ENVIRONMENTAL PLUS, INC.

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Eunice, NM 88231
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APPROVED
By Olivia Yu at 9:03 am, May 15, 2017

NMOCD approves 1RP-3901 for closure. Like approval from NMSLO required.

Final Closure Report

Vanguard
Nowata AGR State #1
Lea County, New Mexico
Unit Letter "P", Section 9, Township 18 South, Range 35 East
Latitude 32.7573739 North, Longitude 103.4571457 West
NMOCD Reference #1RP-3901

Prepared For:

Vanguard
4001 Penbrook, Suite 201
Odessa, Texas 79762

Prepared By:

Environmental Plus, Inc.
2100 Ave 'O'
Eunice, NM 88231

April 2017

Daniel Dominguez
Project Manager

The following *Final Closure Report* serves as a condensed update on field activities undertaken for the afore referenced Site.

Background:
The site is located in Unit Letter P (SE ¼ SE ¼), Section 9, Township 18 South, Range 35 East, approximately twenty-four miles north-west of Hobbs, in Lea County, New Mexico. The property is owned by the State of New Mexico.

The release site is located in the pasture south of an active tank battery and flow line; latitude 32.7573739 North, longitude 103.4571457 West. Area Map, Site Location Map, and Sample/Site Map are included as Figure 1, Figure 2, and Figure 3, respectively. The Initial NMOCD Form C-141 indicates that on August 28, 2015 a flowline ruptured causing a release of approximately 45bbls of produced water. A vacuum truck was utilized to recover approximately 20bbls of produced water, resulting in a net loss of 25 barrels. A second, historical, release area was also included, via NMOCD approval, with this RP (reference *Attachment V*). The visually affected areas total approximately 22,000 square feet. The Initial NMOCD Form C-141 is included as Attachment VI.

At the time of the Nowata AGR State #1 release, the location was owned by LRE Operating, Inc. (LRE). Talon LPE was contracted by LRE to delineate the release area documented in the Initial C-141, 1RP-3901. A Work Plan was written by Talon LPE and approved by the NMOCD. The first four pages of the approved Work Plan, documenting Talon LPE delineation findings and proposed actions, are included as Attachment IV. LRE subsequently sold the location to Vanguard Operating, LLC (Vanguard). After the sale and purchase of the location, Environmental Plus, Inc. (EPI) was contracted by Vanguard to continue delineation and remediation efforts at the location. It was at this time the historic release area was included with 1RP-3901 (reference *Attachment V*).

NMOCD Site Classification:
A search for water wells was completed utilizing the New Mexico Office of the State Engineer's (NMOSE) website. There are seven wells located in the area surrounding the release site (reference *Table 1*). Also, no wells (domestic, agriculture or public) and no bodies of surface water exist within a 1,000-foot radius of the release site (reference *Figure 2*). One well, L 10304, located only forty meters from the release area, has a reported depth to water of 72 feet below ground surface (bgs) and Use reference of PRO (Prospecting or development of a natural resource). However, based on the Form C-105 associated with the well API No. for the Nowata AGR State #1, included in Attachment II, is evidence that well L 10304 is the Nowata AGR State #1 and it's easting and northing references are slightly off. The NMOSE database indicates average water depth is approximately 62 feet bgs within a 2,000-meter radius (reference *Table 1, and Attachment II*).

Utilizing this information, the NMOCD guidelines indicate the Nowata AGR State #1 release site to have a ranking score of ten. Based on this score, the NMOCD Recommended Remedial Action Levels (RRALs) for this Site were determined as follows: Benzene – 10 mg/Kg, BTEX – 50 mg/Kg, TPH – 1,000 mg/Kg, and Chloride – 500 mg/Kg.

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The produced water flowed south-east from the tank battery into pasture covering an area approximately 320 x 150 feet. The historic release area is adjacent the release area to the east, covering an area approximately 60 x 110 feet. The area consists of approximately two - four feet of loamy topsoil atop a hard caliche layer.

Delineation Activities:
On May 31, 2016 EPI personnel mobilized on site to collect soil samples to determine the vertical extent of contamination at the historic release area. A total of seven soil samples were collected from two sample locations; SP1 – SP2. All seven soil samples were field tested for organic vapors and chlorides. Field testing indicates elevated readings for organic vapors and chlorides between surface and two to three feet bgs. Two representative soil samples were sent to Cardinal Labs in Hobbs, New Mexico, for testing. Laboratory analytical results indicate Benzene, BTEX, TPH, and Chloride concentrations are below NMOCD RRALs at sample location TD (reference *Figure 3* and *Table 2*).

Portions of select soil samples were field tested for organic vapors and chloride concentrations. Soil samples collected for field testing of organic vapors were placed in self-sealing polyethylene bags and allowed to equilibrate to ~70° F. Field testing of organic vapors utilized a Mini-Rae™ Photoionization Detector (PID) equipped with a 10.6 electron-volt (eV) calibrated for benzene response. Chloride concentrations were determined via use of a LaMotte Chloride Kit (Titration Method).

Soil samples designated for laboratory analyses were collected into laboratory provided glass containers, labeled and inserted into self-sealing polyethylene bags, placed in a cooler, chilled and transported to an independent laboratory for quantification of contaminant concentrations under Chain-of-Custody protocol.

On December 8, 2016 EPI personnel were on site to collect soil samples from the side walls of the excavation. A total of ten soil samples were collected from nine side wall sample locations, with one confirmation sample collected from the excavation floor at the area of sample S-1. All ten samples were sent to Cardinal labs for Chloride testing. Laboratory analytical results indicate that eight of the ten the side wall samples were below NMOCD RRALs, while two side wall samples, SP7 and SP9 were above NMOCD RRALs for Chloride (reference *Figure 3* and *Table 2*). These two areas were excavated and then resampled on December 20, 2016; both samples were sent to the lab for Chloride testing. Laboratory analytical data indicates Chloride concentrations are below NMOCD RRALs for Chloride (reference *Figure 3* and *Table 2*).

Completed Actions:
Based on Talon LPE proposal, field testing, laboratory analytical data, and NMOCD approval, EPI excavated the release area around S-1 to four feet bgs, S-2 to four feet bgs, S-3 to two and half feet bgs, and the historic release area to three feet bgs. Approximately 1,176 cubic yards of contaminated soil were hauled to state approved facility for disposal. A 20-mil poly-ethylene liner was installed over the area of S-2, and the excavation was then backfilled with approximately 1,176 cubic yards of clean soil.

Caliche and top soil were free of deleterious material or rocks or large clumps. Backfilling continued until the excavation was closed. Upon completion of backfill activities, the disturbed area was contoured to blend with existing pasture area and protected against wind/water erosion. The entire disturbed area will also be seeded and watered.

Revegetation Plan:
In an attempt to achieve native plant cover and diversity levels equal to or exceeding the natural potential levels in undisturbed soils adjacent to the release area, the disturbed pasture area will be seeded with BLM mixture #2 at a rate of 22 lbs per acre. Seed will be applied to the area utilizing a drill seeder in late spring 2017 when ground conditions are more conducive to vegetative growth. After seeding has been competed the area will be thoroughly watered. After a period of three months the area will be examined for vegetative growth and re-seeded if no growth has occurred.

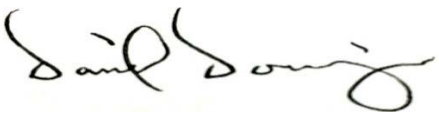
Noxious Weed Management Plan:
In an effort to prevent the spread of noxious weeds such as African Rue, Siberian Elm, Jointed Goatgrass, Russian Olive, Camelthorn, Saltcedar, Starthistle varieties, Hoary Cress and Russian Knapweed, the area will be confirmed to be clear of any noxious weeds. If any are located they will be removed by hand and the area treated with an appropriate herbicide. Applied seed mix will contain no primary or secondary noxious weeds and will either be certified or registered seed. After a period of three months the area will be examined for noxious weed growth and re-treated if any growth has occurred.

Should you have any questions or concerns please feel free to contact me at (575) 394-3481 or via e-mail at ddominguezepi@gmail.com or Mr. Chuck Johnston at (432) 202-4771 or via e-mail at cjohnston@vnrllc.com. All official communication should be addressed to:

Mr. Chuck Johnston
Vanguard
4001 Penbrook, Suite 2001
Odessa, Texas 79762

Sincerely,

ENVIRONMENTAL PLUS, INC.



Daniel Dominguez
Environmental Consultant

cc: Olivia Yu, Environmental Specialist – NMOCD District 1, Hobbs, NM
Amber Groves, Remediation Specialist – NMSLO, Hobbs, NM
Chuck Johnston, EHS – Vanguard
File

Encl.: Figure 1 – Area Map
Figure 2 – Site Location Map
Figure 3 – Sample/Site Map
Table 1 – Well Data
Table 2 – Summary of Soil Sample Field Testing and Laboratory Analytical Results
Attachment I – Photographs
Attachment II – Cop of NMOCD Form C-105, NMOSE Average Depth to Groundwater
Attachment III – Laboratory Analytical Results
Attachment IV – Pages 1-4 of NMOCD Approved Talon LPE Work Plan
Attachment V – E-mail Correspondence
Attachment VI – Copy of Initial NMOCD Form C-141, Final NMOCD Form C-141

FIGURES

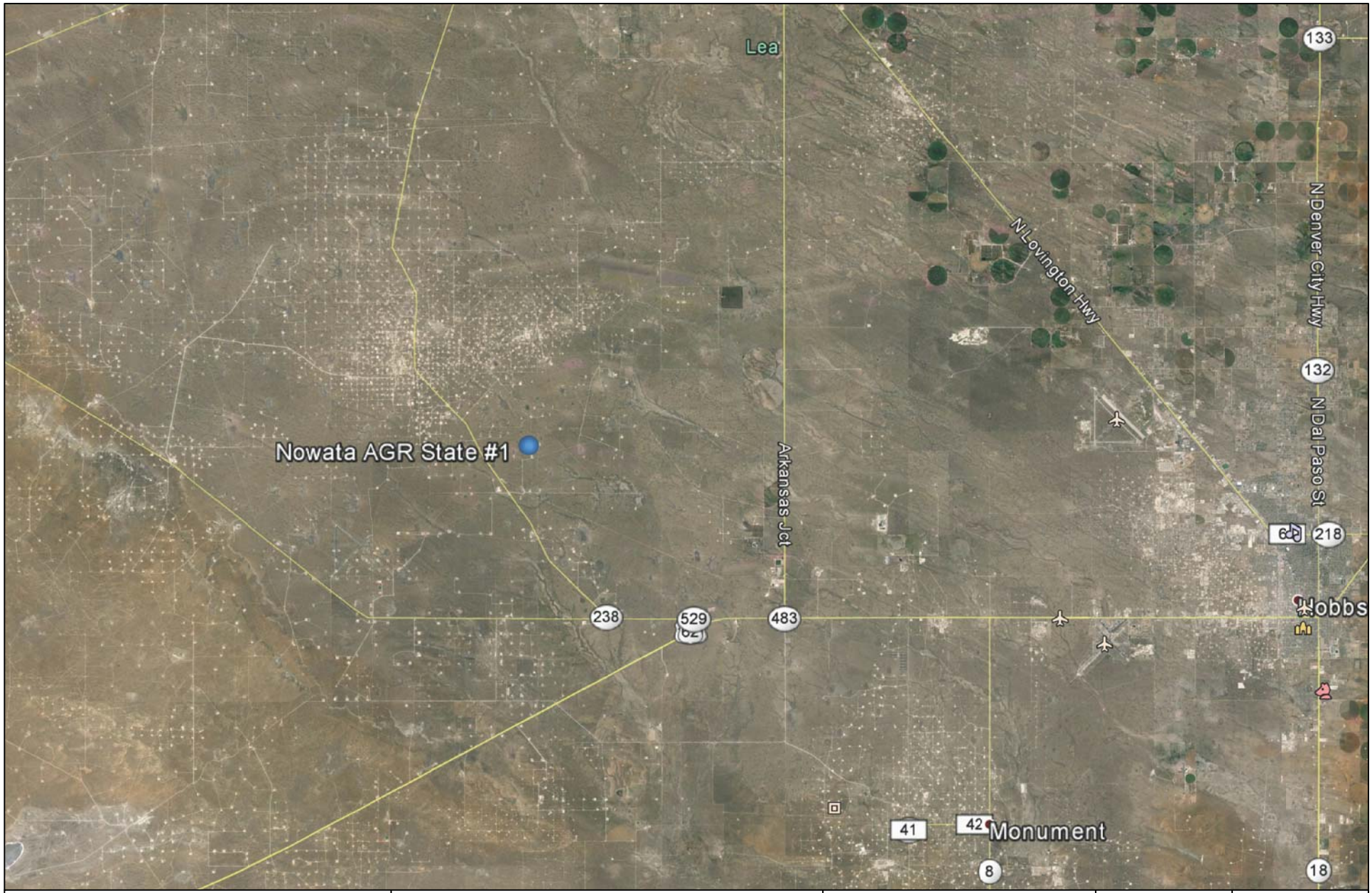


Figure 1 Area Map Vanguard Nowata AGR State #1	Lea County, New Mexico SE 1/4 of SE 1/4, Sec. 9, T18S, R35E N 32° 45' 26.42" W 103° 27' 25.82" Elevation: 3,932 feet amsl	DWG By: D Dominguez January 2017 0 3 6 Miles	REVISED: SHEET 1 of 1 N

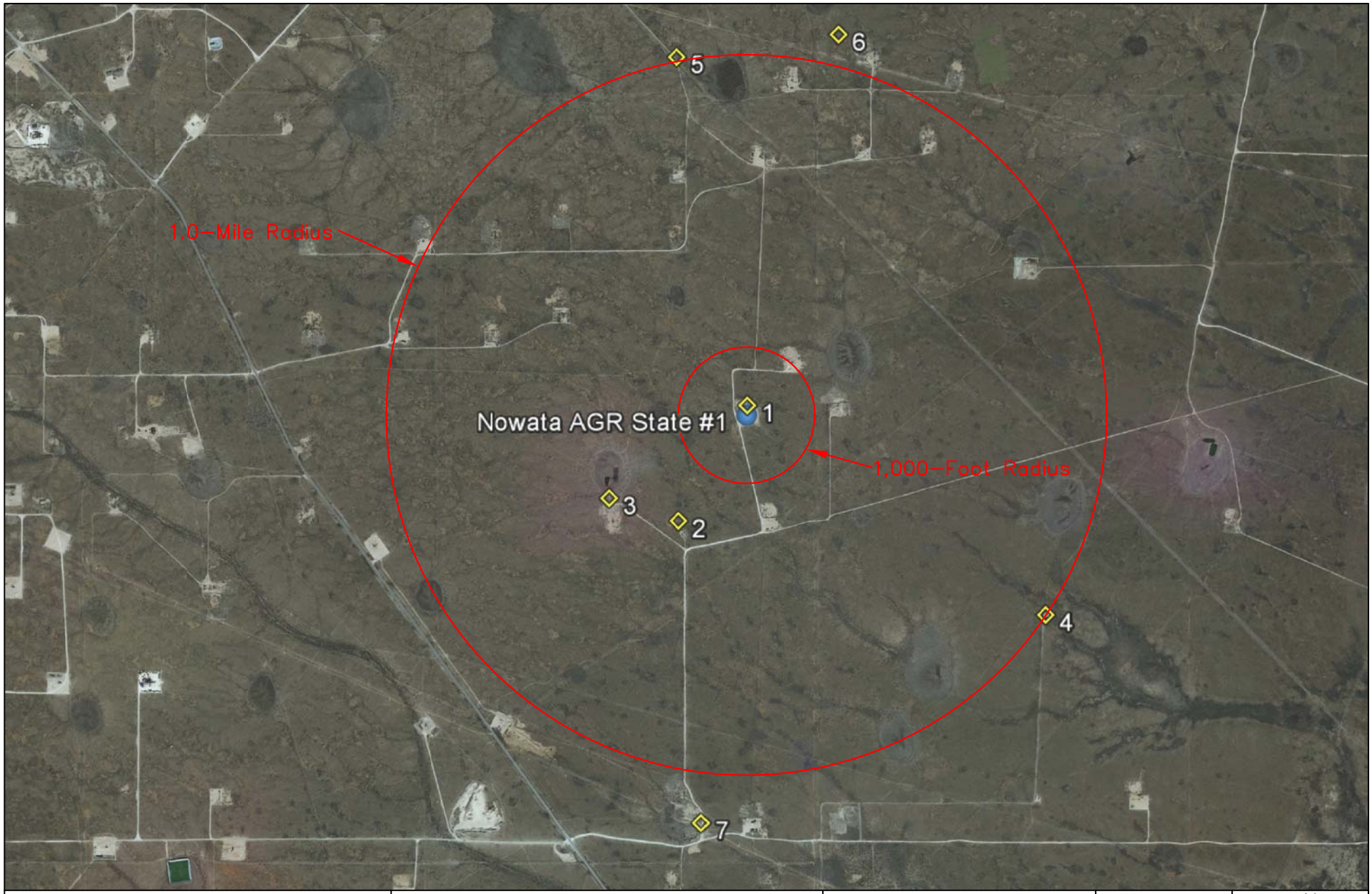


Figure 2 Site Location Map Vanguard Nowata AGR State #1	Lea County, New Mexico SE 1/4 of SE 1/4, Sec. 9, T18S, R35E N 32° 45' 26.42" W 103° 27' 25.82" Elevation: 3,932 feet amsl	DWG By: D Dominguez January 2017 0 2,000 4,000 Feet	REVISED: SHEET 1 of 1 N

Figure 3 Site/Sample Map Vanguard Nowata AGR State #1	Lea County, New Mexico SE 1/4 of SE 1/4, Sec. 9, T18S, R35E N 32° 45' 26.42" W 103° 27' 25.82" Elevation: 3,932 feet amsl	DWG By: D Dominguez January 2017	REVISED:	N
		0 50 100 Feet	SHEET 1 of 1	

TABLES

TABLE 1

Well Data

Vanguard - Nowata AGR State #1

Ref #	Well Number	Use	Diversion[A]	Owner	q64	q16	q4	Sec	Twsp	Rng	Easting	Northing	Distance[B]	Date Measured	Surface Elevation[C]	Depth to Water (ft bgs)
1	L 10304	PRO	0	YATES PETROLEUM	1	4	4	9	18S	35E	644526	3625479	40	01-Feb-93	3,933	72
2	L 02675	IND	8330	INTREPID MINING NM LLC		1	2	16	18S	35E	644231	3624972	551	15-Jan-57	3,932	60
3	L 06047	STK	3	SCHARBAUER CATTLE COMPANY	2	2	1	16	18S	35E	643927	3625066	704	26-Sep-66	3,935	65
4	L 02675	IND	8330	U.S. BANK NATIONAL ASSOCIATION		3	2	15	18S	35E	645850	3624587	1,575	17-Oct-56	3,907	47
5	L 04206	PRO	0	JOHNN DRILLING CO		3	4	4	18S	35E	644194	3626992	1,587	09-Jul-59	3,941	50
6	L 07872	PRO	0	ENERGY RESERVES GROUP INC	1	3	3	3	18S	35E	644900	3627101	1,703	07-Apr-78	3,937	62
7	L 09588	PRO	0	W. C. BLANKS	4	3	4	16	18S	35E	644349	3623659	1,788	28-Nov-84	3,919	84

* = Data obtained from the New Mexico Office of the State Engineer Website (http://iwaters.ose.state.nm.us:7001/iWATERS/wr_RegisServlet1)

[A] = In acre feet per annum [B] = In meters [C] = Elevation interpolated from USGS topographical map based on referenced location

PRO = 72-12-1 Prospecting or development of Natural Resource

IND = Industrial

STK = 72-12-1 Livestock watering

quarters are 1=NW, 2=NE, 3=SW, 4=SE; quarters are smallest to biggest

-- = Data not provided on the NM iwaters website

TABLE 2
Summary of Soil Sample Field Testing and Laboratory Analytical Results
Vanguard
Nowata AGR State #1

Lab Sample ID	Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO C6-C10 (mg/Kg)	DRO C10-C28 (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
SP1	Surface	Excavated	31-May-16	20.2	1,800	--	--	--	--	--	--	--	--	--
	1	Excavated	31-May-16	10.1	1,600	--	--	--	--	--	--	--	--	--
	2	Excavated	31-May-16	6.4	400	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<20.0	464
SP2	Surface	Excavated	31-May-16	22.5	1,800	--	--	--	--	--	--	--	--	--
	1	Excavated	31-May-16	10.6	3,200	--	--	--	--	--	--	--	--	--
	2	Excavated	31-May-16	102.2	560	--	--	--	--	--	--	--	--	--
	3	Excavated	31-May-16	120.0	400	<0.050	<0.050	0.060	<0.150	<0.300	<10.0	412	412	112
SP1	4	In-Situ	08-Dec-16	--	400	--	--	--	--	--	--	--	--	336
SP2	2	In-Situ	08-Dec-16	--	160	--	--	--	--	--	--	--	--	144
SP3	2	In-Situ	08-Dec-16	--	320	--	--	--	--	--	--	--	--	416
SP4	2	In-Situ	08-Dec-16	--	160	--	--	--	--	--	--	--	--	192
SP5	2	In-Situ	08-Dec-16	--	320	--	--	--	--	--	--	--	--	224
SP6	2	In-Situ	08-Dec-16	--	160	--	--	--	--	--	--	--	--	144

TABLE 2
Summary of Soil Sample Field Testing and Laboratory Analytical Results
Vanguard
Nowata AGR State #1

Lab Sample ID	Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO C6-C10 (mg/Kg)	DRO C10-C28 (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
SP7	2	Excavated	08-Dec-16	--	400	--	--	--	--	--	--	--	--	**560**
	2	In-Situ	20-Dec-16	--	--	--	--	--	--	--	--	--	--	160
SP8	2	In-Situ	08-Dec-16	--	240	--	--	--	--	--	--	--	--	272
SP9	2	Excavated	08-Dec-16	--	400	--	--	--	--	--	--	--	--	**1,440**
	2	In-Situ	20-Dec-16	--	--	--	--	--	--	--	--	--	--	320
SP10	2	In-Situ	08-Dec-16	--	320	--	--	--	--	--	--	--	--	304
NMOCD Recommended Remedial Action Levels				100		10				50			1,000	500

- - = Not Analyzed
Bold *values are in excess of NMOCD Recommended Remedial Action Levels*
Shaded values indicates soil has been excavated

ATTACHMENTS

ATTACHMENT I
Photographs

Photograph #1- Lease sign


Photograph #2- Looking across release area

Photograph #3- Looking across release area

Photograph #4- Looking across release area

Photograph #5- Looking across release area

Photograph #6- Looking across release area

Photograph #7 – Looking across historic release area

Photograph #8 – Looking across historic release area

Photograph #9- Looking across excavation

Photograph #10- Looking across excavation

Photograph #11- Looking across excavation

Photograph #12- Looking across excavation with padding for liner

Photograph #13 – Looking across excavation with liner installed

Photograph #14 – Looking across excavation with liner installed

Photograph #15- Looking across historical release area excavation

Photograph #16- Padding layer atop liner and backfilling begins

Photograph #17- Backfilled

Photograph #18- Backfilled

Photograph #19 – Backfilled

Photograph #20 – Backfilled

ATTACHMENT II
Copy of NMOCD Form C-105
NMOSE Average Depth to Groundwater

Submit to Appropriate
District Office
State Lease – 6 copies
Fee Lease – 5 copies
DISTRICT I
P.O. Box 1980, Hobbs, NM 88240

DISTRICT II
P.O. Drawer DD, Artesia, NM 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION
P.O. Box 2088
Santa Fe, New Mexico 87504-2088

Form C-105
Revised 1-1-89

WELL API NO. 30-025-31244 ✓

5. Indicate Type of Lease STATE [X] FEE [ ]

6. State Oil & Gas Lease No. E-7653

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well: OIL WELL [XX] GAS WELL [ ] DRY [ ] OTHER

b. Type of Completion: NEW WELL [XX] WORK OVER [ ] DEEPEN [ ] PLUG BACK [ ] DIFF RESVR [ ] OTHER

7. Lease Name or Unit Agreement Name: Nowata AGR State

2. Name of Operator: YATES PETROLEUM CORPORATION (505) 748-1471

8. Well No. 1

3. Address of Operator: 105 South 4th St., Artesia, NM 88210

9. Pool name or Wildcat: Wildcat Bone Springs

4. Well Location
Unit Letter P : ~~660~~ 860 Feet From The South Line and ~~660~~ 990 Feet From The East Line

Section 9 Township 18S Range 35E NMPM Lea County

10. Date Spudded	11. Date T.D. Reached	12. Date Compl. (Ready to Prod.)	13. Elevations (DF& RKB, RT, GR, etc.)	14. Elev. Casinghead
2-2-93	3-21-93	4-26-93	3920' GR	

15. Total Depth	16. Plug Back T.D.	17. If Multiple Compl. How Many Zones?	18. Intervals Drilled By	Rotary Tools	Cable Tools
10910'	10253'			0-10910'	

19. Producing Interval(s), of this completion - Top, Bottom, Name: 8282-8290' Bone Springs

20. Was Directional Survey Made: No

21. Type Electric and Other Logs Run: CNL/LDT; DLL; LSS

22. Was Well Cored: No

23. **CASING RECORD** (Report all strings set in well)

CASING SIZE	WEIGHT LB./FT.	DEPTH SET	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20"		40'	26"	RediMix	
13-3/8"	54.5#	450'	17½"	550 sx - circulated	
9-5/8"	36 - 40#	3838'	12¼"	1500 sx - circulated	
7"	26#	10910'	8-3/4"	1400 sx - circulated	
				DV tools @ 9102', 7637'	

24. LINER RECORD

SIZE	TOP	BOTTOM	SACKS CEMENT	SCREEN

25. TUBING RECORD

SIZE	DEPTH SET	PACKER SET
2-7/8"	8191'	8199'

26. Perforation record (interval, size, and number)

8282-8290' w/32 - .42" Holes (4 SPF)

27. ACID, SHOT, FRACTURE, CEMENT, SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND KIND MATERIAL USED
8282-8290'	w/2000g. 20% acid.

28. **PRODUCTION**

Date First Production	Production Method (Flowing, gas lift, pumping - Size and type pump)	Well Status (Prod. or Shut-in)
4-2-93	Flowing	Producing

Date of Test	Hours Tested	Choke Size	Prod'n For Test Period	Oil - Bbl.	Gas - MCF	Water - Bbl.	Gas - Oil Ratio
4-26-93	24	9/64"		230	170	0	739

Flow Tubing Press.	Casing Pressure	Calculated 24-Hour Rate	Oil - Bbl.	Gas - MCF	Water - Bbl.	Oil Gravity - API - (Corr.)
850	Pkr		230	170	0	35°

29. Disposition of Gas (Sold, used for fuel, vented, etc.): Sold

Test Witnessed By: Rocky Harper

30. List Attachments: Deviation Survey, Logs, DST's

31. *I hereby certify that the information shown on both sides of this form is true and complete to the best of my knowledge and belief*

Signature Juanita Goodlett Printed Name Juanita Goodlett Title Production Supvr Date 4-28-93

INSTRUCTIONS

This form is to be filed with the appropriate District Office of the Division not later than 20 days after the completion of any newly-drilled or deepened well. It shall be accompanied by one copy of all electrical and radio-activity logs run on the well and a summary of all special tests conducted, including drill stem tests. All depths reported shall be measured depths. In the case of directionally drilled wells, true vertical depths shall also be reported. For multiple completions, Items 25 through 29 shall be reported for each zone. The form is to be filed in quintuplicate except on state land, where six copies are required. See Rule 1105.

INDICATE FORMATION TOPS IN CONFORMANCE WITH GEOGRAPHICAL SECTION OF STATE

Southeastern New Mexico

	Rustler		
T. Anhy	1770	T. Canyon	
T. Salt		T. Strawn	
B. Salt		T. Atoka	
T. Yates	3246	T. Miss	
T. 7 Rivers		T. Devonian	
T. Queen	4424	T. Silurian	
T. Grayburg		T. Montoya	
T. San Andres	5056	T. Simpson	
T. Glorieta		T. McKee	
T. Paddock		T. Ellenburger	
T. Blinebry		T. Gr. Wash	
T. Tubb		T. Delaware Sand	6230
T. Drinkard		T. Bone Springs	6624
T. Abo		T. 1st Bone Spr	7986
T. Wolfcamp	10060	T. 2nd Bone Spr	8413
T. Penn	Shale 10724	T. 3rd Bone Spr	9498
T. Cisco (Bough C)		T.	

Northwestern New Mexico

T. Ojo Alamo		T. Penn. "B"	
T. Kirtland-Fruitland		T. Penn. "C"	
T. Pictured Cliffs		T. Penn. "D"	
T. Cliff House		T. Leadville	
T. Menefee		T. Madison	
T. Point Lookout		T. Elbert	
T. Mancos		T. McCracken	
T. Gallup		T. Ignacio Otzte	
Base Greenhorn		T. Granite	
T. Dakota		T.	
T. Morrison		T.	
T. Todilto		T.	
T. Entrada		T.	
T. Wingate		T.	
T. Chinle		T.	
T. Permain		T.	
T. Penn "A"		T.	

OIL OR GAS SANDS OR ZONES

No. 1, from.....to..... No. 3, from.....to.....

No. 2, from.....to..... No. 4, from.....to.....

IMPORTANT WATER SANDS

Include data on rate of water inflow and elevation to which water rose in hole.

No. 1, from.....to.....feet.....

No. 2, from.....to.....feet.....

No. 3, from.....to.....feet.....

LITHOLOGY RECORD (Attach additional sheet if necessary)

From	To	Thickness in Feet	Lithology
0	40	40	Surface
40	450	410	Redbeds, Anhy
450	3040	2590	Anhy, Salt
3040	4140	1100	Anhy, Dolo
4140	4200	60	Anhy, Dolo, SS
4200	4440	240	Anhy, Dolo
4440	5320	880	Anhy, Dolo, SS
5320	5610	290	Dolo, SS
5610	5680	70	Cht, Dolo
5680	6140	460	Dolo, SS
6140	6380	240	Cht, Dolo,SS, Sh
6380	6620	240	SS, Dolo, Sh, LS
6620	6880	260	LS
6880	7520	640	LS, Sh, Cht
7520	7780	260	Cht, LS
7780	7850	70	Cht, LS, Sh
7850	8140	290	Dolo, Cht, LS, SS
8140	8268	128	LS, Cht, Sh
8268	8400	132	Dolo
8400	8660	260	Dolo, SS
8660	8750	90	SS, Cht, LS, Dolo
8750	9220	470	Dolo, SS, LS, Cht
9220	9420	200	Dolo, Cht, Sh, LS
9420	9720	300	Cht, dolo, SS, Sh
9720	10420	700	Cht, Dolo, LS, Sh
10420	10910	490	Cht, Dolo, Sh

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

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

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters) (In feet)

POD Number	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 10304	L	LE	1	4	4	09	18S	35E	644526	3625479*	40	170	72	98
L 02676	L	LE		1	2	16	18S	35E	644231	3624972*	551	175	60	115
L 06047	L	LE	2	2	1	16	18S	35E	643927	3625066*	704	122	65	57
L 02675	L	LE		3	2	15	18S	35E	645850	3624587*	1575	197	47	150
L 04206	L	LE		3	4	04	18S	35E	644194	3626992*	1587	125	50	75
L 07872	L	LE	1	3	3	03	18S	35E	644900	3627101*	1703	162	62	100
L 09588	L	LE	4	3	4	16	18S	35E	644349	3623659*	1788	155	84	71

Average Depth to Water: **62 feet**

Minimum Depth: **47 feet**

Maximum Depth: **84 feet**

Record Count: 7

UTMNAD83 Radius Search (in meters):

Easting (X): 644525 **Northing (Y):** 3625439 **Radius:** 2000

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

ATTACHMENT III
Laboratory Analytical Results

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

December 15, 2016

Daniel Dominguez

Environmental Plus, Inc.

P.O. Box 1558

Eunice, NM 88231

RE: NOWATA AGR STATE #1

Enclosed are the results of analyses for samples received by the laboratory on 12/08/16 15:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Environmental Plus, Inc.
Daniel Dominguez
P.O. Box 1558
Eunice NM, 88231
Fax To: (505) 394-2601

Received:	12/08/2016	Sampling Date:	12/08/2016
Reported:	12/15/2016	Sampling Type:	Soil
Project Name:	NOWATA AGR STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-P SEC. 9, T18S, R35E		

Sample ID: SP 1 (4') (H602750-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	12/13/2016	ND	400	100	400	3.92	

Sample ID: SP 2 (2') (H602750-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	12/13/2016	ND	400	100	400	3.92	

Sample ID: SP 3 (2') (H602750-03)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**416**	16.0	12/13/2016	ND	400	100	400	3.92	

Sample ID: SP 4 (2') (H602750-04)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	12/13/2016	ND	400	100	400	3.92	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Environmental Plus, Inc.
Daniel Dominguez
P.O. Box 1558
Eunice NM, 88231
Fax To: (505) 394-2601

Received:	12/08/2016	Sampling Date:	12/08/2016
Reported:	12/15/2016	Sampling Type:	Soil
Project Name:	NOWATA AGR STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-P SEC. 9, T18S, R35E		

Sample ID: SP 5 (2') (H602750-05)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**224**	16.0	12/13/2016	ND	400	100	400	3.92	

Sample ID: SP 6 (2') (H602750-06)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**144**	16.0	12/13/2016	ND	400	100	400	3.92	

Sample ID: SP 7 (2') (H602750-07)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**560**	16.0	12/13/2016	ND	400	100	400	3.92	

Sample ID: SP 8 (2') (H602750-08)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**272**	16.0	12/13/2016	ND	400	100	400	3.92	

Sample ID: SP 9 (2') (H602750-09)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1440**	16.0	12/13/2016	ND	400	100	400	3.92	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Environmental Plus, Inc.
Daniel Dominguez
P.O. Box 1558
Eunice NM, 88231
Fax To: (505) 394-2601

Received:	12/08/2016	Sampling Date:	12/08/2016
Reported:	12/15/2016	Sampling Type:	Soil
Project Name:	NOWATA AGR STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-P SEC. 9, T18S, R35E		

Sample ID: SP 10 (2') (H602750-10)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**304**	16.0	12/13/2016	ND	400	100	400	3.92	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(575) 394-3481 FAX: (575) 394-2601

Chain of Custody Form

LAB Cardinal

Company Name	Environmental Plus, Inc.
EPI Project Manager	Daniel Dominguez
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	575-394-3481 / 575-394-2601
Client Company	Vanguard
Facility Name	Nowata AGR State #1
Location	UL- P Sec. 9, T18S, R35E
Project Reference	
EPI Sampler Name	Dustin Crockett

Bill To

Attn: Daniel Dominguez
P.O. Box 1558
Eunice, NM 88231

ANALYSIS REQUEST

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^{=}$)	pH	TCLP	OTHER >>>	PAH			
H602750																									
1	SP1 (4')	G	1			X					X		08-Dec-16	7:00			X								
2	SP2 (2')	G	1			X					X		08-Dec-16	7:35			X								
3	SP3 (2')	G	1			X					X		08-Dec-16	7:45			X								
4	SP4 (2')	G	1			X					X		08-Dec-16	8:00			X								
5	SP5 (2')	G	1			X					X		08-Dec-16	7:40			X								
6	SP6 (2')	G	1			X					X		08-Dec-16	8:10			X								
7	SP7 (2')	G	1			X					X		08-Dec-16	7:15			X								
8	SP8 (2')	G	1			X					X		08-Dec-16	7:30			X								
9	SP9 (2')	G	1			X					X		08-Dec-16	8:05			X								
10	SP10 (2')	G	1			X					X		08-Dec-16	7:20			X								

Sampler Relinquished: Dustin Crockett	Date 12-8-16	Received By:	E-mail results to: ddominguezepi@gmail.com & jterry@vnrllc.com
Relinquished by:	Time 10:00 am		NOTES:
	Date 12/8/16	Received By: (lab staff) Jodi Henson	
Delivered by: #75 0.1°C	Time 3:40 pm	Checked By:	
	Sample Cool & Intact Yes / No		

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

January 03, 2017

Daniel Dominguez

Environmental Plus, Inc.

P.O. Box 1558

Eunice, NM 88231

RE: NOWATA AGR STATE #1

Enclosed are the results of analyses for samples received by the laboratory on 12/22/16 15:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-16-8. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Environmental Plus, Inc.
Daniel Dominguez
P.O. Box 1558
Eunice NM, 88231
Fax To: (505) 394-2601

Received:	12/22/2016	Sampling Date:	12/20/2016
Reported:	01/03/2017	Sampling Type:	Soil
Project Name:	NOWATA AGR STATE #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-P SEC. 9, T18S, R35E		

Sample ID: SP 7 (2') (H602863-01)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**160**	16.0	12/28/2016	ND	416	104	400	0.00	

Sample ID: SP 9 (2') (H602863-02)

Chloride, SM4500Cl-B **mg/kg** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**320**	16.0	12/28/2016	ND	416	104	400	0.00	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

Environmental Plus, Inc.

2100 Avenue O, Eunice, NM 88231 P.O. Box 1558, Eunice, NM 88231
(575) 394-3481 FAX: (575) 394-2601

Chain of Custody Form

LAB Cardinal

Company Name	Environmental Plus, Inc.
EPI Project Manager	Daniel Dominguez
Mailing Address	P.O. BOX 1558
City, State, Zip	Eunice New Mexico 88231
EPI Phone#/Fax#	575-394-3481 / 575-394-2601
Client Company	Vanguard
Facility Name	Nowata AGR State #1
Location	UL- P Sec. 9, T18S, R35E
Project Reference	
EPI Sampler Name	Roger Boone

Bill To

Attn: Daniel Dominguez
P.O. Box 1558
Eunice, NM 88231

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE	ICE/COOL	OTHER	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX 8021B	TPH 8015M	CHLORIDES (Cl^-)	SULFATES ($SO_4^=$)	pH	TCLP	OTHER >>>	PAH
H602863																						
1	SP7 (2')	G	1			X					X		20-Dec-16	7:00			X					
2	SP9 (2')	G	1			X					X		20-Dec-16	7:35			X					
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Sampler Relinquished: Roger Boone	Date 12-21-16	Received By:	E-mail results to: ddominguezepi@gmail.com & jterry@vnrllc.com
Relinquished by:	Time 6:00 am	Received By: (lab staff) Jodi Henson	NOTES:
Delivered by: #75 1.7°C	Date 12/22/16 Time 3:35pm	Checked By:	
	Sample Cool & Intact: Yes / No		

ATTACHMENT IV
Pages 1-4 of NMOCD Approved Talon LPE Work Plan

September 29, 2015

Ms. Kellie Jones
NMOCD District I
1625 N. French Dr.
Hobbs, NM 88240

AMARILLO
921 North Bivins
Amarillo, Texas 79107
Phone 806.467.0607
Fax 806.467.0622

ARTESIA
408 West Texas Ave.
Artesia, New Mexico 88210
Phone 575.746.8768
Fax 575.746.8905

HOBBS
318 East Taylor Street
Hobbs, New Mexico 88240
Phone 575.393.4261
Fax 575.393.4658

MIDLAND
2901 State Hwy 349
Midland, Texas 79706
Phone 432.522.2133
Fax 432.522.2180

OKLAHOMA CITY
7700 North Hudson Avenue
Suite 10
Oklahoma City, Oklahoma 73116
Phone 405.486.7030
Fax 806.467.0622

SAN ANTONIO
11 Commercial Place
Schertz, Texas 78154
Phone 210.265.8025
Fax 210.568.2191

Subject: **Soil Assessment and Remediation Work Plan**
LRE Operating, LLC
NOWATA AGR State #001 TB
30-025-31244

Dear Ms. Jones:

LRE Operating, LLC has contracted Talon/LPE (Talon) to perform soil assessment and remediation services at the above referenced NOWATA AGR State #001 TB release. The results of our soil assessment and proposed remediation activities consist of the following:

Incident Date

May 24, 2014

Background Information

The NOWATA AGR State #001 TB is located approximately twenty-four (24) miles northwest of Hobbs in Lea County, New Mexico. The legal location for this site is Section 9, Township 18 South, and Range 35 East. More specifically the latitude and longitude for the release are 32.7573739 North and -103.4571457 West. A site plan is presented in Appendix I.

According to the soil survey provided by the United States Department of Agriculture National Resources Conservation Services, the soil in this area is made up of Kimbrough-Lea land complex. Per the New Mexico Bureau of Geology and Mineral Resources, the local surface and shallow geology, Quaternary and Tertiary Age sedimentary deposits, is comprised of calcareous-loamy alluvium and calcareous-loamy eolian sands which includes silty soils under lain by sedimentary rock and hard caliche. Drainage courses in this area are normally dry. The New Mexico State Engineer web site indicates the nearest ground water data to be in S9-T18S-R35E. The ground water in Section 9 is reported to be at depth of 72' below ground surface (bgs). See Appendix II for the referenced groundwater data.

The ranking for this site is **10** based on the following:

Depth to ground water	50' - 100'
Wellhead Protection Area	>1000'
Distance to surface water body	>1000'

Incident Description

A flow line ruptured causing 45 barrels of produced water to be released. The facility was shut-in and the flow line was repaired. A vacuum truck was called to the location and recovered 20 barrels of produced water. The impacted area was scraped to remove approximately 72 yards of saturated soil from the surface. The impacted soil was transported to Lea Land, LLC. A site map is presented in Appendix I.

Actions Taken

On August 31, 2015 Talon mobilized personnel to begin the site assessment and soil sampling activities for the construction of a work plan. Grab soil samples were collected utilizing a hand auger to a depth of 1' below ground surface where refusal was encountered. The complete laboratory results are presented in Table 1.

On September 16, 2015 Talon personnel returned to the site to obtain deeper vertical delineation samples utilizing a backhoe to a total depth of 2.5-feet below ground surface where hard rock refusal was encountered. The complete laboratory results are presented in Table 2.

On September 25, 2015 Talon personnel returned to the site to obtain deeper vertical delineation samples with a drill rig to a total depth of 15-feet below ground surface. The complete laboratory results are presented in Table 3.

All soil samples were collected by Talon personnel wearing clean nitrile gloves. The soil samples were placed in laboratory provided sample containers, iced and transported to Cardinal Laboratories in Hobbs, New Mexico for analysis. The samples were tested for TPH (Total Petroleum Hydrocarbons) using EPA Method 8015M, and volatile organics (BTEX) using EPA Method 8021B. The chloride samples were analyzed per Method SM4500Cl-B.

Laboratory Results

See Appendix III for complete report of laboratory results.

September 4, 2015 Table 1

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1 Refusal	0'	<0.300	18800	<10	253
S-2	0'	<0.300	24000	<10	<10
Refusal	1'	<0.300	13200	<10	<10
S-3 Refusal	0'	142	11200	1200	14200

September 23, 2015 Table 2

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	1'	<0.300	12100	<10	20.6
Refusal	1.5	0.323	8660	<10	90.8
S-2	2'	<0.300	12300	<10	<10
Refusal	2.5'	<0.300	10300	<10	29.3
S-3	1'	21.4	10500	621	9940
Refusal	1.5'	3.22	81300	74.4	3080

September 25, 2015 Table 3

Sample ID	Depth (feet)	BTEX (mg/kg)	Chlorides (mg/kg)	TPH (mg/kg) GRO	TPH (mg/kg) DRO
S-1	3'	--	2560	--	--
	5'	--	96	--	--
	7'	--	96	--	--
	10'	--	176	--	--
	15	--	48	--	--
S-2	3'	--	6720	--	--
	5'	--	7600	--	--
	7'	--	2680	--	--
	10'	--	208	--	--
	15'	--	240	--	--
S-3	3'	--	208	<10	<10
	5'	--	32	<10	<10
	7'	--	64	<10	<10
	10'	--	16	--	--
	15'	--	96	--	--

Based upon the site ranking of **10,** NMOCD Recommended Remedial Action Levels (RRAL's) are 50 mg/kg for BTEX, 10 mg for Benzene, and 1,000 mg/kg for TPH. The chloride remediation standard is considered to be 1,000 mg/kg based upon a water table depth less than 100-feet deep.

Proposed Remedial Actions

- The impacted area in the vicinity of S-1 will be excavated to a depth of 4-feet below land surface. A confirmation sample for chlorides will be obtained.
- The impacted area in the vicinity of S-2 will be excavated to a depth of 4- feet deep and a 20-mil liner will be installed.
- The impacted area in the vicinity of S-3 will be excavated to a depth of 2.5-feet deep.
- All impacted soil will be transported to Lea Land, LLC for disposal.
- Upon approval of the confirmation sample from the NMOCD, the excavated areas will then be backfilled with new top soil and contoured to match the surrounding terrain.
- A final closure report documenting all remedial actions will be provided to the OCD along with Final Form C-141.

Should you have any questions or if further information is required, please do not hesitate to contact our office at (575)-746-8768

Respectfully submitted,

Kimberly M. Wilson
Project Manager

David J. Adkins
District Manager

ATTACHMENT V
E-mail Correspondence

Nowata AGR State #1

Keyes, Jamie, EMNRD <Jamie.Keyes@state.nm.us> Mon, Oct 19, 2015 at 7:17 AM
To: "ddominguezepi@gmail.com" <ddominguezepi@gmail.com>
Cc: "Jones, Kellie, EMNRD" <Kellie.Jones@state.nm.us>

Good morning,

The historic release can be rolled into RP 3901. Whenever you get the sample results back and come up with a remediation proposal just send that information to us as an addendum to the original work plan. If you have any other questions don't hesitate to ask.

Thank you,

Jamie

From: Daniel Dominguez [mailto:ddominguezepi@gmail.com]
Sent: Friday, October 16, 2015 12:27 PM
To: Jones, Kellie, EMNRD
Subject: Nowata AGR State #1

Ms. Jones,

Attached in PDF are the Initial C-141 and Sample Locations and Release Areas Map for the Nowata AGR State #1, currently operated by Vanguard. Vanguard has acquired the lease from Limerock Resources and is proceeding with remediation of the site.

Talon LPE was contracted by Limerock for site remediation. Talon has sampled the site and submitted a Work Plan to OCD which has been approved. Before remediation activities began the lease was transferred to Vanguard.

Vanguard has contracted EPI to conduct remediation of not only the current release, 1RP-3901, but also a historic release to the north east of the current release.

EPI proposes to:

- sample the historic release to determine vertical extent of contamination
- prepare Remediation Proposal based on sample laboratory analytical data
- proceed with remediation of current release as proposed in Talon Work Plan and approved by OCD

I couldn't find an Initial C-141 for the historic release on the OCD website, so I can prepare one if needed.

Will this work or do we need to start over and submit a Remediation Proposal for both releases?

--

Sincerely,

ENVIRONMENTAL PLUS, INC.

Daniel Dominguez
Environmental Consultant/Safety Director

Jamie R. Keyes

Environmental Specialist, District 1

Oil Conservation Division, EMNRD

(575) 393-6161 ext. 113

575-370-3180 (emergency-cell)

Nowata AGR State #1

Daniel Dominguez <ddominguezepi@gmail.com> Tue, Jun 7, 2016 at 3:20 PM
To: "Keyes, Jamie, EMNRD" <Jamie.Keyes@state.nm.us>

Mr. Keyes,

We sampled the Historic area on 5-31-16; lab analytical data and sample map are attached bellow.
EPI proposes:

- remediation of the Current area as proposed by Talon workplan
- excavate Historic area three (3) feet bgs
- backfill both areas with clean soil upon completion of excavation activities
- prepare Final Closure Report to submit to Vanguard and NMOCD

I'm not sure when we will start, I'll have to talk to JT Terry with Vanguard as to when they want us to begin.

[Quoted text hidden]
[Quoted text hidden]

Environmental Plus, Inc.
P.O. Box 1558
2100 Avenue 'O'
Eunice, NM 88231
(575) 631-0401 (Cell)
(575) 394-3481 (Office)
(575) 394-2601 (fax)

2 attachments

Sample Locations and Release Areas.pdf
682K

Nowata AGR 5-31-16 results.pdf
651K

Gmail

Daniel Dominguez <ddominguezepi@gmail.com>

Nowata AGR State #1

Keyes, Jamie, EMNRD <Jamie.Keyes@state.nm.us> Wed, Jun 8, 2016 at 1:26 PM
To: Daniel Dominguez <ddominguezepi@gmail.com>
Cc: "agroves@slo.state.nm.us" <agroves@slo.state.nm.us>

Good afternoon,

The OCD approves. Please provide sidewall samples to ensure the horizontal extent of the contamination has been addressed.

Thank you,

Jamie

From: Daniel Dominguez [mailto:ddominguezepi@gmail.com]
Sent: Tuesday, June 07, 2016 3:21 PM
To: Keyes, Jamie, EMNRD
Subject: Re: Nowata AGR State #1

[Quoted text hidden]

ATTACHMENT VI
Copy of Initial NMOCD Form C-141
Final NMOCD Form C-141

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

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: LRE Operating	Contact: Eddie Elliot
Address: P.O. Box 250 Lovington, NM 88260	Telephone No. 432-413-0429
Facility Name: NOWATA AGR State #001	Facility Type: Flowline

Surface Owner: State	Mineral Owner: State	API No. 30-025-31244

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	09	18S	35E	860	S	990	E	Lea

Latitude 32.7573739 Longitude -103.4571457

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 45bbls	Volume Recovered: 20bbls
Source of Release: Flowline	Date and Hour of Occurrence: 8/28/2015	Date and Hour of Discovery: 8/28/2015
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? OCD-voicemail	
By Whom? Eddie Elliot	Date and Hour: 8/28/2015	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By OCD District 1 at 2:29 pm, Oct 07, 2015

Describe Cause of Problem and Remedial Action Taken.*
A flowline ruptured causing a release of approximately 45bbls of produced water. A vacuum truck was utilized to recover approximately 20bbls of produced water. The impacted area was scraped to remove the saturated soil from the surface (approximately 72 yards). The impacted soil from the scrape was hauled to an NMOCD approved solid waste disposal facility.

Describe Area Affected and Cleanup Action Taken.*
The impacted area is in the pasture south of the tank battery. Talon/LPE mobilized personnel to conduct an initial site assessment and to perform soil sampling within the impacted area. A remediation work plan will be generated and submitted to NMOCD for review and approval. Upon approval of the work plan remediation activities will proceed.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Eddie Elliot

Printed Name: Eddie Elliot

Title: Production Supervisor

E-mail Address: eelliott@limerockresources.com

Date: 9/24/2015 Phone: 432-413-0429

OIL CONSERVATION DIVISION

Approved by Environmental Specialist: KJ

Approval Date: 10/07/2015 Expiration Date: 12/07/2015

Conditions of Approval:
Site samples required. Delineate and remediate as per MNOCD guides. Geotag photographs of remediation required.

Attached ☐
1RP-3901

* Attach Additional Sheets If Necessary

pKJ1528052568
nKJ1528052281

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

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Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: Vanguard	Contact: JT Terry
Address: 4001 Penbrook, Suite 201, Odessa Texas 79762	Telephone No. 432-362-2209
Facility Name: Nowata AGR State #1; 1RP #3901	Facility Type: Flowline

Surface Owner: State	Mineral Owner:	API No. 30-025-31244

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
P	9	18S	35E	860	South	990	East	Lea

Latitude: N 32.7573739° **Longitude:** W 103.4571457°

NATURE OF RELEASE

Type of Release: Produced Water	Volume of Release: 45 bbls	Volume Recovered: 20 bbls
Source of Release: Flowline	Date and Hour of Occurrence: 8-28-2015	Date and Hour of Discovery: 8-28-2015
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? OCD voicemail	
By Whom? Eddie Elliot	Date and Hour: 8-28-2015	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse: Not Applicable	

If a Watercourse was Impacted, Describe Fully.* Not Applicable

APPROVED
By Olivia Yu at 8:59 am, May 15, 2017

Describe Cause of Problem and Remedial Action Taken.*
A flowline ruptured causing a release of approximately 45bbls of produced water. A vacuum truck was utilized to recover approximately 20bbls of produced water. The impacted area was scraped to remove the saturated soil from the surface (approximately 72 yards). The impacted soil from the scrape was hauled to an NMOCD approved solid waste disposal facility.

Describe Area Affected and Cleanup Action Taken.*
The impacted area is in the pasture south of the tank battery. A historic release area to the south east of the tank battery was also included with this release. Samples were collected from both areas and sent to the lab for testing. Based on laboratory analytical data, and NMOCD approval, the release areas were excavated. Contaminated soil was hauled to a state approved disposal facility. A 20-mil polyethylene liner was installed over the area of S-2 and the excavation was backfilled with clean soil.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature:	OIL CONSERVATION DIVISION
Printed Name: JT Terry	Approved by Environmental Specialist:
Title: Production Foreman	Approval Date: 5/15/2017 Expiration Date: xx/xx/xxxx
E-mail Address: jterry@vnrllc.com	Conditions of Approval: Attached ☐
Date: 5-10-17 Phone: 432-362-2209	NMOCD approves 1RP-3901 for closure.

* Attach Additional Sheets If Necessary