C-144 Oil Conservation Division Page 2 of 6	 □ Yes □ No □ Yes □ No □ Yes □ No
Form C-144 Oil Conservation Division Page 2 of 6	

Within 300 feet from a occupied permanent residence, application. - Visual inspection (certification) of the propose		existence at the time of initial	Yes No			
- Visual inspection (certification) of the propose	d site; Aerial photo; Satellite image					
Within 200 horizontal feet of a spring or a private, dom watering purposes, or 300feet of any other fresh water NM Office of the State Engineer - iWATERS database	well or spring, in existence at the time of	the initial application.	🗌 Yes 🗌 No			
Within 100 feet of a wetland.US Fish and Wildlife Wetland Identification m	ap; Topographic map; Visual inspection (certification) of the proposed site	Yes No			
Temporary Pit Non-low chloride drilling	ng fluid					
Within 300 feet of a continuously flowing watercourse or playa lake (measured from the ordinary high-water r - Topographic map; Visual inspection (certificat	nark).	within 200 feet of any lakebed, sinkhole,				
			Yes 🗌 No			
 Within 300 feet from a permanent residence, school, he Visual inspection (certification) of the propose 	d site; Aerial photo; Satellite image		Yes No			
Within 500 horizontal feet of a spring or a private, dom watering purposes, or 1000 feet of any other fresh wate - NM Office of the State Engineer - iWATERS of	r well or spring, in the existence at the tin	ne of the initial application;	Yes 🗌 No			
Within 300 feet of a wetland. - US Fish and Wildlife Wetland Identification m	ap; Topographic map; Visual inspection (certification) of the proposed site	Yes No			
Permanent Pit or Multi-Well Fluid Ma	nagement Pit					
Within 300 feet of a continuously flowing watercourse, lake (measured from the ordinary high-water mark).	, or 200 feet of any other significant water	course, or lakebed, sinkhole, or playa				
- Topographic map; Visual inspection (certificat	ion) 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						
Within 500 horizontal feet of a spring or a fresh water vinitial application.						
- NM Office of the State Engineer - iWATERS of	database search; Visual inspection (certified	cation) of the proposed site	Yes 🗌 No			
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification m	ap; Topographic map; Visual inspection (certification) of the proposed site	Yes No			
 Temporary Pits, Emergency Pits, and Below-grade Instructions: Each of the following items must be atta attached. Hydrogeologic Report (Below-grade Tanks) - bas Hydrogeologic Data (Temporary and Emergency Siting Criteria Compliance Demonstrations - bas Design Plan - based upon the appropriate require Operating and Maintenance Plan - based upon the Closure Plan (Please complete Boxes 14 through and 19.15.17.13 NMAC Previously Approved Design (attach copy of design Permit Number: pcs1912236653 	ached to the application. Please indicate sed upon the requirements of Paragraph (4 Pits) - based upon the requirements of Pa ed upon the appropriate requirements of 1 ments of 19.15.17.11 NMAC e appropriate requirements of 19.15.17.12 18, if applicable) - based upon the approp	by a check mark in the box, that the d 4) of Subsection B of 19.15.17.9 NMAC tragraph (2) of Subsection B of 19.15.17 9.15.17.10 NMAC NMAC briate requirements of Subsection C of 19	ocuments are 9 NMAC			
11. Multi-Well Fluid Management Pit Checklist: Subso Instructions: Each of the following items must be atta attached.	ached to the application. Please indicate	, by a check mark in the box, that the d	ocuments are			
 Design Plan - based upon the appropriate required Operating and Maintenance Plan - based upon the A List of wells with approved application for per Closure Plan (Please complete Boxes 14 through and 19.15.17.13 NMAC Hydrogeologic Data - based upon the requirement 	te appropriate requirements of 19.15.17.12 rmit to drill associated with the pit. 18, if applicable) - based upon the appro nts of Paragraph (4) of Subsection B of 19	priate requirements of Subsection C of 1 0.15.17.9 NMAC	9.15.17.9 NMAC			
 Siting Criteria Compliance Demonstrations - bas Previously Approved Design (attach copy of design) 						
Treviously Approved Design (attach copy of design	n) API Number:	or Permit Number:				
Form C-144	Oil Conservation Division	Page 3 of	6			

30						
Page 5 of	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				
Pa	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 19.15.17.11 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 	1				
	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 regard to the proposed closure plan. Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Multi-well F 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 	luid Management Pit				
	Alternative Closure Method					
	 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 					
	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 sour provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. I 19.15.17.10 NMAC for guidance.	rce material are Please refer to				
	 Ground water is less than 25 feet below the bottom of the buried waste. NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells 	□ Yes ⊠ No □ NA				
	 Ground water is between 25-50 feet below the bottom of the buried waste NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells 	□ Yes ⊠ No □ NA				
	Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells					
:34 AM	 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 	$\square Yes \boxtimes No$				
2 8:22	 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				
1/25/202	 Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site 	🗌 Yes 🛛 No				
D.	Written confirmation or verification from the municipality; Written approval obtained from the municipality	🗌 Yes 🛛 No				
1 by OC	Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	🗌 Yes 🛛 No				
ivea	Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance					
Rece	Form C-144 Oil Conservation Division Page 4 o	f6				

adopted pursuant to NMSA 1978, Section 3-27-3, a	s amended. ne municipality; Written approval obtained from the n	nunicipality 🗌 Yes 🛛 No
	ie municipality, written approval obtailled from the fi	
	from the NM EMNRD-Mining and Mineral Divisior	n ☐ Yes ⊠ No
Within an unstable area.	design; NM Bureau of Geology & Mineral Resource	s: USGS: NM Geological
Society; Topographic map		$\Box \text{ Yes } \boxtimes \text{ No}$
Within a 100-year floodplain. - FEMA map		🔲 Yes 🛛 No
-		
16. On-Site Closure Plan Checklist: (19.15.17.13 NM	MAC) Instructions: Each of the following items mus	st be attached to the closure plan. Please indicate,
by a check mark in the box, that the documents are Siting Criteria Compliance Demonstrations -	e attached. 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 19.1 (if applicable) based upon the appropriate requirement	5.17.13 NMAC
Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the a	
	propriate requirements of 19.15.17.13 NMAC based upon the appropriate requirements of 19.15.17	.13 NMAC
Waste Material Sampling Plan - based upon t	the appropriate requirements of 19.15.17.13 NMAC (for liquids, drilling fluids and drill cuttings or in case	on-site closure standards cannot be achieved)
Soil Cover Design - based upon the appropria	ate requirements of Subsection H of 19.15.17.13 NM	AC
	iate requirements of Subsection H of 19.15.17.13 NM opriate requirements of Subsection H of 19.15.17.13 h	
	5	
17. Operator Application Certification:		
I hereby certify that the information submitted with	n this application is true, accurate and complete to the	best of my knowledge and belief.
Name (Print):Vanessa Fields	Title: _Regulatory Manager	
Signature:	Date:	4/24/2022
e-mail address:vfields@logosresourcesllc.com	lelephone:505-320	-1243
<u>OCD Approva</u>l: Permit Application (including	g closure plan) 🗌 Closure Plan (only) 🔲 OCD C	Conditions (see attachment)
OCD Representative Signature:	r Venegas	Approval Date:06/02/2022
Title: Environmental Specialist	OCD Permit Numbe	EACH ITY IN MCG4040026570
The closure report is required to be submitted to the	approved closure plan prior to implementing any cl he division within 60 days of the completion of the cl has been obtained and the closure activities have be	osure activities. Please do not complete this zen completed.
	Closure Compl	etion Date:
20. Closure Method:		
Waste Excavation and Removal On-Site O If different from approved plan, please explain.		Waste Removal (Closed-loop systems only)
21.		
<u>Closure Report Attachment Checklist:</u> Instruction mark in the box, that the documents are attached.	ons: Each of the following items must be attached t	o the closure report. Please indicate, by a check
 Proof of Closure Notice (surface owner and c Proof of Deed Notice (required for on-site closed) 		
Plot Plan (for on-site closures and temporary	pits)	
Confirmation Sampling Analytical Results (i Waste Material Sampling Analytical Results		
Disposal Facility Name and Permit Number		
Soil Backfilling and Cover Installation		
Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding	g Technique	
	g TechniqueLongitude	NAD: []1927 [] 1983
 Re-vegetation Application Rates and Seeding Site Reclamation (Photo Documentation) 		NAD: 1927 1983
 Re-vegetation Application Rates and Seeding Site Reclamation (Photo Documentation) 		NAD: 1927 1983 Page 5 of 6

22.		
Operator Closure Certification:		
I hereby certify that the information and attachment belief. I also certify that the closure complies with a	s submitted with this closure report is true, accurate and complete to the best of Il applicable closure requirements and conditions specified in the approved clo	î my knowledge and osure plan.
Name (Print):	Title:	
Signature:	Date:	
e-mail address:	Telephone:	

Phone: (576) 393-616 DISTRICT II 811 3. First SL, Artes Phone: (576) 748-128 DISTRICT III 1000 Rio Brasos Rd., J Phone: (505) 334-6176	8 Fax: (575) Antec, N.M. 87	393-0720) 748-9720 7410	En	OIL C	ONSER	ATIOI st. f	esources Depa N DIVISION rancis Dr. 87505		Sı	ıbmit oı	Revised ne copy	August 1, to appropr District 0
DISTRICT IV 1220 S. St. Francis Dr Phone: (505) 476-346	., Santa Fe, D Fax: (605)	476-3462	VELL L	OCATIO	N AND	ACF	REAGE DE	DICAT	ION PI] AMEN	DED REP
'API	Number			*Pool Code					*Pool Nam	e		
⁴ Property C	ode		SEC			operty N	ame BURIAL TRENG	<u>~⊔ #</u> ⊿			• ₩0	ell Number
*OGRID No).		520			erator N						Elevation
289408	3			ιι	_0GOS 0I	PERATI	NG, LLC					6365'
[1	1	5			Location					r
UL or lot no. D	25	Township 31-N	Range 6-W	Lot Idn	Feet from		North/South 1 NORTH		from the 083'	East/We WE		RIO ARR
	l,	1	¹¹ Bott	om Hole	Locat	ion If	Different	From S	urface			
UL or lot no.	Section	Township	Range	Lot Idn	Feet from	1 the	North/South 1	ine Feet	from the	East/We	est line	County
¹⁰ Dedicated Acre	1 x9	1	¹⁸ Joint or	Infill	¹⁴ Consolie	lation C	ode	15 Ord	er No.			<u>. </u>
45 W 2642.29'					1914" BC		1 -	/	is true and belief, and a working land includ has a right to a control	t complete t that this or interest or ling the pro t to drill the with an	to the best o rganization unleased mi posed bottom is well at the owner of m	on contained ho f my knowledge ither owns neral interest is hole location pur ta location pur
M_54, 20000S		BURIAL TRE 1213' FNL LAT. 36.874 LONG. 107. NAD83	1083 [°] FW 4529° N			÷	2	-	Brinted E-mail	Address	logose	te field
"1914" BC	÷						3	ð	I hereby or was plotted me or und	ertify that t i from field er my super	he well loca notes of ac	tion shown on a tual surveys mi that the same
		 = +		<u>ا</u> - ـــ ــ -					Date of S		He c	W. RUS

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Section 25 Recycling Containment Aerial Map



Burial Trench 4 proposed

Burial Trench 2 Closed

Burial Trench 1 Closed

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	W	ate						•			e Engin pth t	^{neer} o Wat	ter	
(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)	(R=POD h replaced, O=orphane C=the file closed)	ed,					/ 2=NE est to lar	3=SW 4=S] gest) (№	E) JAD83 UI	`M in m	eters)	(In fee	et)	
		POD Sub-		0 0 0									5	
POD Number			County	QQQ 64 16 4	-	Tws	Rng	x		Y —	DistanceDe	pthWellDepth		Vater : olumn
SJ 04225 POD1		SJ	RA				06W	282900	408433	35 🍯	263	320	60	260
										Averag	ge Depth to Wa	ter:	60 fe	et
											Minimum D	epth:	60 fe	et
											Maximum De	epth:	60 fe	et
Record Count: 1			553157771153	51151553							3		1	
UTMNAD83 Radius	Search (in 1	<u>meters)</u>	<u>):</u>		3									
Easting (X): 282	932		Northi	ng (Y):	4084	597			Radiús:	5000		нā		漂

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.

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WATER COLUMN/ AVERAGE DEPTH TO WATER





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OSE POD Locations Map



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Unofficial Online Map These maps are distributed "as is" without warranty of any kind.

Location: Sec Ground Bed J	Zone Depth:	N	d	0.0	Date: 4/2 State: NN	
Coke:		Type: Lores	co SWS	Total Weight: 2	200 lbs.	
Anodes:			n Iron Type D	Weight: 45 lbs.		
Power Source	: Battery	Volt	s: 13.9	Amps: 15.3	Resistanc	:c: .909
Depth	Drilling Log		Anodes L	A D	Damate	
Ft	Duning Log	Log		U	Remarks	
0'-20'	Casing	LUG		i Debui	8" PVC 5	SCH 40
20' - 100'	Sand Stone				0 1 4 0 0	7011 40
100' - 200'	Sandy Shale	340				
200' - 260'	Sand Stone					
260' – 300'	Sandy Shale					
300' - 380'	Shale					
380'	66	2.2	4.5	370'	#12	
390"	66	1.8	3.6	380'	#11	
400*	46	1.6	3.3	390'	#10	
410'	66	2.2	4.5	400'	#9	
420'	56	2.3	4.6	410'	#8	
430'	66	2.0	4.1	420'	#7	
440'	66	- 1.7 -	3.3	430'	#6	
450'	6.6	1.6	3.3	440'	#5	
460'	66	1.6	3.3	450'	#4	
470'	4.6	1.7	3.4	460'	#3	
480'	÷.6.	1.9	3.9	470'	#2	
490'	66	2.3	4.1	480'	#1	
500'	44	2.0	8.9			

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Siting Criteria Compliance Demonstration 19.15.17.10 NMAC

The proposed Section 25 burial trench # 4 site is not located in an unstable area. The location is not over a mine and as indicated on the Mines, Mills and Quarries Map, the Section 25 burial was an existing rock quarry shown on figure 3. The location of the Section 25 burial trench is not located within 100 feet of a continuously flowing watercourse, is not 200 feet of any other significant watercourse or lakebed, sinkhole, playa lake and is not within 300 feet of a spring or private, domestic fresh water well used for domestic or stock watering purposes shown on figure 2. The location is not located within 300 feet of a wet land shown in figure 5. The location is not within a 10-year floodplain area as indicated on the FEMA map figure 4. A test well was drilled to 500 feet April 28, 2005, on the Rosa Unit 256A in Section 25 Township 31N Range 6W and per the drilling log indicated water zone depth at 200 feet of wet sand, therefore the groundwater depth is greater than 163' shown in figure 2. There is one iwater data point SJ-04225 POD1 located in Section 23 Township 31N Range 6W indicated on the iwater map figure 1. The hydro geologic analysis indicates the groundwater depth of the San Jose formation will create a stable are for this location.

Hydrogeological Report for Section 25 Burial Trench

The proposed burial trench site is located in the southeast portion of the Colorado Plateau, on the northern San Juan Basin. The area of the project is characterized by high mesas cut by numerous arroyos and canyons, North of the project area is Navajo Lake, a reservoir that flooded a deep canyon of the San Juan River. The project area lies within the Laguna Seca drainage, a northwest-to west flowing dry arroyo and canyon system about 6 miles in length. Laguna Seca Mesa, the highest mesa within the drainage basin, is 6779 feet (SE ¼ Section 20 T31N R5W) and the water level elevation of the Navajo Lake ranges between 6030-6050 feet above sea level (asl) throughout the year. Thus, the total relief within the Laguna Seca Drainage is about 750 Feet.

The Trench location lies on an outcrop of the Eocene (Tertiary) San Jose Formation, a fluvial unit composed of more than 2000 feet of sandstone and conglomerate interbedded with mudstone. The San Jose formation overlies the Nacimiento Formation to the south and west and the Animas Formation to the northeast. The Llaves (predominantly sandstone) and/or Tapicitos (predominantly mudstone) Members of the San Jose crop out in the vernal area of the Trench, as they do around the Navajo Lake¹. Many authors report inter-bedding of sandstone and mudstone units complicate mapping efforts.

Site Geology

The trench is located on an outcrop the Eocene San Jose Formation, Specifically the "persistent sheet sandstone" of the Llaves Member that characterizes the adjacent tree-covered hills of the general area. Beneath the site location are interbedded sandstone and mudrock units as described in the previous section of this application. The schematic cross-section below presents the driller's logs from five cathodic protection wells located on the southern border of Figure 2. This cross-section clearly shows the discontinuous nature of the fluvial sandstones that compose the Regina and Llaves Members of the San Jose Formation. The cross-section also shows that groundwater elevation decreases, in general, from east to west, from the higher mesas toward Navajo Lake. Note that that the elevation of the former rock quarry into which the trench will be constructed lies at an elevation of about 6380 feet.

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https://geoinfo.nmt.edu/publications/water/hr/6/HR6.pdf

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Design and Construction Plan

The Drying pad and Burial Trench #4 will be located on the northeast side of the rock quarry. Plates 1 and 2 describe the design of the drying pad and burial trenches proposed for this project. LOGOS Operating, LLC will provide 72-hour notification prior to lining to allow staff the opportunity to inspect the liner foundation.

Currently, the design consists of a single drying pad location to the west of the burial trench. The burial trench will contain the discharges of closed-loop system drilling solids from Rosa Drill Program. The discharges of closed-loop system drilling solids will be on drying pad until all discharges are collected and pass paint filter test. Once the material is ready to be buried, the burial trench will be dug and lined as per NMAC 19.15.17.11.K. LOGOS Operating, LLC will provide 72-hour notification prior to lining to allow staff the opportunity to inspect the liner foundation.

Construction/Design Plan of Drying Pad and Burial Trenches

Stockpiling of topsoil:

LOGOS will stockpile the topsoil to the north of the proposed drying and burial trench for use as the final cover or fill at the time of closure.

Signs:

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LOGOS will post an upright sign not less than 12 inches by 24 inches with lettering not less than two inches in height in a conspicuous place on the fence surrounding the drying pad and burial trench. The operator shall post the sign in a manner and location such that a person can easily read the legend. The sign shall provide the following information: the operator's name, the location of the site by quarter-quarter or unit letter, section, township, and range; and emergency telephone numbers.

Fencing:

LOGOS shall fence or enclose in a manner that deters unauthorized access to the drying pad and burial trench site, shall maintain the fences in good repair and 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 provided all the criteria in 19.15.17.11 (D) (1) (2) (3) are met.

Earthwork:

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In accordance with rule 19.15.17.11 NMAC, the drying pad and burial trench will adhere to appropriate prescriptive mandates. LOGOS will construct the pad and trench with properly constructed foundation and interior slopes of a firm, and smooth unyielding base and free of rocks, debris, sharp edges, or irregularities to prevent any rupture or tear to the liner. This will require dragging the area adjacent to the proposed trench to proposed trench to form the drying pad. In areas where the trench is mainly rock, smooth foundations for the liners may require importing material that relatively free of rocks from suitable location to form the liner foundations and/or geotextile material between the earthen foundation and the liner.

The drying pad to the west of the burial trench will slope slightly east to west. A liner will be placed on top of the of the drying pad with the liner overlaying into the burial trench. LOGOS will utilize a shell shaker blender to ensure all liquids are removed prior to placing on the drying pad. The remaining fluids will be allowed to evaporate on the drying pad or disposed.



Liner Installation:

Burial trench: The geomembrane liner shall consist of 30-mil string reinforced LLDPE which exceeds the specification of the division district office. LOGOS shall notify the division's Santa Fe office at least 72 hours prior to the liner's installation.

Drying Pad: The liner shall consist of 30-mil LLDPE or could be as robust as 60-mil HDPE in accordance with rule 19.15.17.13 NMAC (K) (1-6). Sumps will be added to facilitate the collection of liquids derived from drill cuttings. A berm will be placed to prevent run-on of surface water or fluids. No anchor trench adjacent to the burial trench. Instead, the liner will extend 10 to 20 feet over the liner that forms facing the wall of the burial trench. May spread 1 to 3 feet of earth material over the liner.

Design and Construct:

Solids from the closed loop system will be unloaded from east to west on the drying pad. LOGOS will ensure the area will be graded relatively flat but sloping slightly toward the west. The trench shall have properly constructed foundation and side walls consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges, or irregularities to prevent the liner's rupture or tear.

Geotextile is required under the liner where needed to reduce localized stress-strain or protuberances that may otherwise compromise the liner's integrity.

LOGOS will ensure the following method in accordance with 19.15.17.11 NMAC:

- Minimize liner seams and orient them up and down, not across, a slope.
- Use factory welded seams where possible.
- Prior to field seaming, shall overlap liners four to six inches and orient liner seams parallel to the line of maximum slope, i.e., oriented along, not across the slope.
- Minimize the number of field seams in corner and irregularly shaped areas.
- Utilize qualified personnel to perform field welding and testing.
- Install sufficient liner material to reduce stress-strain on the liner.
- Ensure that the outer edges of all liners are secured for the deposit of the excavated waste material into the trench.
- Anchor the edges of all liners in the bottom of a compacted earth-filled trench. The anchor trench shall be a least 18 inches deep, unless anchoring to encountered bedrock provides equivalent anchoring.
- Ensure that the liner is protected from any fluid force or mechanical damage at any point of discharge into or suction from the lined drying pad and burial trench.

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Operating and Maintenance Plan

In accordance with rule 19.15.17.12 the following information describes the operation and maintenance of the burial trench and drying pad.

General Plan:

- LOGOS shall operate and maintain the burial trench and drying pad to contain minimal liquids and solids and maintain the integrity of the liner, prevent contamination of fresh water, and protect public health and the environment.
- LOGOS shall recycle, reuse, reclaim or dispose of all drilling fluids of such liquids at a division approved facility.
- LOGOS shall not discharge into or store any hazardous waste in the burial trench or drying pad.
- If liner's integrity is compromised above the liquids surface, then LOGOS shall repair the damage within 48 hours of discovery or seek a variance from notify Santa Fe Division district office.
- If a leak develops or if any penetration of the liner occurs below the liquids surface, then LOGOS shall remove all liquid above the damage or leak within 48 hours of discovery, notify Santa Fe Division office pursuant to 19.15.29 NMAC and repair the damage or replace the liner.
- LOGOS will ensure discharge of solids does not damage the liner by erosion or any impact while unloading the solids.
- LOGOS will protect from run-off by constructing and maintaining diversion ditches and berms around burial trench as necessary.
- LOGOS will ensure only fluids or mineral solids generated during the drilling, completion or workover process be discharged into the burial trench.
- LOGOS will maintain the drying pad and burial trench free of miscellaneous solid waste or debris.
- LOGOS will remove any visible or measurable layer of oil from the surface of the drying pad although the presence of oil is highly unlikely.
- During and after drilling operations until closed, LOGOS will inspect the drying pad and burial trench weekly to ensure compliance. Inspections will be logged and available to the Santa Fe division district office.
- LOGOS will be utilizing a shell shaker blender for the solids prior to adding on the drying pad. Minimal drilling fluids will be in trench and will ensure solids are free of liquid prior to transferring into burial trench. As suggested above, the protocol for unloading solids to the drying pad and transfer to the burial trench:
 - Trucks off load the solids from the closed loop system onto 1 to 3 feet of dry earth material that overlays the liner of the drying pad area.
 - o These solids remain on the dry earth until the material passes the paint filter test
 - Using a loader or other appropriate equipment, the closed loop solids will be transferred into the burial trench as will moist earth from beneath the footprint of the solids pile.
 - Dry earth will be replaced on the drying pad area as required after the transfer to the burial trench
- Any fluids will be removed from the surface of the burial trench within 60 days from the date that the last drilling or workover rig associated with the drying pad/burial trench permit is released. The operator will note the date of this release upon Form C-105 or C-103 upon well or workover completion.



Burial Trench and Drying Pad Closure Plan

In accordance with Rule 19.15.17.13 NMAC the following plan describes the general in-place closure requirements of burial trenches/drying pad on LOGOS Operating, LLC location in the San Juan Basin of New Mexico. This is LOGOS's standard procedure for all burial trenches/drying pads to be utilized for the drilling, completion and/or workovers of oil and gas wells operated by LOGOS. For those burial trenches/drying pads which do not conform to this standard closure plan, a separate closure plan will be developed and utilized.

The wastes in the burial trench are destined for burial at the location proposed, which is in the same unit where the drilling wastes are generated.

The operator will not begin closure operations without approval of the closure plan submitted with the permit application.

All closure activities will include proper documentation and will be submitted to NMOCD within 60 days of the pit closure. Closure report will be filed on C-144 and will include the following:

- Details on Capping and Covering, where applicable (See report)
- Plot plan (Pit Diagram) (included as an attachment)
- Inspection Log (included as an attachment)
- Notification Documentation (included as an attachment)
- Sampling Results (included as an attachment)
- Copy of Deed Notice will be filed with the County Clerk
 - (Not required on Federal, State or Federal Tribal Land as stated by FAQ dated October 30, 2008).

General Plan:

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- 1. Prior to closure LOGOS shall remove all free liquids reasonably achievable from the prior drying pad and dispose of such liquids at a division approved facility.
- 2. The preferred method of closure for all temporary pits will be on-site closure by in-place burial/drying pad, provided all the criteria in 19.15.17.13.D are met.
- 3. The surface owner shall be notified by (certified mail, return receipt or via email) requested that LOGOS's plans closure of operations.
- 4. Within 6 months of the rig-off status occurring LOGOS will ensure that the temporary pit and/or burial trench/drying pad is closed.
- 5. Notice of Closure will give to the division district office verbally and/ or in writing at least 72 hours, but not more than one week, prior to closure operations. The notification of Closure will include the following: Operator's Name, Well Name and API number and Location (USTR).
- 6. Pit contents shall be achieved by mixing with non-waste containing, earthen material. The solidification process will be accomplished use a combination of natural drying and mechanical mixing. Pit contents will be mixed with non-waste, earthen material to a consistency that is deemed safe and stable. The mixing ratio shall not exceed 3 parts non-waste to 1 part pit contents.
- 7. A five and eight-point composite sample will be taken of the pit using sampling tools and all samples tested per parameters listed in Table II of 19.15.17.13 NMAC. In the even that the criteria are not met (See Table I), all contents will be handled per 19.15.17.13 Subsection C (i.e dig and haul to a division-approved facility.) Approval to haul will be requested of the division district office prior to initiation.

	Tabi Closure Criteria for Burial Waste Left in Place	Trenches and Drying Pad	<mark>5-Point an</mark>	d 8 Point
Depth below bottom of plt to GW < than 10,000 mg/l TDS	Constituent	Method *		Limit**
	Chloride	EPA Method 300.0		80,000 mg/kg
> 100 Feet	TPH	EPA SW-846 Method 4	18.1	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 80)15M	1,000 mg/kg
	BTEX	EPA SW-846 Method 802 8260B	1 B or	50 mg/kg
	Benzene	EPA SW-846 Method 802 8015M	21B or	10 mg/kg
	Paint Filter Test		<u>II</u> (1.1.1)	

- 8. Upon achieving all applicable waste stabilization, fold the outer edges of the trench liner to overlap the waste material in the trench prior to the installation of the geomembrane cover, install a geomembrane cover over the waste material in the lined trench.
- 9. Upon completion of solidification and testing, the pit area will be backfilled with soil cover for burial in-place or burial trench/drying pad consists of four feet non-waste containing, uncontaminated earthen material. The soil cover shall include either the background thickness of topsoil or one-foot suitable material to establish vegetation at the site, whichever is greater.
- 10. Re-contouring of area will match fit, shape, line, form, and texture of the surrounding. Reshaping will include drainage control, prevent ponding, and minimize erosion. Natural drainages will be unimpeded and stormwater Best Management Practices (BMPs) will be used to aid in soil stabilization and protection surface water quality.
- 11. Notification will be sent to the Division District office when the reclaimed area is seeded.
- 12. LOGOS shall seed the disturbed areas the first growing season after the pit and/or burial trench/drying pad is closed. Seeding will be accomplished vis drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least on grass, but not including noxious weeds, and maintain the cover through two successive growing seasons. Repeat seeding or planting will be continue until successful vegetative growth occurs.
- 13. LOGOS shall place a steel marker at the center of the onsite burial/drying pad. 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 marker will be flush with the ground to allow access and safety concerns. The marker will include a threaded collar to be used for future abandonment. The top of the marker will contain a welded steel 12" square plate that indicates the onsite burial/drying pad. The plate will be easily removable, and a four-foot-tall riser will be threaded into the top of the collar marker and welded around the base with the LOGOS information. The information will include Operator Name, Well Name and number, Unit, Section, Township Range, and an indicator that the marker is an onsite burial location.

Venegas, Victoria, EMNRD

From:	Venegas, Victoria, EMNRD
Sent:	Thursday, June 2, 2022 2:40 PM
То:	Vanessa Fields; Etta Trujillo
Subject:	SECTION 25 DRYING PAD-BURIAL THRENCH #4, FACILITY ID [fCS1912236570]
Attachments:	C-144_SECTION 25 DRYING PAD-BURIAL THRENCH #4, FACILITY ID [fCS1912236570].pdf

SECTION 25 DRYING PAD-BURIAL THRENCH #4, FACILITY ID [fCS1912236570]. Conditions of Approval.

Good afternoon Ms. Fields,

NMOCD has reviewed the permit application, and related documents submitted by [289408] LOGOS OPERATING, LLC on April 25, 2022, for SECTION 25 DRYING PAD-BURIAL THRENCH #4, FACILITY ID [fCS1912236570] in Unit Letter D, Section 25, Township 231N, Range 06W, Rio Arriba County, New Mexico. This application is approved with the following conditions of approval:

- [289408] LOGOS OPERATING, LLC shall use the facility identification number [fCS1912236570] in all communications with NMOCD regarding the SECTION 25 DRYING PAD-BURIAL THRENCH #4, FACILITY ID [fCS1912236570] Pit.
- [289408] LOGOS OPERATING, LLC must maintain, operate and close the SECTION 25 DRYING PAD-BURIAL THRENCH #4, FACILITY ID [fCS1912236570] as per all the requirements in NMAC 19.15.17. PITS, CLOSED-LOOP SYSTEMS, BELOW-GRADE TANKS AND SUMPS.
- The design and construction plan, included in the Application, is approved. [289408] LOGOS OPERATING, LLC shall design and construct SECTION 25 DRYING PAD-BURIAL THRENCH #4, FACILITY ID [fCS1912236570] as described in the approved plan.
- [289408] LOGOS OPERATING, LLC shall apply for a permit modification for any change to the design and construction plan.
- 19.15.17.13.E. Closure notice. [289408] LOGOS OPERATING, LLC shall notify the surface owner by certified mail, return receipt requested that the operator plans closure operations at least 72 hours, but not more than one week, prior to any closure operation. Notice shall include well name, API number and location. Evidence of mailing of the notice to the address of the surface owner in the county tax records is sufficient to demonstrate compliance with this requirement.
- The closure plan, included in the Application, is approved. [289408] LOGOS OPERATING, LLC shall close the Pit as described in the approved plan, as per all of the following requirements in NMAC 19.15.17:

o 19.15.17.13. CLOSURE AND SITE RECLAMATION REQUIREMENTS

 F. Closure report and burial identification: Within 60 days of closure completion, [289408] LOGOS OPERATING, LLC shall submit a closure report on form C-144, with necessary attachments to document all closure activities including sampling results; information required by 19.15.17 NMAC; and details on back-filling, capping and covering, where applicable.

In the closure report, the operator shall certify that all information in the report and attachments is correct, and that the operator has complied with all applicable closure requirements and conditions specified in the approved closure plan.

If the operator used a temporary pit, the operator shall provide a plat of the pit location on form C-I 05 within 60 days of closing the temporary pit.

[289408] LOGOS OPERATING, LLC 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. <u>The operator's 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.
</u>

• [289408] LOGOS OPERATING, LLC shall apply for a permit modification for any change to the plan. Please let me know if you any additional questions or concerns. Sincerely,

Victoria Venegas • Environmental Specialist Environmental Bureau EMNRD - Oil Conservation Division (575) 909-0269 | <u>Victoria.Venegas@state.nm.us</u> http://www.emnrd.state.nm.us/OCD/



District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

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

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Action 101111

CONDITIONS

Operator: 0	OGRID:
LOGOS OPERATING, LLC	289408
2010 Afton Place	Action Number:
Farmington, NM 87401	101111
	Action Type:
	[C-144] Permanent Pit Plan (C-144P)
CONDITIONS	

Created By	Condition	Condition Date
vvenegas	NMOCD has reviewed and approved the permit application, and related documents submitted by [289408] LOGOS OPERATING, LLC on April 25, 2022, for SECTION 25 DRYING PAD-BURIAL THRENCH #4, FACILITY ID [fCS1912236570] in Unit Letter D, Section 25, Township 231N, Range 06W, Rio Arriba County, New Mexico. • [289408] LOGOS OPERATING, LLC must maintain, operate and close the SECTION 25 DRYING PAD-BURIAL THRENCH #4, FACILITY ID [fCS1912236570] as per all the requirements in NMAC 19.15.17. PITS, CLOSED-LOOP SYSTEMS, BELOW-GRADE TANKS AND SUMPS. [289408] LOGOS OPERATING, LLC shall design and construct SECTION 25 DRYING PAD-BURIAL THRENCH #4, FACILITY ID [fCS1912236570] as described in the approved plan. [289408] LOGOS OPERATING, LLC shall close the Pit as described in the approved plan, as per all of the following requirements in NMAC 19.15.17.13	6/2/2022