

# ***ENVIRONMENTAL PLUS, INC.***

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## **Site Characterization and Work Plan**

**Vanguard  
State V 2  
Lea County, New Mexico  
Unit Letter "C" Section 5, Township 17 South, Range 37 East  
Latitude 32.869526° North, Longitude -103.277106° West**

Prepared For:

Vanguard Operating, LLC  
4001 Penbrook, Suite 201  
Odessa, Texas 79762

Prepared By:

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

**October 2017**

Brandon Boone  
Project Manager

***APPROVED***

***By Olivia Yu at 2:52 pm, Nov 30, 2017***

NMOCD approves of the  
delineation and proposed  
remediation for 1RP-962.  
See email documentation  
for stipulations.



The following *Site Characterization and Work Plan* serves as a condensed update on field activities undertaken and proposed actions for the afore referenced Site.

**Background:**

The site is located in Unit Letter C, Section 5, Township 17 South, Range 37 East, approximately six miles south-east of Lovington, in Lea County, New Mexico. Vanguard Permian owns the property.

The release site is located in the pasture along flow line right of way; latitude 32.869526° North, longitude -103.277106° West. Area Map, Site Location Map, and Sample/Site Map are included as Figure 1, Figure 2, respectively. The Initial NMOCD Form C-141 is included as Attachment IV.

**NMOCD Site Classification:**

A search for water wells was completed utilizing the New Mexico Office of the State Engineer's (NMOSE) website. There is one well 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*). The USGS database located forty wells within the surrounding area. The NMOSE database indicates average water depth is approximately 59 feet below ground surface (bgs) within a 1,000-meter radius. Average depth to water is 59 feet(bgs) but there is wells approximately 400 ft. from site that ground water is at 35 ft. bgs).

Utilizing this information, the NMOCD guidelines indicate the State V 2 release site to have a ranking score of ten. Based on this score, the NMOCD Recommended Remedial Action Levels (RRALs) for delineation at this Site were determined as follows: Benzene – 10 mg/Kg, BTEX – 50 mg/Kg, TPH – 1,000 mg/Kg, and Chloride – 250 mg/Kg.

The visually stained area totals an area of approximately 5,172 square feet. The area is in the pasture in between the State V battery and the State V 2 pumping unit.

**Delineation Progress:**

On September 27, 2017 EPI personnel mobilized on site to collect soil samples to determine the vertical extent of contamination. A total of thirty-two soil samples were collected from six sample locations; SP1 – SP6. Two soil samples from each sample location were sent to Cardinal Labs in Hobbs, New Mexico, for testing. Laboratory analytical results indicate Chlorides above NMOCD RRALs (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.

**Proposed Actions:**

Based on field testing and laboratory analytical data, EPI proposes to excavate the release area to approximately four feet bgs, with all contaminated soil hauled to a state approved disposal facility. At the conclusion of excavation activities, a twenty-mil poly-ethylene liner will be installed. Bottom and sidewall confirmation samples will also be collected and analyzed. If laboratory analytical results are below NMOCD RRALs the excavation will be backfilled with select caliche to finish grade. If analytical results are above RRALs the process will be repeated until acceptable levels are achieved.

Backfill soil will be free of deleterious material or rocks or large clumps. Backfilling will continue until the excavation is closed.

**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 drill seeding has been completed 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. After a period of three months the area will be examined for noxious weed growth and re-treated if any growth has occurred.

Following completion of NMOCD and NMSLO approved Proposed Actions, EPI will provide a detailed *Final Closure Report* to Vanguard, NMOCD, and NMSLO personnel. Vanguard and EPI personnel would welcome an opportunity to briefly discuss the *Work Plan* at your earliest convenience.

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Should you have any questions or concerns please feel free to contact me at (575) 390-7865 or via e-mail [bboone.emp@gmail.com](mailto:bboone.emp@gmail.com) or Mr. Chuck Johnston at (432) 202-4771 or via e-mail at [cjohnston@vnrlc.com](mailto:cjohnston@vnrlc.com). All official communication should be addressed to:

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

Sincerely,

ENVIRONMENTAL PLUS, INC.

Brandon Boone  
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 – Sample/Site Map  
Table 1 – Well Data  
Table 2 – Summary of Soil Sample Field Testing and Laboratory Analytical Results  
Attachment I – Photographs  
Attachment II – NMOSE Average Depth to Groundwater, USGS Well Sites  
Attachment III – Laboratory Analytical Results  
Attachment IV – Copy of Initial NMOCD Form C-141

## **FIGURES**



**Figure 1**  
Vanguard  
State V 2  
UL "C", Sec 5, 17S-37E  
N 32.869526 W -103.277106  
Elevation 3,800 FtAMSL

**Legend**

- State V #2












# Figure 1

Vanguard  
State V 2  
UL "C", Sec 5, 17S-37E  
N 32.869526 W -103.277106  
Elevation 3,800 Ft AMSL

## Legend

-  Release area
-  SP1
-  SP2
-  SP3
-  SP4
-  SP5
-  SP6





## **TABLES**



Table 1

## Well Data

## Vanguard- State V #2

WR File Nbr	Sub basin	Use	Diversion	Owner	County POD Number			Se c	Tws	Rng	X	Y	Distance	
L 01398	L	PRO		0 PARKER DRILLING CO.	LE		1	1	05	17S	37E	660901	3638119*	293
L 01107	L	PRO		0 PARKER DRILLING COMPANY	LE	1	1	1	05	17S	37E	660800	3638218*	401
L 02487	L	PRO		0 LEE DRILLING COMPANY	LE		3	3	32	16S	37E	661016	3638527*	427
L 02479	L	IRR		0 JACK CAYTON	LE		3	1	05	17S	37E	660908	3637717*	509
L 01288	L	PRO		0 PARKER DRILLING CO	LE		1	2	05	17S	37E	661706	3638129*	512
L 02549	L	IRR		2.1 CARL ALEXANDER	LE	3	3	1	05	17S	37E	660807	3637616*	650
L 02549 A	L	IRR		176.4 DONNA L. ROUECHE	LE	3	3	1	05	17S	37E	660807	3637616*	650
L 02549 B	L	IRR		162.21 KYLE HAHN	LE	3	3	1	05	17S	37E	660807	3637616*	650
L 02549 BA	L	IRR		9 KEVIN L. REDFIELD	LE	3	3	1	05	17S	37E	660807	3637616*	650
L 02549 BB	L	IRR		48.39 JOHN W. PARKER	LE	3	3	1	05	17S	37E	660807	3637616*	650
L 02078	L	PRO		0 SHARP DRILLING COMPANY	LE		4	4	31	16S	37E	660613	3638521*	695
L 02479	L	IRR		0 JACK CAYTON	LE				05	17S	37E	661524	3637515*	705
L 10015	L	DOM		0 MARIE SANDOVAL	LE				05	17S	37E	661524	3637515*	705
L 11952	L	DOL		3 ESTER M. RODRIGUEZ	LE	2	2	3	05	17S	37E	661416	3637418*	753
L 01604	L	PRO		0 SKELLY OIL COMPANY	LE	1	2	2	06	17S	37E	660397	3638214*	800
L 11225	L	PRO		0 CHESAPEAKE OPERATING	LE	4	3	2	05	17S	37E	661812	3637625*	803
L 09717	L	DOM		3 HAROLD STOCKTON	LE		2	3	05	17S	37E	661317	3637319*	828
L 09719	L	DOM		0 JO ANN LEE	LE		2	3	05	17S	37E	661317	3637319*	828
WR File Nbr	basin	Use	Diversion	Owner	County	POD	Number				Code Grant	Source	6416 4	Sec
Tws	Rng	X	Y	Distance										
L 10143	L	STK		3 WILLIAM T. LEE			2	3	05	17S	37E	661317	3637319*	828

L 10324		L	DOM	0 MARIO M. SANDOVAL			2	3	05	17S	37E	661317	3637319*	828	
L 09649		L	DOM	3 P. M. SEWALL		1	1	4	05	17S	37E	661619	3637423*	832	
L 01718		L	MUN	1094.6 CITY OF LOVINGTON		1	4	4	31	16S	37E	660512	3638620*	834	
L 05458		L	MUN	0 CITY OF LOVINGTON		1	4	4	31	16S	37E	660512	3638620*	834	
L 02478		L	IRR	0 JACK CAYTON				2	06	17S	37E	660303	3637909*	920	
L 00449		L	IRR	6 J. LYNN WALKER		2	2	4	06	17S	37E	660611	3637409*	933	
						2	2	4	06	17S	37E	660611	3637409	933	
L 00449 A		L	IRR	373.65 BUSTER GOFF		2	2	4	06	17S	37E	660611	3637409*	933	
L 05426		L	IRR	0 J. LYNN WALKER		2	2	4	06	17S	37E	660611	3637409*	933	
L 11773		L	DOL	0 J. LYNN WALKER		2	2	4	06	17S	37E	660611	3637409	933	
L 02549		L	IRR	2.1 CARL ALEXANDER		2	1	4	05	17S	37E	661819	3637423*	950	
L 02549 A		L	IRR	176.4 DAVID V. ROUECHE		2	1	4	05	17S	37E	661819	3637423*	950	
L 02549 B		L	IRR	162.21 KYLE HAHN		2	1	4	05	17S	37E	661819	3637423*	950	
L 02549 BA		L	IRR	9 KEVIN L. REDFIELD		2	1	4	05	17S	37E	661819	3637423*	950	
L 02549 BB		L	IRR	48.39 JOHN W. PARKER		2	1	4	05	17S	37E	661819	3637423*	950	
L 02550		L	IRR	0 HENRY COVERT		2	1	4	05	17S	37E	661819	3637423*	950	
L 14121		L	MON	0 PLAINS PIPELINE LP		4	1	2	06	17S	37E	660254	3637916	965	
L 11644		L	DOM	3 PATRICK WHITMAN			1	4	05	17S	37E	661720	3637324*	969	
L 13414		L	EXP	0 PLAINS PIPELINE LP		2	3	2	06	17S	37E	660248	3637870	982	
						4	1	2	06	17S	37E	660218	3637979	988	
L 13038		L	MON	0 PLAINS ALL AMERICAN		4	1	2	06	17S	37E	660222	3637928	993	
PIPELINE															
WR File Nbr	basin	Use	Diversion	Owner	County	POD	Number	Code	Grant	Source	6416	4	Sec		
Tw's	Rng	X	Y	Distance											
Record Count:	40														

UTMNAD83 Radius Search (in meters):

**TABLE 2**  
**Summary of Soil Sample Field Testing and Laboratory Analytical Results**  
**Vanguard**  
**State V 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	Surface	In-Situ	27-Sep-17	0.1	1,600	--	--	--	--	--	--	--	--	2280
	2	In-Situ	27-Sep-17	0.6	1,920	--	--	--	--	--	--	--	--	--
	6	In-Situ	27-Sep-17	0.2	880	--	--	--	--	--	--	--	--	--
	10	In-Situ	27-Sep-17	0.4	160	--	--	--	--	--	--	--	--	--
	14	In-Situ	27-Sep-17	0.3	80	--	--	--	--	--	--	--	--	--
	18	In-Situ	27-Sep-17	0.4	80	--	--	--	--	--	--	--	--	144
SP2	Surface	In-Situ	27-Sep-17	1.5	240	--	--	--	--	--	--	--	--	80
	2	In-Situ	27-Sep-17	0.6	480	--	--	--	--	--	--	--	--	--
	6	In-Situ	27-Sep-17	0.7	1,120	--	--	--	--	--	--	--	--	--
	10	In-Situ	27-Sep-17	0.4	2,800	--	--	--	--	--	--	--	--	--
	14	In-Situ	27-Sep-17	0.2	2,400	--	--	--	--	--	--	--	--	--
	18	In-Situ	27-Sep-17	0.3	1,040	--	--	--	--	--	--	--	--	--
	22	In-Situ	27-Sep-17	0.2	480	--	--	--	--	--	--	--	--	--
	26	In-Situ	27-Sep-17	0.3	160	--	--	--	--	--	--	--	--	--
	30	In-Situ	27-Sep-17	0.1	160	--	--	--	--	--	--	--	--	--
	34	In-Situ	27-Sep-17	0.1	80	--	--	--	--	--	--	--	--	96



**TABLE 2**  
**Summary of Soil Sample Field Testing and Laboratory Analytical Results**  
**Vanguard**  
**State V 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)
SP3	Surface	In-Situ	27-Sep-17	0.6	80	--	--	--	--	--	--	--	--	<16.0
	3	In-Situ	27-Sep-17	0.4	80	--	--	--	--	--	--	--	--	<16.0
SP4	Surface	In-Situ	27-Sep-17	0.2	80	--	--	--	--	--	--	--	--	48
	3	In-Situ	27-Sep-17	0.3	120	--	--	--	--	--	--	--	--	80

**TABLE 2**  
**Summary of Soil Sample Field Testing and Laboratory Analytical Results**  
**Vanguard**  
**State V 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)
SP5	Surface	In-Situ	27-Sep-17	0.1	80	--	--	--	--	--	--	--	--	32
	3	In-Situ	27-Sep-17	0.1	80	--	--	--	--	--	--	--	--	32
SP6	Surface	In-Situ	27-Sep-17	0.8	80	--	--	--	--	--	--	--	--	<16.0
	3	In-Situ	27-Sep-17	0.6	80	--	--	--	--	--	--	--	--	<16.0
NMOCD Recommended Remedial Action Levels				100		10				50			5,000	250

-- = Not Analyzed

**Red** values are in excess of NMOCD Recommended Remedial Action Levels

*Shaded values indicates soil has been excavated*

## **ATTACHMENTS**



## **ATTACHMENT I**

## **Photographs**



Photograph #1- Release area



Photograph #2- Release area and sample location





Photograph #3- Release area and sample location



Photograph #4- Release area and sample location





Photograph #5- Release area and sample location

## **ATTACHMENT II**

## **NMOSE Average Depth to Groundwater**



# 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-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
<a href="#">L 01398</a>	L	LE		1	1	05	17S	37E		660901	3638119*	291	115	50	65
<a href="#">L 01107 POD1</a>	L	LE		1	1	1	05	17S	37E	660800	3638218*	399	92	38	54
<a href="#">L 02487</a>	L	LE		3	3	32	16S	37E		661016	3638527*	424	90	35	55
<a href="#">L 01288</a>	L	LE		1	2	05	17S	37E		661706	3638129*	514	95	40	55
<a href="#">L 02549</a>	L	LE		3	3	1	05	17S	37E	660807	3637616*	650	138	65	73
<a href="#">L 02078</a>	L	LE		4	4	31	16S	37E		660613	3638521*	692	112	50	62
<a href="#">L 10015</a>	L	LE					05	17S	37E	661524	3637515*	708	125	70	55
<a href="#">L 11952 POD1</a>	L	LE		2	2	3	05	17S	37E	661416	3637418*	756	150	60	90
<a href="#">L 01604 POD1</a>	L	LE		1	2	2	06	17S	37E	660397	3638214*	798	105		
<a href="#">L 11225</a>	L	LE		4	3	2	05	17S	37E	661812	3637625*	806	180	70	110
<a href="#">L 09717</a>	L	LE		2	3	05	17S	37E		661317	3637319*	830	118	65	53
<a href="#">L 09719</a>	L	LE		2	3	05	17S	37E		661317	3637319*	830	125	70	55
<a href="#">L 10143</a>	L	LE		2	3	05	17S	37E		661317	3637319*	830	90	55	35
<a href="#">L 10324</a>	L	LE		2	3	05	17S	37E		661317	3637319*	830	150	70	80
<a href="#">L 05458</a>	L	LE		1	4	4	31	16S	37E	660512	3638620*	832	240	50	190
<a href="#">L 09649</a>	L	LE		1	1	4	05	17S	37E	661619	3637423*	834	124	65	59
<a href="#">L 00449 S</a>	L	LE		2	2	4	06	17S	37E	660611	3637409*	933	120	48	72
<a href="#">L 00449 S</a>	R	L	LE	2	2	4	06	17S	37E	660611	3637409*	933	120	48	72
<a href="#">L 11773</a>	L	LE		2	2	4	06	17S	37E	660611	3637409	933	235		
<a href="#">L 02550</a>	L	LE		2	1	4	05	17S	37E	661819	3637423*	952	131	46	85
<a href="#">L 11644</a>	L	LE		1	4	05	17S	37E		661720	3637324*	972	120	61	59
<a href="#">L 13414 POD4</a>	L	LE		2	3	2	06	17S	37E	660248	3637870	981	110	93	17
<a href="#">L 13414 POD5</a>	L	LE		4	1	2	06	17S	37E	660218	3637979	986	110	93	17
<a href="#">L 13038 POD1</a>	L	LE		4	1	2	06	17S	37E	660223	3637928	992	115		

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



## **USGS Well Sites**

**ATTACHMENT III**



## National Water Information System: Web Interface

USGS Water Resources

Data Category:

Groundwater ▼

Geographic Area:

United States ▼

GO

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Groundwater levels for the Nation

### Site Description Information -- 7 sites match criteria

lat\_long\_bounding\_box

=

Position	Latitude	Longitude
Corner 1	32.884077	-103.294356
Corner 2	32.854769	-103.259819
Coordinates are entered as Decimal Degrees. DMS values are converted to Decimal degrees using NAD83 as the datum. Make your bounding box bigger if you are using NAD27 Datum for your DMS values		

Minimum number of 1  
levels =

Agency	Site Number	Site Name
USGS	325109103171301	17S.37E.07.211133
USGS	<a href="#">325125103162501</a>	17S.37E.05.34442
USGS	<a href="#">325129103161201</a>	<a href="#">17S.37E.05.43421</a>
USGS	<a href="#">325133103171301</a>	17S.37E.06.411331
USGS	<a href="#">325138103155701</a>	<a href="#">17S.37E.05.412221</a>
USGS	<a href="#">325141103164201</a>	17S.37E.05.133334
USGS	<a href="#">325229103171401</a>	<a href="#">16S.37E.31.322244</a>

## **Laboratory Analytical Results**

**ATTACHMENT IV**



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

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October 04, 2017

Daniel Dominguez

Environmental Plus, Inc.

P.O. Box 1558

Eunice, NM 88231

RE: STATE V #2

Enclosed are the results of analyses for samples received by the laboratory on 09/29/17 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](http://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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP1 (SURFACE) (H702655-01)**

BTEX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTEX	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2280	16.0	10/03/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 70.4 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.2 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP1 ( 18' ) (H702655-02)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTX	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

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	10/03/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 75.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.7 % 34.7-157

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\*=Accredited Analyte

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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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP2 (SURFACE) (H702655-03)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTEx	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	10/03/2017	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	37.5	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	11.2	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 73.7 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.7 % 34.7-157

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\*=Accredited Analyte

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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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP2 (34') (H702655-04)**

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTEx	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	10/03/2017	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 81.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 83.8 % 34.7-157

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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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

### Sample ID: SP3 (SURFACE) (H702655-05)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTEx	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/03/2017	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 76.3 % 28.3-164

Surrogate: 1-Chlorooctadecane 81.6 % 34.7-157

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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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP3 (1') (H702655-06)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTX	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/03/2017	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 81.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.8 % 34.7-157

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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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP4 (SURFACE) (H702655-07)**

BTX 8021B			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTX	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 72-148

Chloride, SM4500CI-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	10/03/2017	ND	448	112	400	3.64	

TPH 8015M			mg/kg		Analyzed By: MS				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 75.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 79.2 % 34.7-157

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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

Received: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP4 (1') (H702655-08)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTX	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 107 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	10/03/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 65.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 67.5 % 34.7-157

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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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP5 (SURFACE) (H702655-09)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTX	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	32.0	16.0	10/03/2017	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 72.6 % 28.3-164

Surrogate: 1-Chlorooctadecane 74.2 % 34.7-157

Cardinal Laboratories

\*=Accredited Analyte

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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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP5 (1') (H702655-10)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTX	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/03/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 85.5 % 28.3-164

Surrogate: 1-Chlorooctadecane 88.7 % 34.7-157

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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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP6 (SURFACE) (H702655-11)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTX	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 105 % 72-148

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	10/03/2017	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 78.9 % 28.3-164

Surrogate: 1-Chlorooctadecane 78.0 % 34.7-157

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\*=Accredited Analyte

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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: 09/29/2017  
Reported: 10/04/2017  
Project Name: STATE V #2  
Project Number: VANGUARD  
Project Location: UL-C SEC.5, T17S,R37E

Sampling Date: 09/27/2017  
Sampling Type: Soil  
Sampling Condition: Cool & Intact  
Sample Received By: Tamara Oldaker

**Sample ID: SP6 (1') (H702655-12)**

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2017	ND	1.93	96.4	2.00	0.568	
Toluene*	<0.050	0.050	10/03/2017	ND	1.73	86.6	2.00	0.315	
Ethylbenzene*	<0.050	0.050	10/03/2017	ND	1.78	89.1	2.00	0.0995	
Total Xylenes*	<0.150	0.150	10/03/2017	ND	5.47	91.1	6.00	0.191	
Total BTX	<0.300	0.300	10/03/2017	ND					

Surrogate: 4-Bromofluorobenzene (PID) 106 % 72-148

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	10/03/2017	ND	448	112	400	3.64		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	10/02/2017	ND	206	103	200	0.664	
DRO >C10-C28	<10.0	10.0	10/02/2017	ND	214	107	200	0.602	
EXT DRO >C28-C36	<10.0	10.0	10/02/2017	ND					

Surrogate: 1-Chlorooctane 74.1 % 28.3-164

Surrogate: 1-Chlorooctadecane 73.7 % 34.7-157

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Celey D. Keene, Lab Director/Quality Manager



### Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

### Chain of Custody Form

LAB Cardinal



LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		SAMPLING		BTEX 8021B	TPH 8015M Ext.	CHLORIDES (Cl <sup>-</sup> )	SULFATES (SO <sub>4</sub> <sup>2-</sup> )	pH	TCLP	OTHER >>>	PAH					
				GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:	ACID/BASE	ICE/COOL	OTHER	DATE												TIME	
4702655																										
	1 SP1 (Surface)	G	1																							
	2 SP1 (18')	G	1																							
	3 SP2 (Surface)	G	1																							
	4 SP2 (34')	G	1																							
	5 SP3 (Surface)	G	1																							
	6 SP3 (1')	G	1																							
	7 SP4 (Surface)	G	1																							
	8 SP4 (1')	G	1																							
	9 SP5 (Surface)	G	1																							
	10 SP5 (1')	G	1																							

Sampler Relinquished: *2-4-15*

Date	9-28-17	Received By: <i>[Signature]</i>
Time	6:00 am	

E-mail results to: [ddominguezepi@gmail.com](mailto:ddominguezepi@gmail.com) & [cjohnston@vnrlc.com](mailto:cjohnston@vnrlc.com)

**NOTES:**

Relinquished by:	
Received by: (lad staff)	
Date:	22.08.17

Delivered by: 	<table border="1"> <tr> <td>Time</td> <td rowspan="2"></td> </tr> <tr> <td>3:35</td> </tr> </table>	Time		3:35
Time				
3:35				
Checked By: 				

$-8.4^{\circ}$ $-8.15^{\circ}$ 72.475	Sample 4.001 & intact <input checked="" type="radio"/> Yes <input type="radio"/> No
---	---



# Environmental Plus, Inc.

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

P.O. Box 1558, Eunice, NM 88231

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 State V #2

Location UL-C Sec. 5, T17S, R37E

Project Reference

EPI Sampler Name David Robinson

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



Bill To

ANALYSIS REQUEST

LAB I.D.	SAMPLE I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	SAMPLING	ANALYSIS REQUEST										
				GROUND WATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER:			ACID/BASE	ICE/COOL	OTHER	DATE	TIME	BTEX 8021B	TPH 8015M Ext.	CHLORIDES (Cl <sup>-</sup> )	SULFATES (SO <sub>4</sub> <sup>2-</sup> )	pH	TCLP
H702655	11 SP6 (Surface)	G	1			X					X	27-Sep-17	11:35	X	X	X						
	12 SP6 (1')	G	1			X					X	27-Sep-17	11:51	X	X	X						
	13																					
	14																					
	15																					
	16																					
	17																					
	18																					
	19																					
	20																					

Sampler Relinquished:

Date 9-28-17

Received By:

Relinquished by:

Date 9-28-17

Received By: (lab staff)

Delivered by:

Date 9-28-17

Sample Cool & Intact

Checked By:

E-mail results to: ddominguezepi@gmail.com & cjohnston@vnrllc.com  
NOTES:

## **Copy of Initial NMOCD Form C-141**

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Avenue, 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 October 10, 2003

Submit 2 Copies to appropriate  
District Office in accordance  
with Rule 116 on back  
side of form

Release Notification and Corrective Action

OPERATOR

☒ Initial Report

☐ Final Report

Name of Company: Shinnery Oil Co., Inc.	Contact: Jack Hood
Address: 606 W. Tennessee, Suite 107, Midland, TX 79701	Telephone No.: 432 686-8846
Facility Name: State V Well #2	Facility Type: Flowline @ pumping unit

Surface Owner: State	Mineral Owner	Lease No.:
----------------------	---------------	------------

LOCATION OF RELEASE

API# 30025214310000

Unit Letter C	Section 5	Township 17S	Rang 37E	Feet from the 660	North/South Line North	Feet from the 1980	East/West Line West	County Lea
------------------	--------------	-----------------	-------------	----------------------	---------------------------	-----------------------	------------------------	---------------

Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

NATURE OF RELEASE

Type of Release: flowline leak @ pumping unit	Volume of Release: 15 bbls	Volume Recovered: 0 bbls
Source of Release: flowline	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? X Yes No <input type="checkbox"/> Not Required	If YES, To Whom? - 12 pm on 6-7-06 - occurrence; discovery-same day Arranged for clean-up immediately.	
By Whom? field	Date and Hour: 6-7-06	
Was a Watercourse Reached? <input type="checkbox"/> Yes X No	If YES, Volume Impacting the Watercourse.	

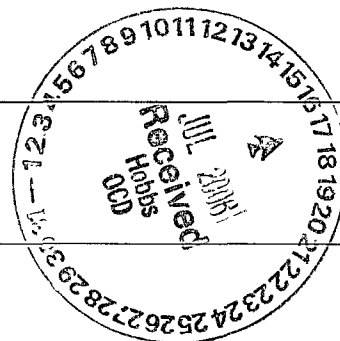
If a Watercourse was Impacted, Describe Fully.\*

Describe Cause of Problem and Remedial Action Taken.\*

Connection; flowline leak immediately west of pumping unit.

Describe Area Affected and Cleanup Action Taken.\*

Area spill of 50 x 50' was cleaned up; brought in fresh dirt to mix in with oil dirt.  
Will get remedial soil sample and submit to Oil Conservation Division.



I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCDD 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 NMOCDD 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, NMOCDD 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: Ann E. Ritchie	Approved by District Supervisor	
Title: Regulatory Agent	Approval Date: 6-27-07	Expiration Date: 9-26-07
E-mail Address: ann.ritchie@wtor.net	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 7-11-06 Phone: 432 684-6381	Submit Final C-141 w/ SUPPORTING DATA B4!	

\* Attach Additional Sheets If Necessary

Incident - nPAC0619948641  
application - pPAC0619948755

SUPPORTING DATA B4!

RP# 962