

Vanguard Permian Grizzell B # 7 Delineation Work Plan

**Section 8, T22S, R37E
Lea County, New Mexico**

November 11, 2013



Prepared for:

**Vanguard Permian
1209 S Main Avenue
Lovington, New Mexico 88260**

By:

**Safety & Environmental Solutions, Inc.
703 East Clinton Street
Hobbs, New Mexico 88240
(575) 397-0510**

TABLE OF CONTENTS

I. COMPANY CONTACTS.....	1
II. BACKGROUND.....	1
III. SURFACE AND GROUND WATER.....	1
IV. CHARACTERIZATION.....	1
V. WORK PERFORMED.....	1
VI. ACTION PLAN.....	ERROR! BOOKMARK NOT DEFINED.
VII. FIGURES & APPENDICES	3
Figure 1 – Vicinity Map.....	4
Figure 2– Depth to Groundwater	6
Figure 3 – Site Map	5
Appendix A – Analytical Results	7
Appendix B – C-141	15

I. Company Contacts

Representative	Company	Telephone	E-mail
Mike Jones	Vanguard	575-390-4611	mjones@vnrlc.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc. (SESI) was engaged by Vanguard Permian Company to perform site assessment of a release area at the Grizzell B #7 located in Section 8 of Township 22 South, Range 37 East, Lea County, New Mexico.

According to the C-141 dated October 1, 2013, the cause of the release was due to a flow line blowout. New Mexico Oil Conservation Division (NMOCD) was contacted on October 1, 2013.

III. Surface and Ground Water

According to Mr. Geoffrey Leking from (EMNRD) the NMOCD Trend Map shows the nearest groundwater at a depth at 70 feet below ground surface (BGS).

IV. Characterization

The target cleanup levels are determined using the *Guidelines for Remediation of Leaks, Spills and Releases* published by the NMOCD (August 13, 1993). Based on the ranking criteria presented below, the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 1,000 ppm Total Petroleum Hydrocarbons (TPH).

Depth to Ground Water:			
(Vertical distance from contaminants to seasonal high water elevation of groundwater)	Less than 50 feet	20 points	
	50 feet to 99 feet	10 points	X
	>100 feet	0 points	
Wellhead Protection Area:			
(Less than 200 feet from a private domestic water source; or less than 1000 feet from all other water sources)	Yes	20 points	
	No	0 points	X
Distance to Surface Water:			
(Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet	20 points	
	200 feet to 1000 feet	10 points	
	>1000 feet	0 points	X
RANKING SCORE (TOTAL POINTS)			0

V. Work Performed

On October 22, 2012, SESI was onsite with Bryan's Oilfield Services and installed 6 test trenches to determine vertical extent of contamination. Samples were retrieved at a depth of 3 feet below ground surface (bgs). Samples were retrieved, properly packaged and transported under chain of custody to Cardinal Laboratories in Hobbs, New Mexico. The results of the analysis are as follows:

Sample Date: 10/22/2013	Cl- (mg/kg)	TPH		Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)
		GRO C6- C10	DRO> C10- C28					
TT-1, 3 ft	32.0	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300
TT-2, 3 ft	384	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300
TT-3, 3 ft	688	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300
TT-4, 3 ft	368	<10.0	<10.0	<0.050	<0.050	<0.050	<0.150	<0.300
TT-5, 3 ft	176	<10.0	16.7	<0.050	<0.050	<0.050	<0.150	<0.300
TT-6, 3 ft	<16.0	394	7190	<0.250	<0.500	<0.500	<1.50	<2.75

On December 30, 2013 SESI was on site along with Mike Stubblefield at his request to sample and install three auger holes to a depth of 1', 2' 6' to determine extent of contamination. Samples obtained were properly packaged, preserved and transported under chain of custody to Cardinal Laboratories. The results of the analysis are as follows:

Sample Date: 12/30/13	Sample ID	Cl (mg/kg)	Benzen e (mg/kg)	Toluene (mg/kg)	Ethyl - Benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)
	-						
H303154-01	AH PT. 7 @ Surface	176	<0.050	<0.050	<0.050	<0.150	<0.300
H303154-02	AH PT. 7 @ 6"	64.0	<0.050	<0.050	<0.050	<0.150	<0.300
H303154-03	AH PT. 7 @ 1'	32.0	<0.050	<0.050	<0.050	<0.150	<0.300
H303154-04	AH PT. 7 @ 2'	96.0	<0.050	<0.050	<0.050	<0.150	<0.300
H303154-05	AH PT. 8 @ Surface	16.0	<0.200	<0.200	1.25	3.13	4.38
H303154-06	AH PT. 8 @ 6'	<16.0	<0.050	<0.050	0.247	0.588	0.835
H303154-07	AH PT. 8 @ 1'	48.0	<0.050	<0.050	<0.050	<0.150	<0.300
H303154-08	AH PT. 8 @ 2'	64.0	<0.050	<0.050	<0.050	<0.150	<0.300
H303154-09	AH PT. 9 @ Surface	<16.0	<0.500	2.76	11.3	28.8	42.9
H303154-10	AH PT. 9 @ 6"	<16.0	<2.00	8.94	35.0	95.7	140
H303154-11	AH PT. 9 @ 1'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300
H303154-12	AH PT. 9 @ 2'	<16.0	<0.050	<0.050	<0.050	<0.150	<0.300

Sample Date: 12/30/13	Sample ID	GRO (C6-C10) (mg/kg)	DRO (>C10-C28) (mg/kg)
	-		
H303154-01	AH PT. 7 @ Surface	<10.0	1310
H303154-02	AH PT. 7 @ 6"	<10.0	28.5
H303154-03	AH PT. 7 @ 1'	<10.0	21.3
H303154-04	AH PT. 7 @ 2'	<10.0	49.8
H303154-05	AH PT. 8 @ Surface	329	11100
H303154-06	AH PT. 8 @ 6'	45.2	673
H303154-07	AH PT. 8 @ 1'	<50.0	388
H303154-08	AH PT. 8 @ 2'	<50.0	284
H303154-09	AH PT. 9 @ Surface	675	9830
H303154-10	AH PT. 9 @ 6"	2040	8800
H303154-11	AH PT. 9 @ 1'	<10.0	86.3
H303154-12	AH PT. 9 @ 2'	<10.0	269

VI. Action Plan

The Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined benzene, toluene, ethylbenzene, and total xylenes (BTEX), and 1,000 ppm Total Petroleum Hydrocarbons (TPH) for this site. The affected area will be excavated to a depth where the level of contamination is 1,000 ppm TPH and 250 PPM chlorides. The excavated soils will be transported to a New Mexico Oil Conservation Division (NMOCD) approved facility for disposal. Samples will be obtained from the bottom and all sides of the excavation to confirm that the RRALs have been reached. The excavation will then be backfilled with like soils and contoured to match the surrounding area.

VII. Figures & Appendices

- Figure 1 – Vicinity Map
- Figure 2 – Site Plan
- Appendix A – Analytical Results
- Appendix B – C-141

Figure 1

Vicinity Map

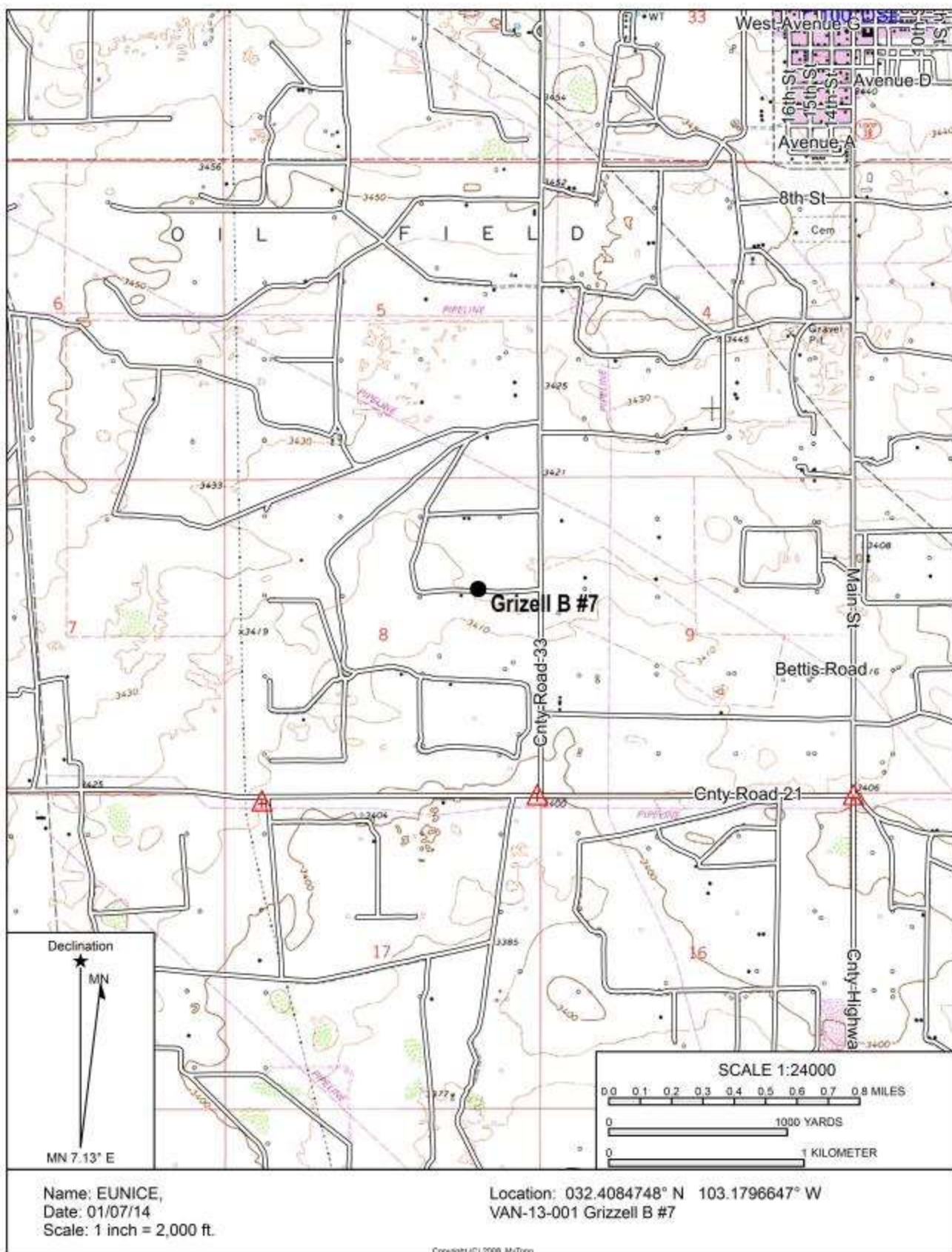


Figure 2
Depth to Groundwater

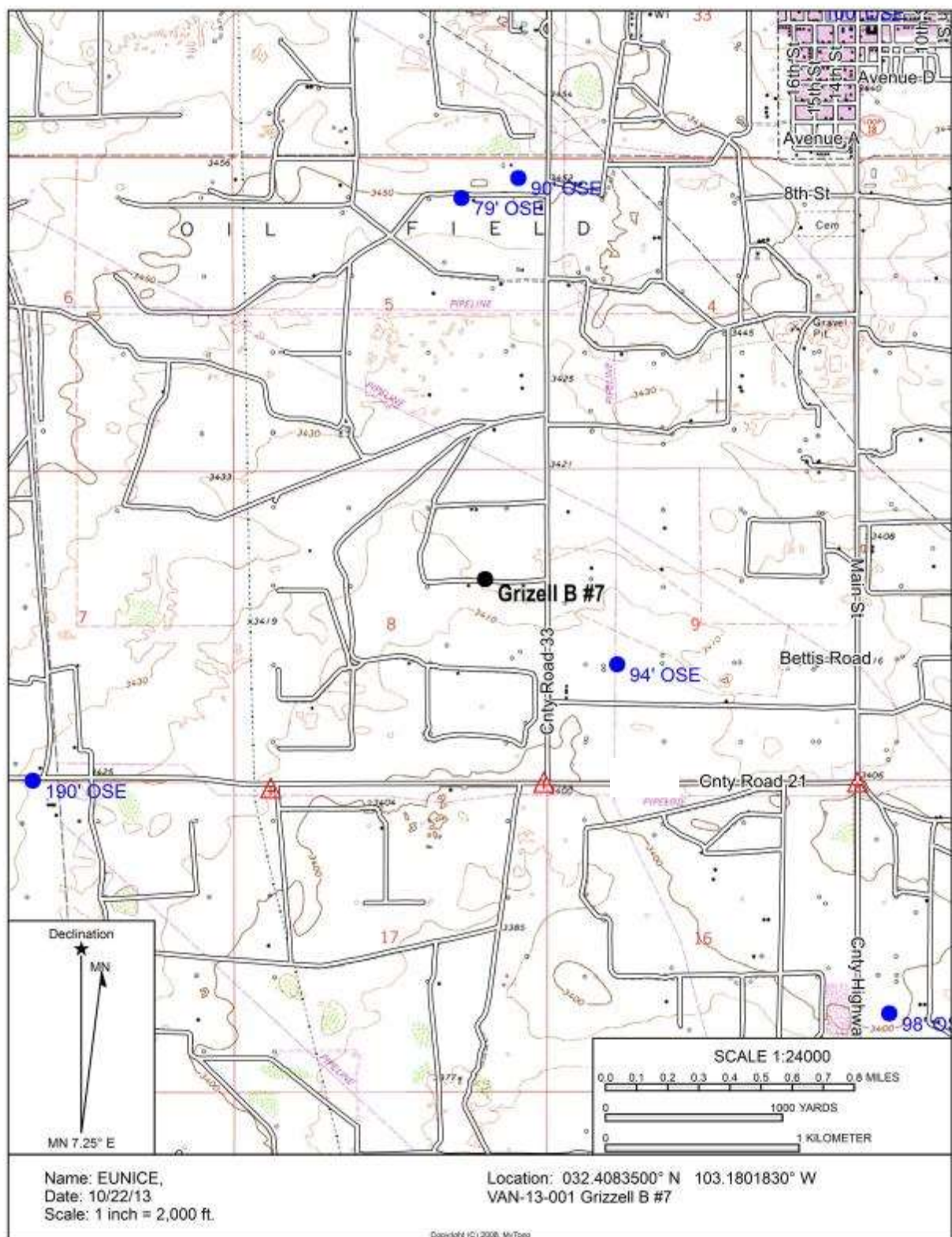


Figure 3

Site Map



Grizzell B #7 Release Area, Auger Holes and Test Trenches

Appendix A

Analytical Results



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

October 28, 2013

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: VANGUARD

Enclosed are the results of analyses for samples received by the laboratory on 10/22/13 16:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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	Halocetic 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 "Caley D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Caley D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 10/22/2013
Reported: 10/28/2013
Project Name: VANGUARD
Project Number: VAN-13-001
Project Location: NOT GIVEN

Sampling Date: 10/22/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: TT-1 3' (H302555-01)

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2013	ND	2.05	103	2.00	0.398	
Toluene*	<0.050	0.050	10/24/2013	ND	2.14	107	2.00	0.0304	
Ethylbenzene*	<0.050	0.050	10/24/2013	ND	2.17	108	2.00	0.263	
Total Xylenes*	<0.150	0.150	10/24/2013	ND	6.55	109	6.00	1.57	
Total BTEX	<0.300	0.300	10/24/2013	ND					

Surrogate: 4-Bromobenzene (PIC) 105 % 89.4-120

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/23/2013	ND	400	100	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	10/23/2013	ND	180	90.0	200	2.46		
DRO >C10-C28	<10.0	10.0	10/23/2013	ND	175	87.4	200	1.75		

Surrogate: 1-Chlorooctane 75.6 % 63.2-140

Surrogate: 1-Chlorooctadecane 81.3 % 63.6-154

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Liability and Damages: Cardinal's liability and client's recourse remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other form of impairment shall be deemed waived unless made in writing and received by Cardinal within 90 days after completion of the applicable service. It is not valid until signed by both the individual or individuals charged, including without limitation, business managers, lines of use, or loss of profits, however be stated, for additional, additional or additional arising out of or added to the performance of the services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results stated only to the analysis identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celest D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 10/22/2013
Reported: 10/28/2013
Project Name: VANGUARD
Project Number: VAN-13-001
Project Location: NOT GIVEN

Sampling Date: 10/22/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: TT-2 3' (H302555-02)

BTEX B021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/24/2013	ND	2.05	103	2.00	0.398		
Toluene*	<0.050	0.050	10/24/2013	ND	2.14	107	2.00	0.0304		
Ethylbenzene*	<0.050	0.050	10/24/2013	ND	2.17	108	2.00	0.263		
Total Xylenes*	<0.150	0.150	10/24/2013	ND	6.55	109	6.00	1.57		
Total BTEX	<0.300	0.300	10/24/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 103 % 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	384	16.0	10/23/2013	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRD C6-C10	<10.0	10.0	10/24/2013	ND	180	90.0	200	2.46		
DRD >C10-C28	<10.0	10.0	10/24/2013	ND	175	87.4	200	1.75		

Surrogate: 1-Chlorooctane 85.4 % 63.2-140

Surrogate: 1-Chlorooctadecane 92.7 % 63.6-154

Cardinal Laboratories

* = Accredited Analyte

MAJOR HAZARD: Hazards and Damages. Cardinal Laboratories and its clients assume liability for any claims arising, whether direct or indirect, that may be related to the services provided by clients for analysis. 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. It is agreed that Cardinal is not liable for incidental or consequential damages, including, without limitation, business interruption, loss of data, or loss of profits caused by client, its subsidiaries, affiliates or successors using one or more of the services furnished by Cardinal, regardless of whether such claim is based upon any of the above stated reports or otherwise. Results relate only to the samples identified above. This report shall not be reproduced outside of the files within Cardinal Laboratories.

Caley D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 10/22/2013
Reported: 10/28/2013
Project Name: VANGUARD
Project Number: VAN-13-001
Project Location: NOT GIVEN

Sampling Date: 10/22/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: TT-3 3' (H302555-03)

BTX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2013	ND	2.05	103	2.00	0.398	
Toluene*	<0.050	0.050	10/24/2013	ND	2.14	107	2.00	0.0304	
Ethylbenzene*	<0.050	0.050	10/24/2013	ND	2.17	108	2.00	0.263	
Total Xylenes*	<0.150	0.150	10/24/2013	ND	6.55	109	6.00	1.57	
Total BTX	<0.300	0.300	10/24/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 103.96 89.4-126

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	688	16.0	10/23/2013	ND	400	100	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	10/24/2013	ND	180	90.0	200	2.46	
GRO >C10-C28	<10.0	10.0	10/24/2013	ND	175	87.4	200	1.75	

Surrogate: 1-Chlorooctane 85.3 % 65.2-140

Surrogate: 1-Chlorooctadecane 92.9 % 63.6-154

Cardinal Laboratories

* = Accredited Analyte

PLEASE NOTE: Limits and Surrogate. Cardinal neither certifies nor warrants (either by any data testing, whether based on contract or not, shall be limited to the amount paid by client for analysis. 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 held liable for incidental or consequential damages, including without limitation, business interruption, loss of use, or loss of profits incurred by client, for substitution, addition or omission of analytes, or for any other reason. The performance of the service is based on the quality of the sample received by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results shall only be the samples submitted above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Coley D. Keene, Lab Director/Quality Manager



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

Analytical Results For:

Safety & Environmental Solutions
Bob Allen
703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received: 10/22/2013
Reported: 10/28/2013
Project Name: VANGUARD
Project Number: VAN-13-001
Project Location: NOT GIVEN

Sampling Date: 10/22/2013
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: TT-4 3' (H302555-04)

BTEX 80218		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2013	ND	2.05	103	2.00	0.398	
Toluene*	<0.050	0.050	10/24/2013	ND	2.14	107	2.00	0.0304	
Ethylbenzene*	<0.050	0.050	10/24/2013	ND	2.17	108	2.00	0.263	
Total Xylenes*	<0.150	0.150	10/24/2013	ND	6.55	109	6.00	1.57	
Total BTEX	<0.300	0.300	10/24/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 100 % 89.4-126

Chloride, SM4560Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	368	16.0	10/23/2013	ND	400	100	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	10/24/2013	ND	180	90.0	200	2.46	
DRO >C10-C28	<10.0	10.0	10/24/2013	ND	175	87.4	200	1.75	

Surrogate: 1-Chlorooctane 84.8 % 65.2-140

Surrogate: 1-Chlorooctadecane 92.7 % 63.6-134

Cardinal Laboratories

* = Accredited Analyte

DISCLAIMER: Liability and Damages. Cardinal's liability and client's recourse remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid to client for analysis. All claims, including those for negligence and any other basis whatsoever shall be deemed waived unless made in writing and received by Cardinal within sixty (60) days after completion of the applicable service. In no event shall Cardinal be liable for indirect or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits caused by delay, its subsidiaries, affiliates or subcontractors arising out of or related to the performance of the service, 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.

Cately D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

 Received: 10/22/2013
 Reported: 10/28/2013
 Project Name: VANGUARD
 Project Number: VAN-13-001
 Project Location: NOT GIVEN

 Sampling Date: 10/22/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: TT-5 3' (H302555-05)

STEX 6021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/24/2013	ND	2.05	103	2.00	0.398	
Toluene*	<0.050	0.050	10/24/2013	ND	2.14	107	2.00	0.0304	
Ethylbenzene*	<0.050	0.050	10/24/2013	ND	2.17	108	2.00	0.263	
Total Xylenes*	<0.150	0.150	10/24/2013	ND	6.55	109	6.00	1.57	
Total BTEX	<0.300	0.300	10/24/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 103 % 89.4-126

Chloride, SM4500Cl-8		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	10/23/2013	ND	400	100	400	0.00	

TPH 8015H	mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C5-C10	<10.0	10.0	10/24/2013	ND	180	90.0	200	2.46	
DRO >C10-C28	16.7	10.0	10/24/2013	ND	175	87.4	200	1.75	

Surrogate: 1-Chlorooctane 91.5 % 61.2-140

Surrogate: 1-Chlorooctadecane 102 % 63.6-154

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 analysis. All claims, including those for negligence and any other form of malpractice shall be waived unless made in writing and received by Cardinal within ninety (90) 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 provided by Cardinal, regardless of whether such claim is based upon any of the above stated causes of actions. Results apply only to the analytes identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Coley D. Keene, Lab Director/Quality Manager

Analytical Results For:

 Safety & Environmental Solutions
 Bob Allen
 703 East Clinton
 Hobbs NM, 88240
 Fax To: (575) 393-4388

 Received: 10/22/2013
 Reported: 10/28/2013
 Project Name: VANGUARD
 Project Number: VAN-13-001
 Project Location: NOT GIVEN

 Sampling Date: 10/22/2013
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: TT-6 3' (H302555-06)

BTEX 80218		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.250	0.250	10/24/2013	ND	2.05	103	2.00	0.398		
Toluene*	<0.500	0.500	10/24/2013	ND	2.14	107	2.00	0.0304		
Ethylbenzene*	<0.500	0.500	10/24/2013	ND	2.17	108	2.00	0.263		
Total Xylenes*	<1.50	1.50	10/24/2013	ND	6.55	109	6.00	1.57		
Total BTEX	<2.75	2.75	10/24/2013	ND						

Surrogate: 4-Bromofluorobenzene (PIL) 103 % 89.4-126

Chloride, SM4300C-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	10/23/2013	ND	400	100	400	0.00			

TPH 8015M			mg/kg							Analyzed By: MS		S-06
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier			
GRO C6-C10	394	100	10/23/2013	ND	180	90.0	200	2.46				
DRO >C10-C28	7190	100	10/23/2013	ND	175	87.4	200	1.75				

Surrogate: 1-Chlorooctane 75.7 % 65.2-140

Surrogate: 1-Chlorooctadecane 598 % 63.6-154

Cardinal Laboratories

* = Accredited Analyte

MAJOR NOTE: Liability and Coverage: Cardinal's liability and coverage extends only to the client's request for analysis, whether based on contract or not, and is limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 180 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 in violation of the performance of the services rendered by Cardinal, regardless of whether such claim is based upon any of the above stated causes or otherwise. Results made only to the original identified client. 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

S-OE	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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 SM4500-Cl-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

WARRANT NOTE: Liability and Damages. Cardinal's liability and client's recourse remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. 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 provided by Cardinal, regardless of whether such claim is based upon any of the 50000, 20000 or 100000. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Coley D. Keene, Lab Director/Quality Manager



Safely & Environmentally

Lab I.D.	Sample I.D.
H302655	
17-1	31
17-2	31
17-3	31
17-4	31
17-5	31
17-6	31
(GRAB OR COMPOUND)	
# CONTAINERS	
GROUNDWATER	
WASTEWATER	
SOIL	
OIL	
SLUDGE	
OTHER:	
ACID/BASE:	
ICE / COOL	
OTHER:	
DATE	
TIME	
10-22-08	BTEX
0920	8015
1010	C1
1100	
1140	
1300	

Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Good / Heavy Yes / No		CHL-RAD BY [Signature]
1.42		[Signature]		[Signature]

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 383-2226

#521

Appendix B

C-141

District I
1625 N. French Dr., Hobbs, NM 88240
District II
813 S. First St., Artesia, NM 88210
District III
1000 Rio Bravos 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

GRIZZELL #7

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

Name of Company VANGUARD PERMIAN		Contact RUSSELL HASSELOFF		<input checked="" type="checkbox"/> Initial Report	<input type="checkbox"/> Final Report
Address 1209 S MAIN LOUNGSTON NM		Telephone No. 361-244-3707			
Facility Name GRIZZELL		Facility Type OIL WELL			
Surface Owner		Mineral Owner		API No. 30-025-3761	

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
	8	22-S	37-E	2310	FNL	2310	FEL	Lea

Latitude **N32°24'30.64"** Longitude **W103°10'18.64"**

NATURE OF RELEASE


Type of Release FLOW LINE BLEED OUT	Volume of Release 10 BBL	Volume Recovered 10 BBL
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery 10-1-13 10:00 AM
Was Immediate Notice Given?	If YES, To Whom?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required		
By Whom?	Date and Hour	
Was a Watercourse Reached?	If YES, Volume Impacting the Watercourse	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
FLOW LINE RUPTURE CAUSED SPRAY AND LOSS OF 10 BBL CRUDE OIL. VACUUM TRUCK CALLED UPON DISCOVERY AND APPROXIMATE 10 BBL PICKED UP. BACK HOE CALLED TO COVER REMAINING SPILLAGE.

Describe Area Affected and Cleanup Action Taken.*
30'x50' AREA AT BACK OF GATHERING SITE. OIL PICKED UP AND THEN COVERED GROUND WITH NEW FILL DIRT. WITH REMOVE DIRT + BRING NEW DIRT.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCED 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 NMOCED 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, NMOCED 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: RUSSELL HASSELOFF		Approved by Environmental Specialist:	
Title: LEASE OPERATOR		Approval Date:	Expiration Date:
E-mail Address: RHASSELOFF@VNRULL.COM		Conditions of Approval:	
Date: 10-1-13	Phone: 361-244-3707	Attached <input type="checkbox"/>	

* Attach Additional Sheets If Necessary