# State of New Mexico Energy Minerals and Natural Resources Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 8705

### District IV

# APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

OGRID Number

Operator Name and Address

Reliant Exploration & Production, LLC. 10817 West County Road 60								251905			
Midland, Texas 79707						•	30 - 02/- 2,060 8				
Prop	arty Code 37025			LIE	BBY MIN	operty Name IERALS LL	C 1931			Well No. 18-3-0	G
	° Proposed Pool 1						<sup>to</sup> Proposed Pool 2				
		Br	avo Dome 96	010			<u></u>				
					<sup>7</sup> Surfa	ce Locatio	n				
UL or lot no.	Section	Township	Range	Lot	Idn	Feet from the	North/Se	outh line	Feet from the	East/West line	County
\$6	18	19 North	31 East NMPM			1320'	No	orth	1320	East	Harding
			<sup>8</sup> Prop	osed Botton	m Hole Lo	ocation If Di	fferent F	From Su	rface		
UL or lot no.	Section	Township	Range		Idn	Feet from the		outh line	Feet from the	East/West line	Couintý
	<del> </del>	<del></del>		Add	litional \	Well Infor	mation	 ì			
11 Work	Type Code N		Well Type			B Cable/Rotary R			Lease Type Code P		evel Elevation 96.5
	Aultiple NO		17 Proposed 2600			Formation TUBB			<sup>19</sup> Contractor Reliant		d Date /2014
Depth to Gro				Distan		est fresh water	well	L	Distance from	n nearest surface w	ater
	100' Synthetic	☑ 20	mils thick (	Clay Pit	> 10 Volume: 8	350 bbls		Drilling	Method:	> 1000'	
Clos	ed-Loop Sys	tem 🔲	•	•	_		Fresh	_	Brine Diesel/(	Dil-based Gas/	Air. 🗌
		<del></del>	2	1 Propose	d Casin	g and Cen	nent Pr	ogram			
Hole S	ize	Casing	1	Casing we		Setting			acks of Cement	Estimated	тос
12-1/	4"	8-5/		24		<del> </del>	00' 300SX			SURFACE	
7-7/8		5-1/		15		2600'	400SX		SURFACE		
										<u> </u>	<del> </del>
				····						<u> </u>	
P Dozamba t	1	1 Y6	this assligati	in in to DEEL	EM - DII	IC DAOK aire	45 - 4-4		sent productive zon		
zone. Descri SEE ATTAC	be the blower	out preventio	n program, if	any. Use add	litional shee	ts if necessary.			•		
of my knowl constructed	edge and be according	licf. I further to NMOCD	r certify that guidelines [2	is true and co the drilling , a general p	pit will be	1	O	IL CO	NSERVATIO	ON DIVISIO	N
(attached) a	у эушкизы	CD-approv	eu pian 🗀.			Ар	proved by	y:	ls M	artin.	
Signature:		1	// \	<b>)</b>		1	Title: DISTRICT SUPERVISOR				
	: Vance S.	Vanderburg			······································	Tit	le:	ń	STRICTS	IPFRVISC	P
Printed name		Vanderburg	// )				le: proval Da	nte: 3/2	STRICTS	JPERVISC Expiration Date:	24/2016
Signature: Printed name Title: Manag	ger'		ogsitd.com	<i>e</i>				nte: 3/2	STRICT SI	JPERVISC Expiration Date:	24/2016

# ATTACHMENT C-101 RELIANT EXPLORATION & PRODUCTION WELL 1931 18-3- $\phi$ G

PROPOSED TD: 2600'

**BOP PROGRAM**:

0-700' None

700 – 2600' 9" annular 3000# Ragan Tuaras

Casing:

Surface:

8-5/8" OD 24# J55 8rd ST&C new casing set at

700' 12-1/4" hole Centralizers from TD - Surface, every fourth

joint .

Production:

5 -1/2" OD new casing from 0-2600'

2600' - 15,5# J55 8rd LTC 7 -7/8" hole - 5 centralizers

\* This well will have fiberglass tubing/packer assembly. The fiberglass tubing will at a minimum penetrate the Cimarron formation, with the optimum setting point being the midpoint of the Cimarron formation.

Cement:

Surface – Circulate cement with 300sx class C – additives 2# C45, weight of 12.4# per gallon. Yield 2.14 and 1/8# of Celaflake per sx. Tail Cement 100sx class C 2%CACl with 1/8# per sx Celaflake Yield of 1.32# with weight of 14.8# per gallon

Production- Circulate cement with 400sx class C – additives 2# C45, weight of 12.4# per gallon. Yield 2.14 and 1/8# of Celaflake per sx. Tail Cement 100sx class C 2%CACl with 1/8# per sx Celaflake Yield of 1.32# with weight of 14.8# per gallon

Mud

0-700'

Fresh water/native mud. Wt 8.6-9.2ppg,

Vis 32.=-36sec

700-2600°

Fresh water/ Starch/Gel with ph control as needed.

Wt 9.0-9.2ppg, Vis 28-29 sec

Utilizing Metal Pits with a 30' by 20' reserve lined pit with 20 ply liner.

### Martin, Ed, EMNRD

From:

Vance Vanderburg <vance@reliantholdingsltd.com>

Sent:

Thursday, March 06, 2014 1:54 PM

To:

Martin, Ed, EMNRD

Subject:

**New Plats** 

**Attachments:** 

Libby Minerals LLC 1931 #9-2-J (Rev. A); Libby Minerals LLC 1931 #8-3-J (Rev. A); Libby Minerals LLC 1931 #16-3-G (Rev. A); Libby Minerals LLC 1931 #16-3-G (Rev. A); Libby

Minerals LLC 2031 #8-3-P (Rev. A); Libby Minerals LLC 2031 #19-3-F (Rev. A)

•

Ed,
I have attached the new plats for the wells we had issues on. Changes were per below;

Drill Order	Original Well Name	New Name	Old Footages	Comments
7	2031 8-3-T	2031 8-3-P	1320 South/1320 East	Will need to re-survey
8	2031 19-4-T	2031 19-4-0	1150 South / 1426 East	Do not need to resurvey this one. Just
9	1931 10-3-T	1931 10-3-P	660 South / 660 East	Do not need to resurvey this one. Just
10	1931 16-3-Q	1931 16-3-G	1320 North / 1320 East	Will need to re-survey
$\checkmark_{11}$	1931 18-3-Q	1931 18-3-G	1320 North / 1320 East	Will need to re-survey
14	2031 19-3-R	2031 19-3-F	1320 North / 1520 West	Will need to re-survey
16	1931 8-3-T	1931 8-3-J	1320 South / 1320 East	Will need to re-survey
17	1931 9-2-T	1931 9-2-J	1320 South / 1320 East	Will need to re-survey

On the 2031 19-4-T and the 1931 10-3-T the footages and plats are correct we just need to change the names to the 2031 19-4-O and the 1931 10-3-P. If you can make the required changes for these issues that would be great. If I need to re-send anything just let me know.

I guarantee this will not happen again.

Thanks,

Vance Vanderburg

### Martin, Ed, EMNRD

From:

Vance Vanderburg <vance@reliantholdingsltd.com>

Sent:

Wednesday, February 26, 2014 9:17 AM

To:

Martin, Ed, EMNRD

Subject:

**RE: Problem Locations** 

Ed,

Please see below. You should be receiving one more package of apps. The wells below are the ones we had issues with. Two of them are in the correct location, Terry just did not update the well number's to reflect the correct unit number and I did not catch this before I sent them in (2031 19-4-T and the 1931 10-3-T which should be the 1931 19-4-O and 1931 10-3-P). Terry is up here today re-surveying the other 6 wells that need to be moved per the sheet below.

Sorry for the confusion. I will be sending the new surveys as soon as I have them.

Thanks,

Drill Order	Original Well Name	New Name	Old Footages	New footages
7	2031 8-3-T	2031 8-3-P	1320 South/1320 East	1309 South / 1309 East
8	2031 19-4-T	2031 19-4-0	1150 South / 1426 East	1150 South / 1426 East
9	1931 10-3-T	1931 10-3-P	660 South / 660 East	660 South / 660 East
10	1931 16-3-Q	1931 16-3-G	1320 North / 1320 East	1331 North / 1331 East
<b>1</b> 1	1931 18-3-Q	1931 18-3-G	1320 North / 1320 East	1331 North / 1331 East
14	2031 19-3-R	2031 19-3-F	1320 North / 1520 West	1333 North / 1520 West
· 16	1931 8-3-T	1931 8-3-J	1320 South / 1320 East	1331 South / 1331 East
17	1931 9-2-T	1931 9-2-J	1320 South / 1320 East	1331 South / 1331 East

Vance Vanderburg Reliant Holdings LTD. **Director of Sales** Office 432-617-4213 Cell 432-559-7085

From: Martin, Ed, EMNRD [mailto:ed.martin@state.nm.us]

Sent: Wednesday, February 26, 2014 10:05 AM

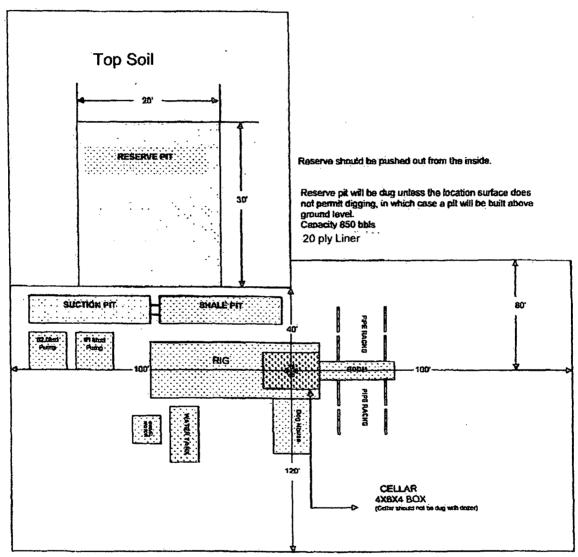
To: Vance Vanderburg Subject: Problem Locations

I received the package with the most recent 12 APD's. Here are the ones that are problem locations:

2031-193R; this one is not exactly at the intersection of the 4 ¼ ¼ lines, it is 200 feet to the east of that point. However it is still right on the southern border of unit letter C. This one needs to be moved more than 10 feet off that line to make it a standard location. Well number will need to be changed to a legitimate unit letter.

1931-163Q; this one is right at the intersection of the four ¼ ¼ section lines. It needs to be moved so that it is more than 10 feet from any of those lines and the well number needs to change to a legitimate unit letter.

# **LOCATION SPECIFICATION AND RIG LAYOUT** FOR STEEL PITS (PICTURE NOT TO SCALE)



Cellar can be 4X4X4 if using a screw-on wellhead

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (375) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Arteeia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Astec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

Property Code

API Number

30-021-20608

### State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505

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

Pool Name

DOME

BRAVO

☐ AMENDED REPORT

WEII	I OCATION AND	ACPEAGE	DEDICATION PLAT
VV C.I.I.	LIN ALIUN AIVI	ALKEAUE	DELIN ALIENVELAL

Pool Code

96010

Proper	rty Code				LIRR	Y MI	Property NFR			1931				1	Vell Number 3-3-G
OGR	ID No.				222		Operator			2001				1	Elevation
251		-		RELIANT	EXP					DUCTION,	LLC.			4	496.5
						Surfa	ice Lo	cati	ion						
UL or lot no.	Section	To	wnship	Rang	ge		Lot Idn	Feet	from the	North/South line	Feet from	the	East/W	est line	County
G	18	19	NORTH	31 EAST,	N. M. P.	Р. М.		13	331'	NORTH	1331	'	EA	ST	HARDING
				Bottom F	Hole L	ocatio	n If L	Diffe	erent F	From Surfac	e				
JL or lot no.	Section	To	wnship	Rang	ge .		Lot Idn	Feet	from the	North/South line	Feet from	the	East/W	est line	County
Dedicated		Join	t or Infill	Consolidation Code	e Or	rder No.									
		l be a	ssigned to	this completion	until a	all intere	ests ha	ve be	en cons	solidated or a	non-stan	dard	unit has	been app	roved by the
			T					4				0.	PERATOR	CERTIFIC	CATION
											The	reby ceri	tify that the info	rmation contain	ed herein is true and
								.12							dief, and that this
								133							or unleased mineral action hale location or
			1		1										nursuani to a contract
_											with	an own	er of such a min	eral or working	interest, or to a
										1331'	1		oling agreement stered by the div	t or a compulsor vision	ry pooling order
					SU	JRFACE LIEW MEXIC	O EAST				Sign	ature			Date
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											C	Ser	wy ()	and	3/6/2014 15079 4WL-g (Rev. A) (

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

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

Form C-144 Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.

For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

# Pit, Below-Grade Tank, or

Proposed Alternative Method Permit or Closure Plan Application
Type of action:  Below grade tank registration  Permit of a pit or proposed alternative method  Closure of a pit, below-grade tank, or proposed alternative method  Modification to an existing permit/or registration  Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method
Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.
Operator: Reliant Exploration & Production, LLC OGRID #: 251905
Address: 10817 West County Road 60 Midland, TX 79707
Facility or well name:Libby Minerals LLC 1931 18-3-4 G
API Number: 30 - 021- 2060 8 OCD Permit Number:
U/L or Qtr/Qtr 6 G Section 18 Township 19N Range 31E County: Harding
Center of Proposed Design: Latitude 35.8808082° North Longitude 103.6822913° West
NAD: ⊠1927 ☐ 1983
Surface Owner: Federal State Private Tribal Trust or Indian Allotment
Pit: Subsection F, G or J of 19.15.17.11 NMAC   Temporary:   Drilling   Workover   Workover   Dermanent   Emergency   Cavitation   P&A   Multi-Well Fluid Management   Low Chloride Drilling Fluid   yes   no   Lined   Unlined Liner type: Thickness   20   mil   LLDPE   HDPE   PVC   Other   String-Reinforced   Liner Seams:   Welded   Factory   Other   Volume:   850   bbl Dimensions: L   80"   x W   80"   x D   6"
3.  Below-grade tank: Subsection I of 19.15.17.11 NMAC
Volume:bbl Type of fluid:
Tank Construction material:  Secondary containment with leak detection  Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off  Visible sidewalls and liner  Visible sidewalls only  Other  Liner type: Thickness mil  HDPE PVC Other
4.  Alternative Method:
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.
5.  Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)
Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)
☑ Four foot height, four strands of barbed wire evenly spaced between one and four feet
Alternate. Please specify

Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)	
Screen Netting Other	
Monthly inspections (If netting or screening is not physically feasible)	
7.	
Signs: Subsection C of 19.15.17.11 NMAC	
212"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers	
Signed in compliance with 19.15.16.8 NMAC	
8. Variances and Exceptions:	
Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.	
Please check a box if one or more of the following is requested, if not leave blank:  Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.	
Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	
9.	
Siting Criteria (regarding permitting): 19.15.17.10 NMAC Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptance and are provided below. Siting criteria does not apply to drying pads or above-grade tanks.	otable source
General siting	
Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.	☐ Yes ☐ No
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	NA Unknown
Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.	Yes No
NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	□ NA
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	Unknown
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
<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>	☐ 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).	Yes No
- 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	Yes No
Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)	
Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☑ No
Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.	☐ Yes ☑ No
- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	
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

15.49

Within 100 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ⊠ No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map, Visual inspection (certification) of the proposed site	Yes No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;  - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	Yes No
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	Yes No
Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.	
- NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site	Yes No
Within 500 feet of a wetland.  - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
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 do attached.	
Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19. and 19.15.17.13 NMAC Previously Approved Design (attach copy of design) API Number: or Permit Number:	15.17.9 NMAC
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 do attached.  Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC  Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC  A List of wells with approved application for permit to drill associated with the pit.  Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 and 19.15.17.13 NMAC  Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  Previously Approved Design (attach copy of design) API Number:  or Permit Number:	9.15.17.9 NMAC

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    Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC    Quality Control/Quality Assurance Construction and Installation Plan    Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC    Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC    Nuisance or Hazardous Odors, including H₂S, Prevention Plan    Emergency Response Plan    Oil Field Waste Stream Characterization    Monitoring and Inspection Plan    Erosion Control Plan    Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC	
13.  Proposed Closure: 19.15.17.13 NMAC  Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.	
Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Multi-well Fl Alternative  Proposed Closure Method: Waste Excavation and Removal Waste Removal (Closed-loop systems only) On-site Closure Method (Only for temporary pits and closed-loop systems) In-place Burial On-site Trench Burial Alternative Closure Method	luid Management Pit
Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be closure plan. Please indicate, by a check mark in the box, that the documents are attached.  ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC	
15. Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable sour provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. F 19.15.17.10 NMAC for guidance.	
Ground water is less than 25 feet below the bottom of the buried waste.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA
Ground water is more than 100 feet below the bottom of the buried waste.  - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	Yes No
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.  - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application.  - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	☐ Yes ☐ No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☐ No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	Yes No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

The street will be a second of the second

adopted pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality, Written approval obtained from the municipality	] Yes ☐ No
Within the area overlying a subsurface mine.  - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	Yes 🗌 No
Within an unstable area.	
- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	] Yes □ No
Within a 100-year floodplain.	Yes No
16.	
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure plan. It by a check mark in the box, that the documents are attached.  Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC  Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC  Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NI  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 cannot be 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	NMAC 7.11 NMAC
Operator Application Certification:	
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.	
Name (Print): Vance Vanderburg Title: Manager	
Signature: Date: J-20-14	
Signature: Date: $d - h U - f U$	
e-mail address: vance@reliantholdingsltd.com Telephone: 432-559-7085	
OCD Approval: Permit Application (including closure plan) Closure Plan (only) COD Conditions (see attachment)	17 11 - 17 - 17 - 17 - 17 - 17 - 17 - 1
OCD Representative Signature: Approval Date: 3/2 4/3	2014
Title:DISTRICT SUPERVISOR OCD Permit Number:	
19.  Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC  Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete form until an approved closure plan has been obtained and the closure activities have been completed.  Closure Completion Date:	e closure report. mplete this
20. Closure Method:	
☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop sy ☐ If different from approved plan, please explain.	systems only)
Closure Report Attachment Checklist: Instructions: Each of the following items must be attached to the closure report. Please indicate mark in the box, that the documents are attached.  Proof of Closure Notice (surface owner and division)  Proof of Deed Notice (required for on-site closure for private land only)  Plot Plan (for on-site closures and temporary pits)  Confirmation Sampling Analytical Results (if applicable)  Waste Material Sampling Analytical Results (required for on-site closure)  Disposal Facility Name and Permit Number  Soil Backfilling and Cover Installation  Re-vegetation Application Rates and Seeding Technique  Site Reclamation (Photo Documentation)  On-site Closure Location: Latitude  Longitude  NAD: 1927 1	

1.4.

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	
Name (Print):	Title:
Signature:	Date:
e-mail address:	Telephone:



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### **Hydrogeological Data**

### Well Name:

Libby Minerals LLC 1931 18-3-

### **Topography:**

This location is within the Great Plains Physiographic Province, with flat to rolling prairie and scattered hills and bluffs. The land gradually rises westward, giving way to the frontal ranges of the Rocky Mountains. Elevation of the referenced well is approximately 4496 feet above mean sea level. The location appears to be on a gentle western slope.

### Soils:

There is one soil type within 100 feet of the proposed well pad area: **Amarillo fine sandy loam**. This soil is found on plains. It is a well-drained soil, and the depth to the water table is more than 80 inches. There is no frequency of ponding or flooding.

#### Source:

Natural Resources Conservation Service. No Date. Web Soil Survey. <a href="http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx">http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx</a>. Accessed January 2013.

### Geology:

The surface geology within the proposed project area is alluvium (Holocene). Alluvium consists of silt, sand, and gravel of modern floodplains and streams.

#### Sources:

U.S. Geological Survey (USGS). 2005. GIS shapefile: nmgeol\_dd\_polygon.

http://mrdata.usgs.gov/geology/state/metadata/nm.html.

U.S. Geological Survey (USGS). No Date. Correlation of Map Units.

http://cogcc.state.co.us/infosys/Maps/images/Geology250MapLegends/lamarLegend.pdf.

#### Surface Hydrology:

The proposed well pad appears to be on a gentle, western slope. The nearest apparent drainage, an unnamed tributary to Ute Creek, is approximately 250 feet east of the proposed well pad. Another unnamed tributary to Ute Creek is approximately 1200 feet west of the proposed well pad. Ute Creek is approximately 1 mile northeast of the proposed well pad.

### **Ground Water Hydrology:**

This location is within central Harding County, New Mexico, within the Great Plains Physiographic Province. The High Plains aquifer extends westward into eastern Harding County, but in the proposed project region there is no principal aquifer. Aquifers do not exist here, yield too little water to wells to be significant, or yield sufficient water to supply local requirements but are not extensive enough to be classified as a major aquifer.

Depth to groundwater is unknown at this location, because the nearest recorded well with available water-depth information is approximately 3.3 miles from the location (see Siting Criteria Map I, attached). The nearest water wells identified on the OSE shapefile are listed below:

<u>Well</u>	Distance/Direction from Proposed Project Area	Elevation	Depth to Water
17 TU Wells	~1.0 to 8.5 miles in various directions	varied	No Data
TU 01361	~6.8 miles northwest	4580 feet	33 feet
TU 01363	~3.3 miles north	4480 feet	24 feet
TU 01698	~4.6 miles west	4560 feet	70 feet
600 Reilty Ave. Farmington, NM 8740 <sup>o</sup> 835 E. 2 <sup>nd</sup> Ave. Suite 2 Durango, CO 81301			Phone (505) 327-6331 Fax (505) 327-6332 Phone (970) 375-9703 Fax (970) 247-0941



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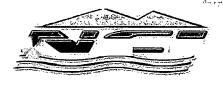
### Sources:

United States Geological Survey. 2001. Groundwater Atlas of the United States: Arizona, Colorado, New Mexico and Utah. USGS Publication HA 730-C. <a href="http://capp.water.usgs.gov">http://capp.water.usgs.gov</a>.

New Mexico Office of the State Engineer. 2011. GIS shapefile: ose\_wells\_July2011. http://www.ose.state.nm.us/water\_info\_data.html.

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### **Siting Criteria Compliance Demonstrations**

### 1. Depth to groundwater (should not be less than 25 feet):

Depth to groundwater is unknown at this location, because the nearest recorded well with available water-depth information is approximately 3.3 miles from the location (see Siting Criteria Map I, attached). The nearest water wells identified on the OSE shapefile are listed below:

Well	Distance/Direction from Proposed Project Area	Elevation	Depth to Water
17 TU Wells	~1.0 to 8.5 miles in various directions	varied	No Data
TU 01361	~6.8 miles northwest	4580 feet	33 feet
TU 01363	~3.3 miles north	4480 feet	24 feet
TU 01698	~4.6 miles west	4560 feet	70 feet

# 2. Presence within incorporated area (should not be within incorporated municipal boundaries or within defined municipal fresh water well field covered under municipal ordinance):

Topographic maps, aerial photos, and OSE shapefiles indicate the pit would not be within an incorporated area or municipal fresh water well field (see Siting Criteria Maps 1 and 2).

### 3. Location above subsurface mine (should not overlie a subsurface mine):

The pit would not overlie a mine. The New Mexico Energy, Minerals, and Natural Resources Department, Mining and Minerals Division, provides a spreadsheet of active (last updated August 2013) Mines, Mills, and Quarries along with their geographic locations. These locations were downloaded and placed into a geographic information system (GIS). A topographic map; aerial photo; and the Mines, Mills, and Quarries Map indicate that there are no subsurface mines in the area (see Mines, Mills, and Quarries Map).

### 4. Presence within unstable area (should not be within an unstable area):

A topographic map and aerial photo indicate the location would not be within an unstable area. The location would be on a gentle slope (See Siting Criteria Maps 1 and 2).

### 5. Presence within floodplain (should not be within a 100-year floodplain):

The location has not been mapped by FEMA (see FEMA Map Service Center screenshot, attached). Therefore, the proposed pit is not located within a FEMA-designated 100-year floodplain.

# 6. Distance to watercourse (should not be within 100 feet of a continuously flowing watercourse or any other significant watercourse, or within 200 feet of a lakebed, sinkhole, or playa lake):

According to a topographic map and aerial photo, there are no significant watercourses, lakebeds, sinkholes, or playa lakes within 200 feet of the proposed pit (see Siting Criteria Maps 1 and 2).

### Distance to buildings (should not be within 300 feet of an occupied permanent residence, school, hospital, institution, or church):

An aerial photo indicates that the pit would not be within 300 feet of any buildings (see Siting Criteria Map 2).

# 8. Distance to springs or wells (should not be within 200 feet of a spring or private, domestic fresh water well used by less than five households, or within 300 feet of any other fresh water well or spring):

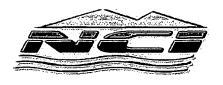
Topographic maps and OSE shapefiles indicate the pit would not be within 300 feet of any recorded well or spring (see Siting Criteria Maps 1 and 2).

#### 9. Distance to wetlands (should not be within 100 feet):

The U.S. Fish and Wildlife Service National Wetlands Inventory indicates that there are no wetlands within 100 feet of the proposed well pad. Topographic maps, aerial photos, and soil data also indicate that there are no

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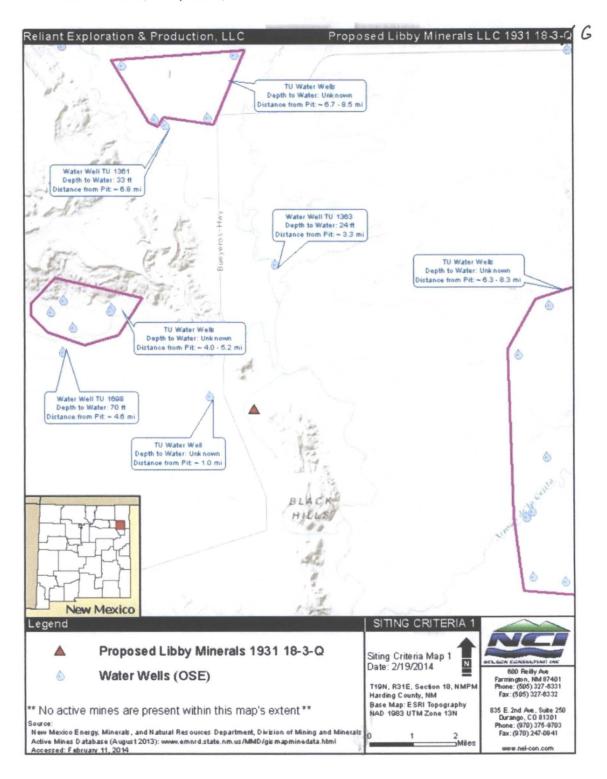
wetlands within 100 feet of the proposed pit (see National Wetlands Inventory Map, Hydrogeological Data – Soils, and Siting Criteria Maps 1 and 2).

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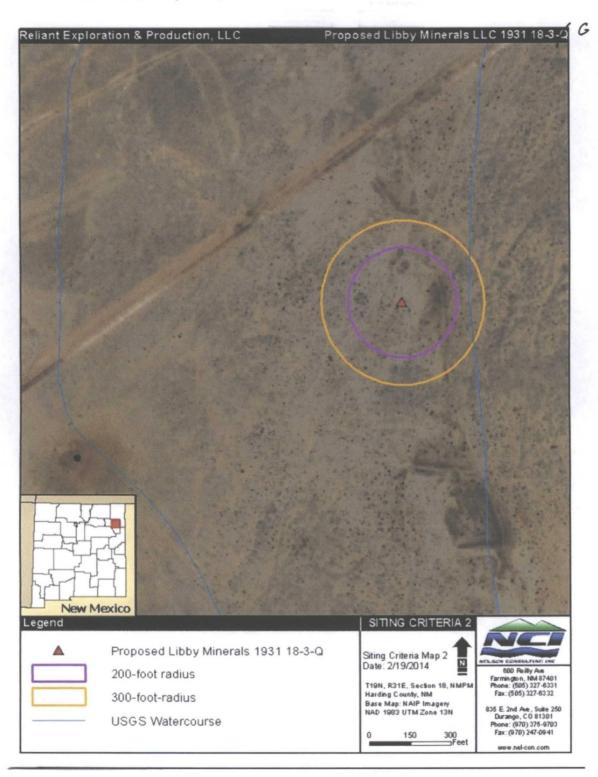


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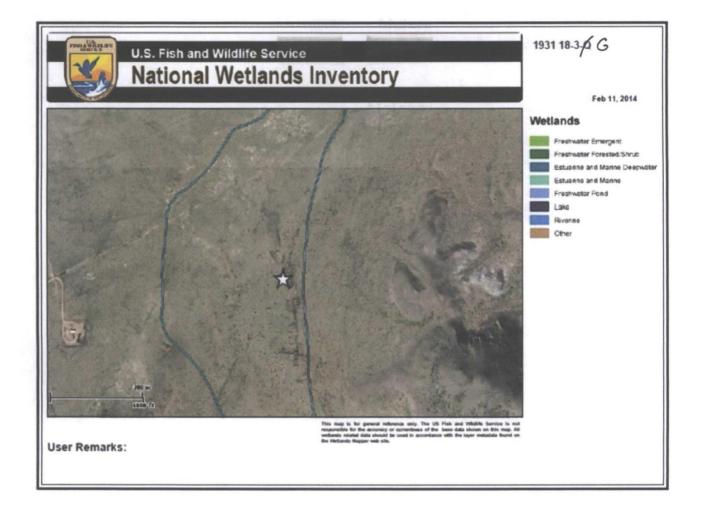


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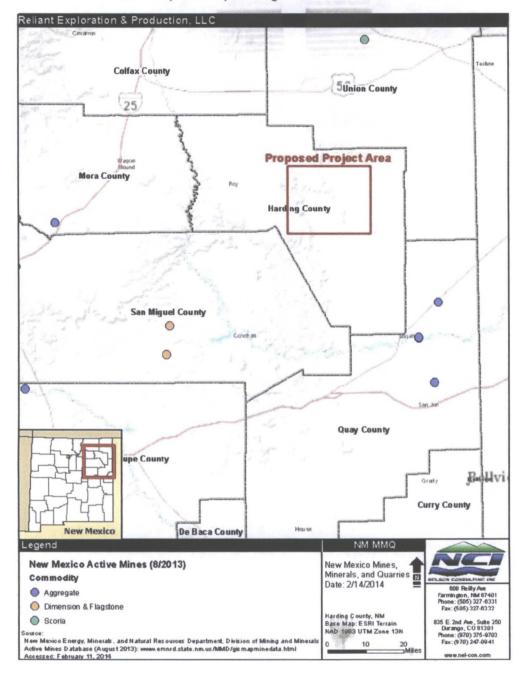
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### MINES, MILLS, AND QUARRIES IN NEW MEXICO



### Source:

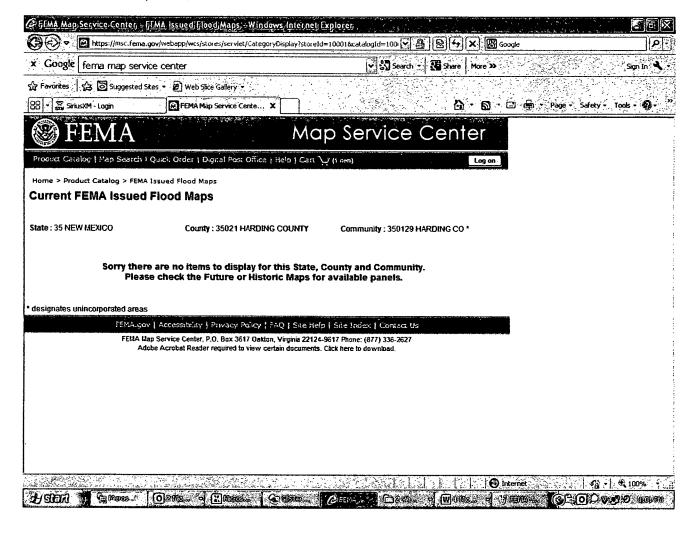
New Mexico Energy, Minerals and Natural Resources Department, Division of Mining and Minerals. Active Mines Database. 2013. <a href="https://www.emnrd.state.nm.us/MMD/gismapminedata.html">www.emnrd.state.nm.us/MMD/gismapminedata.html</a>. Accessed February 2013.

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# Reliant Temporary Pit Design Plan (Based on Appropriate Requirements of 19.15.17.11 NMAC)

The pit would be designed and constructed to ensure the confinement of liquids.

Prior to constructing the pit, topsoil would be stripped and stockpiled for use as final cover or fill at the time of closure.

The pit would be designed to prevent run-on of surface water. A berm, ditch, proper sloping, or other diversion would be constructed around the pit to prevent run-on of surface water. During drilling operations, the edge of the pit adjacent to the drilling or workover rig may not have protection if the pit is being used to collect liquids escaping from the rig and run-on will not result in a breach of the pit.

The volume of the pit would not exceed 10 acre-feet, including freeboard.

The pit would have a properly constructed foundation and interior slopes consisting of a firm, unyielding base. The base would be smooth and free of rocks, debris, sharp edges, or irregularities to prevent the rupture or tearing of the liner. Slopes would be no steeper than two horizontal feet to one vertical foot (2H:1V). If an alternative slope is needed, the NMOCD district office would need to approve the alternative, based on Reliance's demonstration that it could construct and operate the pit in a safe manner to prevent contamination of fresh water and protect public health and the environment.

Excavated materials from the pit would not be placed within 100 feet of a significant watercourse; within 200 feet of a lakebed, sinkhole, or playa lake; within 100 feet of a wetland; or within a 100-year floodplain.

#### Pit liner:

- The pit would have a geomembrane liner with 20-mil, string-reinforced LLDPE or its equivalent (approved by the NMOCD district office). This liner would be composed of an impervious, synthetic material resistant to petroleum hydrocarbons, salts, acidic and alkaline solutions, and ultraviolet light. The liner would comply with EPA SW-846 method 9090A.
- Liners would be oriented up and down, not across, slopes.
- Prior to field seaming, liners would be overlapped four to six inches. Liner seams would be minimized in corners
  and irregularly shaped areas. Qualified personnel would perform field-welding and testing of liner seams. Factorywelded seams would be used where possible.
- Construction would avoid excessive stress-strain on the liner.
- Geotextile would be used under the liner where needed to reduce localized stress-strain or protuberances that may compromise the liner's integrity.
- The edges of all liners would be anchored in the bottom of a compacted, earth-filled trench that is at least 18 inches deep (unless anchoring to encountered bedrock provides equivalent anchoring).
- The liner would be protected from any fluid force or mechanical damage at any point of discharge into or suction from the pit.

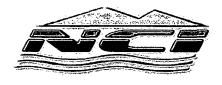
If an adequate perimeter fence does not already prevent unauthorized access to the well site, the pit would be fenced or enclosed in a manner that deters unauthorized access. The fence would be at least four foot high with at least four strands of barbed wire evenly spaced between 1 and 4 feet. Fences would be maintained in good repair. During drilling or workover operations, three sides of the pit would be fenced; the side adjacent to the drilling or workover rig would remain open only during such operations.

An upright sign (at least 12-by-24 inches with lettering at least 2 inches high) would be placed conspicuously on the fence surrounding the pit, unless the site has an existing well sign (complying with 19.15.16.8 NMAC). The sign would be posted in a manner and location such that the legend could be easily read, and would contain the following information: operator's name, legal location (quarter-quarter or unit letter, section, township, and range), and emergency telephone number(s).

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Form C-144



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# Reliant Temporary Pit Operating & Maintenance Plan (Based on Appropriate Requirements of 19.15.17.12 NMAC)

The pit would be maintained to contain liquids and solids, maintain the integrity of the liner, prevent contamination of fresh water, and protect public health and the environment.

Pit operation would prevent the collection of surface water run-on.

All drilling fluids would be recycled, reused, reclaimed, or disposed of in a manner approved by NMOCD rules.

Only fluids used or generated during the drilling, completion, or workover processes would be discharged into the pit. Hazardous waste would not be discharged into or stored in the pit. The pit would remain free of miscellaneous solid waste or debris. If the pit liner's integrity is compromised above the liquid's surface, Reliant would repair or initiate liner replacement within 48 hours of discovery; alternatively, a variance would be sought from the NMOCD district office.

If the pit develops a leak or if any penetration of the liner occurs below the liquid's surface, all liquid above the damage or leak line would be removed within 48 hours, the NMOCD district office would be notified, and the liner would be repaired or replaced.

The injection or withdrawal of liquids from the pit would be accomplished via a header, diverter, or other hardware that prevents damage to the liner by erosion, fluid jets, or the impact from installation and removal of hoses or pipes.

An oil-absorbent boom or other device would be installed and maintained onsite to contain an unanticipated release.

At least two feet of freeboard would be maintained. In temporary, extenuating circumstances, a freeboard of less than two feet could be maintained; in such a circumstance, a log would be maintained describing the situation. This log would be made available to the NMOCD, upon request.

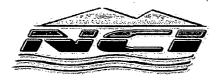
The pit would be inspected at least once daily while the drilling or workover rig is onsite. Thereafter, the pit would be inspected weekly as long as liquids remain within it. An inspection log would be maintained and made available to the NMOCD district office upon request.

Immediately after cessation of a drilling or workover operation, any visible layer of oil would be removed from the surface of the pit.

All free liquids would be removed from the pit within 60 days from release of the drilling or workover rig. On form C-105 or C-103, the date of the drilling or workover rig's release would be noted. If necessary, an extension of up to two months could be requested from the NMOCD district office, not to exceed the temporary pit life span (defined in 19.15.17.7.R NMAC).

Any liquids used for cavitation would be removed from the pit within 48 hours after completing cavitation. If it is not feasible to access the location within 48 hours, this would be demonstrated to the NMOCD district office's satisfaction and additional time would be requested.

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### **Reliant Temporary Pit Closure Plan**

### (Based on Appropriate Requirements of Subsection C, 19.15.17.9 NMAC & 19.15.17.13 NMAC)

The pit would be closed within six months of the date that the drilling or workover rig is released. The release date would be noted on Form C-105 or C-103, filed with the NMOCD upon the well or workover's completion. The NMOCD district office could grant an extension not to exceed three months.

#### Closure Notice:

At least 72 hours but not more than one week before closure operations begin:

- The surface owner would be notified of the closure by certified mail with return receipt requested; the address
  indicated on county tax records would be used. The notice would include the operator's name, well name and
  number, well API number, and well location (unit letter, section, township, and range).
- The NMOCD district office would be notified of the closure verbally and in writing. The notice would include the
  operator's name, well name and number, well API number, and well location (unit letter, section, township, and
  range).

Approval of the closure plan would be obtained prior to closing the pit.

All contents and, if applicable, synthetic liners from the pit would be removed prior to closure. Liquids would be disposed of at the Sundance Services, Inc. Parabo Disposal Facility (Permit No. 010003).

#### Soil Testing:

The soils beneath the pit would be tested. A minimum five-point composite sample would be collected under the liner. The sample would include any area that is obviously stained, wet, or showing evidence of contamination. The samples would be sent to an approved laboratory and analyzed for benzene, total BTEX, TPH, the GRO and DRO combined fraction, and chlorides. Per Table I of 19.15.17.13 NMAC, the following constituents, methods, and constituent limits would apply:

- Benzene (as determined by EPA SW-846 method 8021B or 8015M or other NMOCD-approved EPA method): 10 mg/kg (numerical limits or background concentration, whichever is greater)
- BTEX (as determined by EPA SW-846 method 8021B or 8260B or other NMOCD -approved EPA method): 50 mg/kg (numerical limits or background concentration, whichever is greater)
- TPH (as determined by EPA SW-846 method 418.1 or other NMOCD -approved EPA method): 2500 mg/kg (numerical limits or background concentration, whichever is greater)
- GRO and DRO combined fraction (as determined by EPA SW-846 method 8015M): 500 mg/kg (numerical limits or background concentration, whichever is greater)
- Chlorides (ads determined by EPA method 300.0): 10,000 mg/kg (numerical limits or background concentration, whichever is greater)

If the above constituent limits are met, the pit would be backfilled with non-waste-containing, uncontaminated, earthen material. If any of the above constituents exceeds the limits, the NMOCD would review the results and could require additional delineation; in such a case, Reliant would await NMOCD approval before proceeding with pit closure.

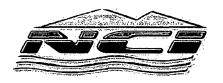
Areas reasonably needed for production or subsequent drilling operations would be compacted and covered, paved, or otherwise stabilized. These areas would be maintained in such a way as to minimize dust and erosion.

#### Reclamation:

Per Subsection H of 19.15.17.13 NMAC, all areas associated with the pit that would not be needed for production or subsequent drilling operations would be substantially restored to a safe and stable condition that blends with the

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surrounding, undisturbed area. These areas would be reclaimed as early and as nearly as practicable to their original condition and maintained to control dust and minimize erosion. If an alternative to these requirements is necessary to prevent erosion or to protect fresh water, human health, and the environment, this alternative would be proposed to the surface owner. The proposed alternative, with written documentation demonstrating that the surface owner approves the alternative, would be submitted to the NMOCD for approval. Otherwise, the following steps would be followed:

- The location would be recontoured so as to approximate the original contour and blend with the surrounding topography.
- Soil cover would consist of the background thickness of topsoil or one foot of material suitable for establishing vegetation at the site, whichever is greater. Topsoils and subsoils would be replaced in their original relative positions. Soil cover would be constructed to the site's existing grade and would be contoured so as to achieve erosion control, long-term stability, and preservation of surface water flow patterns.
- In the first favorable growing season following pit closure, the disturbed area would be seeded.
- Reclamation would be considered complete when all surface-disturbing activities at the site are completed and a
  uniform vegetative cover has been established. This cover would have a life-form ratio of plus or minus 50% of predisturbance levels and a total percent plant cover of at least 70% of pre-disturbance levels (excluding noxious
  weeds)
- The NMOCD would be notified when reclamation and successful revegetation has been achieved.