



11 March 2016

Mr. Mike Bratcher
Environmental Specialist
NMOCD
811 S. First St.
Artesia, New Mexico 88210

RE: Final Closure Report
Vanguard – South Culebra Bluff #2
UL-J, Section 14, Township 23 South, Range 28 East
Eddy County, New Mexico
NMOCD Reference # 2RP 1517

Mr. Bratcher:

The following *Final Closure Report* serves as a condensed update on closure activities for the above referenced Site.

Background Information:

Flow line in pasture south of the battery began to leak causing 20-30 bbls of produced water and BS to flow to ground. No fluid was standing in pasture, backhoe began cleaning up pasture area by scraping and stockpiling.

Remediation Activities:

EPI personnel mobilized on the site on February 23, 2016 to collect soil samples via hand auger to determine if the release area has been remediated of contamination. A total of two (2) soil samples were collected from two (2) sample locations; both samples were field tested for chloride concentrations. Chloride concentrations were determined via use of a LaMotte Chloride Kit (Titration Method). Both samples were placed on ice and transported to Cardinal Labs in Hobbs, New Mexico for testing. Laboratory results indicated the release area to be void of Chloride concentrations in excess of NMOCD Recommended Remedial Action Levels (RRALs) of 250mg/Kg (reference *Figure 3* and *Table 2*).

In early-2013 NMOCD received and approved an Initial C-141. It appears the NMOCD also approved the excavation of the release area to a depth where the level of contamination was below NMOCD RRALs. After excavation activities the site was backfilled with clean soil.

Closure Activities:

It is uncertain at this time when the remediation work was done, but based on current laboratory analytical data, it appears the remedial work has been completed as per NMOCD guidelines.



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. JT Terry at (432) 362-2209 or via e-mail at jterry@vnrlc.com. All official communication should be addressed to:

Mr. JT Terry
Vanguard
4001 Penbrook, Suite 201
Odessa, Texas 79762

Sincerely,

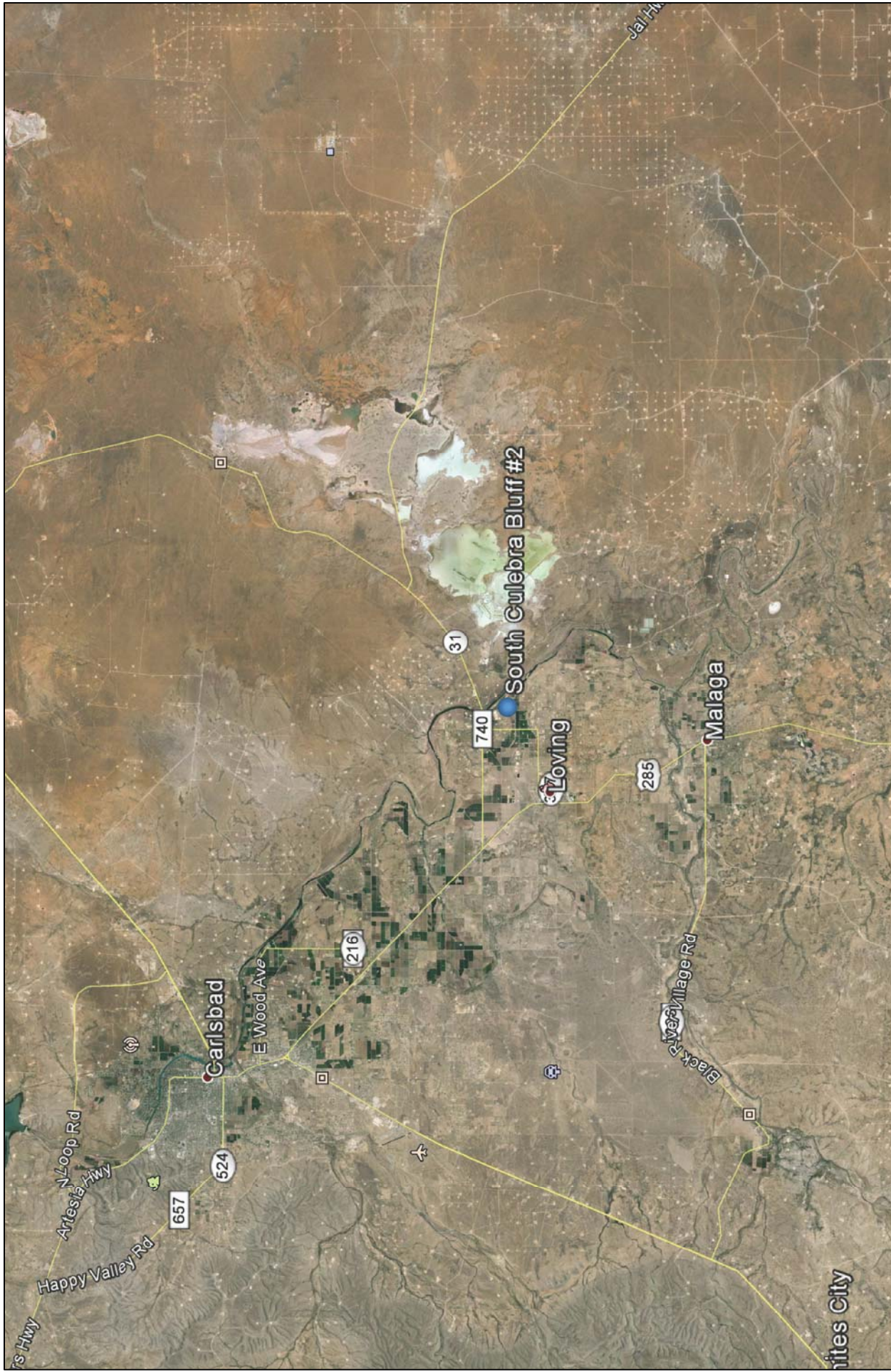
ENVIRONMENTAL PLUS, INC.

Daniel Dominguez
Environmental Consultant

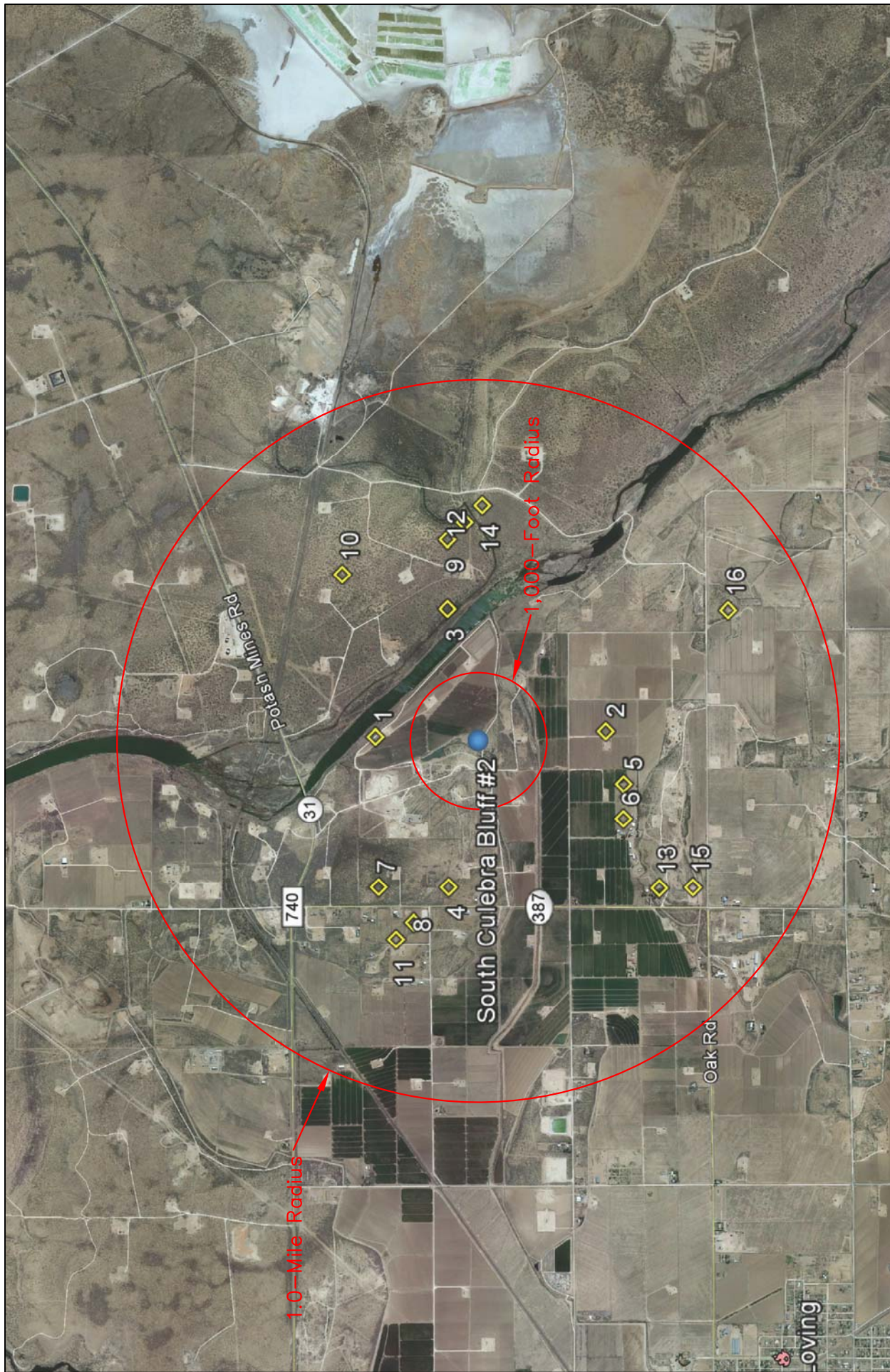
cc: JT Terry, Production Foreman – Vanguard
File

Encl.: Figure 1 – Area Map
Figure 2 – Site Location Map
Figure 3 – Site/Sample Map
Table 1 – Well Data
Table 2 – Summary of Soil Sample Field Testing and Laboratory Analytical Results
Attachment I – Photographs
Attachment II – Laboratory Analytical Results
Attachment III – Copy of Initial NMOCD Form C-141, Final C-141

FIGURES



<p>Figure 1 Area Map Vanguard South Culebra Bluff #2</p>	<p>Eddy County, New Mexico NW 1/4 of SE 1/4, Sec. 14, T23S, R28E N 32° 18' 10.78" W 104° 3' 22.71" Elevation: 2,991 feet amsl</p>	<p>DWG By: D Dominguez March 2016</p> <p>REVISD:</p> <p>0 3 6 Miles</p> <p>SHEET 1 of 1</p>
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<p>Figure 2 Site Location Map Vanguard South Culebra Bluff #2</p>	<p>Eddy County, New Mexico NW 1/4 of SE 1/4, Sec. 14, T23S, R28E N 32° 18' 10.78" W 104° 3' 22.71" Elevation: 2,991 feet amsl</p>	<p>DWG By: D Dominguez March 2016</p>	<p>REVISED:</p>





<p>Figure 3 Site/Sample Map Vanguard South Culebra Bluff #2</p>	<p>Eddy County, New Mexico NW 1/4 of SE 1/4, Sec. 14, T23S, R28E N 32° 18' 10.78" W 104° 3' 22.71" Elevation: 2,991 feet amsl</p>	<p>DWG By: D Dominguez March 2016</p> <p>REVISIONS:</p> <table border="1"> <tr> <td>0</td> <td>100</td> <td>200</td> <td>SHEET</td> </tr> <tr> <td colspan="3"></td> <td>1 of 1</td> </tr> </table> <p>Feet</p>	0	100	200	SHEET				1 of 1	<p>LEGEND</p> <p>X SP1 Sample Location</p>
0	100	200	SHEET								
			1 of 1								

TABLES

TABLE 1

Well Data

Vanguard - South Culebra Bluff #2

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	C 03460	EXP	0	HUNGRY HORSE, LLC	3	1	2	14	23S	28E	588857	3575004	592	08-Oct-10	2,982	38
2	C 01102	STK	3	C. L. REID		1	2	23	23S	28E	588901	3573672	742	21-Dec-62	2,997	12
3	C 01217	COM	150	INTREPID MINING NM LLC US BANK	1	1	3	13	23S	28E	589606	3574593	783	11-Aug-64	2,982	50
4	C 02189	PRO	0	RB OPERATING COMPANY	1	1	3	14	23S	28E	587985	3574572	873	12-Mar-90	3,009	29
5	C 00154	CLS	0	JOHNNY L. REID	4	2	1	23	23S	28E	588595	3573566	882	20-Aug-74	3,005	38
6	C 01108	STK	3	CLARENCE REID	3	2	1	23	23S	28E	588395	3573566	957	31-Dec-30	3,011	35
7	C 00616	IRR	0	LEE & WELMA VOIGT	1	3	1	14	23S	28E	587982	3574978	1,031	05-Dec-80	3,009	30
8	C 00269	IRR	3	JOHNNY GIOVENGO JR.	4	4	2	15	23S	28E	587778	3574773	1,125	30-Mar-58	3,016	35
9	C 01214	EXP	0	U.S. BORAX & CHEM. CORP.	1	2	3	13	23S	28E	590010	3574597	1,180	02-Aug-64	2,981	20
10	C 01216	EXP	0	U.S. BORAX & CHEM. CORP.	4	1	1	13	23S	28E	589801	3575205	1,242	06-Aug-64	2,990	45
11	C 02503	DOM	3	JIMMY G TARVIN SR		4	2	15	23S	28E	587679	3574874	1,253	29-Aug-96	3,015	12
12	C 01967	DOM	3	PERRY L COLEMAN		2	3	13	23S	28E	590111	3574498	1,269	15-Jul-81	2,980	200
13	C 01816	DOL	3	A R DONALDSON	1	3	1	23	23S	28E	587992	3573355	1,357	27-Jul-79	3,033	40
14	C 01215	EXP	0	U.S. BORAX & CHEM.	4	2	3	13	23S	28E	590210	3574397	1,366	04-Aug-64	2,986	15
15	C 00048	CLS	0	JACKIE REID	3	3	1	23	23S	28E	587997	3573160	1,511	27-Sep-76	3,025	75
16	C 03146	DOL	3	DRAPER BRANTLEY JR	1	1	3	24	23S	28E	589613	3572970	1,634	15-Feb-05	3,005	36

* = 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.

EXP = Exploration

CLS = Closed File

DOL = 72-12-1 Domestic and Livestock watering

STK = 72-12-1 Livestock watering

IRR = Irrigation

COM = Commercial

DOM = 72-12-1 Domestic one household

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

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

TABLE 2
Summary of Soil Sample Field Testing and Laboratory Analytical Results
Vanguard
South Culebra Bluff #2

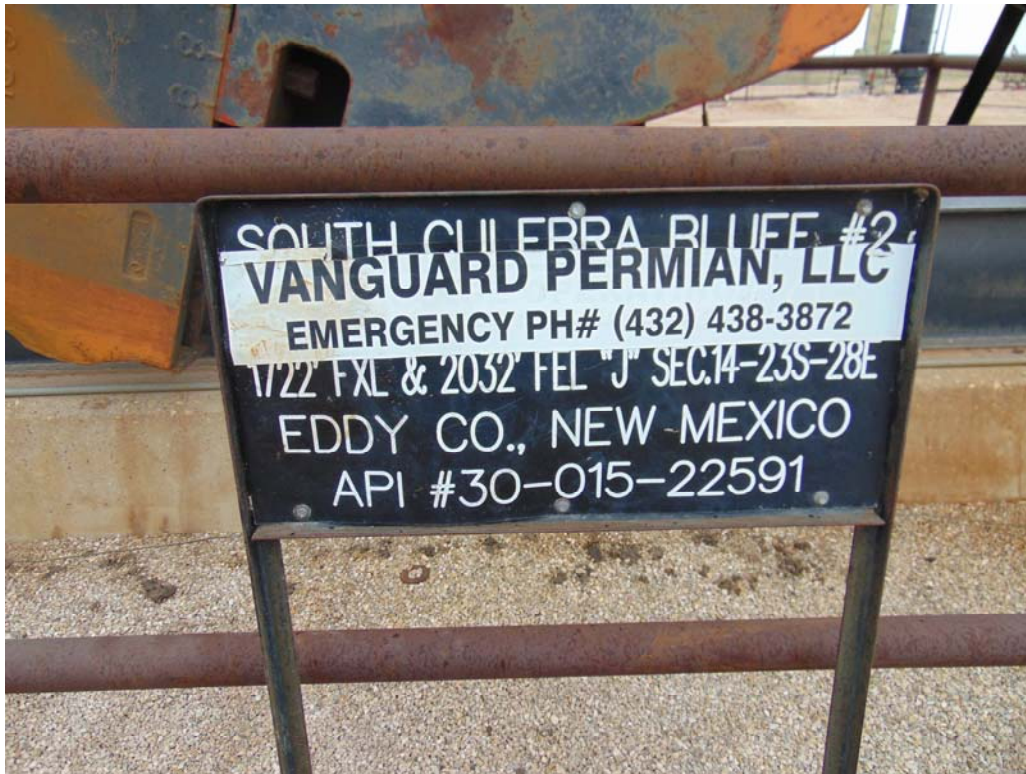
Lab Sample ID	Depth (feet)	Soil Status	Sample Date	PID Reading (ppm)	Field Chloride (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Total BTEX (mg/Kg)	GRO C6-C10 (mg/Kg)	DRO C10-C28 (mg/Kg)	Total TPH (mg/Kg)	Chloride (mg/Kg)
SP1	1	In-Situ	23-Feb-16	--	80	--	--	--	--	--	--	--	--	<16.0
SP2	1	In-Situ	23-Feb-16	--	80	--	--	--	--	--	--	--	--	48
NMOCD Recommended Remedial Action Levels				100		10				50			100	250

-- = Not Analyzed

Bold values are in excess of NMOCD Recommended Remedial Action Levels

ATTACHMENTS

ATTACHMENT I
Photographs



Photograph #1 – Lease sign at battery



Photograph #2 – Southeast view across location



Photograph #3 – Looking south across location



Photograph #4 – Looking south across location

ATTACHMENT II
Laboratory Analytical Results



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

March 03, 2016

Daniel Dominguez

Environmental Plus, Inc.

P.O. Box 1558

Eunice, NM 88231

RE: SOUTH CULEBRA BLUFF 2-B LEASE

Enclosed are the results of analyses for samples received by the laboratory on 02/25/16 15:28.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. 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 accredited 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,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	02/25/2016	Sampling Date:	02/23/2016
Reported:	03/03/2016	Sampling Type:	Soil
Project Name:	SOUTH CULEBRA BLUFF 2-B LEASE	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	UL-J SEC. 14, T23S, R28E		

Sample ID: SP 1 (1') (H600424-01)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	02/29/2016	ND	448	112	400	0.00		

Sample ID: SP 2 (1') (H600424-02)

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	02/29/2016	ND	448	112	400	0.00		

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

LAB Cardinal

Page 4 of 4

Company Name		Environmental Plus, Inc.		Bill To		ANALYSIS REQUEST	
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		South Culebra Bluff 2-B Lease					
Location		UL-J Sec. 14, T23S, R28E					
Project Reference				Attn: Daniel Dominguez P.O. Box 1558 Eunice, NM 88231			
EPI Sampler Name		Roger Boone					
LAB I.D.		SAMPLE I.D.					
1 SP1 (1')		(G)RAB OR (C)OMP.					
2 SP2 (1')		# CONTAINERS					
		GROUND WATER					
		WASTEWATER					
		SOIL					
		CRUDE OIL					
		SLUDGE					
		OTHER:					
		ACID/BASE					
		ICE/COOL					
		OTHER					
		DATE					
		TIME					
		BTEX 8021B					
		TPH 8015M					
		CHLORIDES (Cl ⁻)					
		SULFATES (SO ₄ ²⁻)					
		pH					
		TCLP					
		OTHER >>>					
		PAH					

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

RECEIVED

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

JAN 15 2013
State of New Mexico
Energy Minerals and Natural Resources
NMOCD ARTESIA
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

nJMW 130 2332891 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company	Range operating 227588	Contact	Rod Garcia
Address		Telephone No.	575-706-9132
Facility Name	South Culbraz Bluff 2-B Lease	Facility Type	Flowline
Surface Owner	Mineral Owner	API No.	

LOCATION OF RELEASE *30-015-22591

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
8	14	23S	28E	N/A	N/A	N/A	N/A	Cddy

Latitude _____ Longitude _____

NATURE OF RELEASE

Type of Release	Produced water / BS	Volume of Release	20-30 BBL	Volume Recovered	0
Source of Release	Flowline in pasture	Date and Hour of Occurrence	12.29	Date and Hour of Discovery	12.29 3:00 p.m.
Was Immediate Notice Given?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?			
By Whom?	Josh Melancon	Date and Hour	1.3.2013	2:30 p.m.	
Was a Watercourse Reached?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.			

If a Watercourse was Impacted, Describe Fully.*

N/A

Describe Cause of Problem and Remedial Action Taken.*

Flowline in pasture began to leak causing 20-30 BBL of produced water and B.S. to flow onto ground. No fluid was standing in pasture, backhoe began cleaning up pasture area by scraping and stock piling.

Describe Area Affected and Cleanup Action Taken.*

Pasture area Northeast of Reid Wells #1, bsk equipment to location dug out and hauled visible contamination to disposal

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.

OIL CONSERVATION DIVISION

Signature	<i>Rod Garcia</i>	Approved by Environmental Specialist:	
Printed Name:	Rod Garcia	Signed By	<i>Mike Brennan</i>
Title:	Production Supervisor I	Approval Date:	JAN 23 2013
E-mail Address:	rgarcia@range-resources.com	Expiration Date:	
Date:	12-31-2012	Phone:	575-706-9132

Conditions of Approval:

Attached ☐

Remediation per OCD Rule & Guidelines. SUBMIT REMEDIATION PROPOSAL NO LATER THAN:

Feb. 23, 2013

2RP-1517

* Attach Additional Sheets If Necessary

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

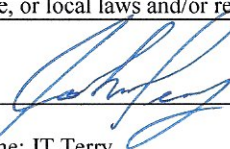
Name of Company: Vanguard	Contact: JT Terry	
Address: 4001 Penbrook, Suite 201, Odessa Texas 79762	Telephone No. 432-362-2209	
Facility Name: South Culebra Bluff #2; 2RP #1517	Facility Type: Flow line	
Surface Owner:	Mineral Owner:	API No. 30-015-22591

LOCATION OF RELEASE

Unit Letter J	Section 14	Township 23S	Range 28E	Feet from the 1722	North/South Line South	Feet from the 2032	East/West Line East	County Eddy
------------------	---------------	-----------------	--------------	-----------------------	---------------------------	-----------------------	------------------------	----------------

Latitude: N 32° 18' 10.78" **Longitude:** W 104° 3' 22.71"

NATURE OF RELEASE

Type of Release: produced water / B.S.	Volume of Release: 20-30 bbls	Volume Recovered: 0 bbls
Source of Release: Flow Line	Date and Hour of Occurrence: 12-29-12	Date and Hour of Discovery: 12-29-12 @ 3:00 pm
Was Immediate Notice Given? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom?	
By Whom? Jacob Melancon	Date and Hour: 1-3-2013 @ 2:30 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse: Not Applicable	
If a Watercourse was Impacted, Describe Fully.* Not Applicable		
Describe Cause of Problem and Remedial Action Taken.* Flow line in pasture began to leak causing 20-30 bbls of produced water and BS to flow to ground. No fluid was standing in pasture, backhoe began cleaning up pasture area by scraping and stockpiling.		
Describe Area Affected and Cleanup Action Taken.* Pasture area northeast of Reid Wells #1, took equipment to location, dug out and hauled visible contamination to disposal. Samples were collected and sent to the lab for testing. Based on laboratory analytical data contaminated soil was excavated and hauled to a state approved disposal facility and the excavation 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:	Expiration Date:
E-mail Address: jterry@vnrllc.com	Conditions of Approval:	Attached <input type="checkbox"/>
Date:	Phone: 432-362-2209	

* Attach Additional Sheets If Necessary