Maverick Natural Resources

Humble Yates Battery
Delineation Report & Work Plan

Section 16, Township 18S, Range 28E
Eddy County, New Mexico

April 02, 2019

Prepared for:
Maverick Natural Resources, LLCD
PO Box 678
Andrews, TX
By:

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

TABLE OF CONTENTS

I. Company Contacts

Representative	Company	Telephone	E-mail
Thomas Haigood	Maverick Resources	432-701-7802	Thomas.haigood@maverickresources.com
Bob Allen	SESI	575-397-0510	ballen@sesi-nm.com

II. Background

Safety and Environmental Solutions, Inc., hereinafter referred to as (SESI) was engaged by Maverick Natural Resources, to assess a spill area inside a lined battery that had leached out onto pasture area.
According to the C-141: Approximately 66 bbls of crude oil were being held in a tank that failed to hold fluid due to corrosion. The fluid began to spill into the secondary containment. Approximately 10 bbls of fluid leached out under the bermed area. A total of 66 bbls of fluid were spilled inside the bermed area and pasture area. A vacuum truck was utilized to recover approximately 35 bbls. The fluid traversed the pasture for approximately 125 yards, before being discovered by the pumper. A Trimble Juno 3B handheld was used to map the spill area. (Figure 2).

III. Surface and Ground Water

There is no record of groundwater in the immediate vicinity of the site location. Further research of the New Mexico Office of the State Engineer records indicates the average depth to groundwater for the area to be 300' bgs. Thereby, posing no eminent threat or danger to life forms in the area (Appendix B).

IV. Characterization

The target cleanup levels are determined using the NMAC 19.15.29 revisions dated July 24, 2018. The soil screening criteria presented below, and the applicable Recommended Remediation Action Levels (RRAL) are 10 parts per million (ppm) Benzene, 50 ppm combined Benzene, Toluene, Ethyl Benzene, and Total Xylenes (BTEX), and 2,500 ppm Total Petroleum Hydrocarbons (TPH). Characterization of vertical extent of chloride concentration to a level of 600 mg/kg (PPM) is also required for pasture impact.

Table 1
Closure Criteria for Soils Impacted by a Release

Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/l TDS	Constituent	Method*	Limit**
<50 feet	Chloride***	EPA 300.0 or SM4500 Cl B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015B	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
51 feet-100 feet	Chloride***	EPA 300.0 or SM4500 Cl B	10,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015B	2,500 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg
>100 feet	Chloride***	EPA 300.0 or SM4500 Cl B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015B	2,500 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg

V. Work Performed

On January 10, 2019 SESI personnel together with equipment and personnel from Phoenix construction were on site to remove saturated surface soils inside the bermed area by hand, as well as all saturated surface soils from pasture area. The soil was stockpiled on a 30 mil. Liner for future removal. Site was flagged for one call clearance and photographed.

On January 11, 2019 SESI personnel together with equipment and personnel from Phoenix Construction returned to the Humble Yates Battery in order to commence with delineation of the site. Five sample points were designated in the pasture area. A test trench was advanced immediately to the south of the bermed area where the fluid had pooled on the pad area. The test trench was advanced to a depth of 3.5 ft. bgs. The impacted stockpile of saturated soil was transported to Lea landfill (an NMOCD approved facility) for disposal. At approximately 1400 hours a storm moved in bringing heavy rain and hail. The test trench was backfilled and all sampling halted. All soil samples were properly packaged, preserved, and transported to Cardinal Laboratories via chain of custody, and were analyzed for the following constituencies: (Cl Method 300.0 Anions), Total Petroleum Hydrocarbons (TPH Method 8015), and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX Method 8021B). The table below is a recap of the results from the Cardinal Analyses (Appendix C):

Sample ID	Chloride	DRO	GRO	BTEX
SP1 @ Surface	ND	450	21.3	.908
SP1 @ 1ft.	32	9630	1730	125
SP2 @ Surface	ND	10500	4490	537
SP 3 @ Surface	336	7740	817	66
SP 3 @ 1ft.	ND	1580	83.1	3.63
SP 4 @ Surface	336	21400	5790	564
SP4 @ 1ft.	240	6980	1340	112
Test Trench (TT) Surface	208	34100	7050	668
TT1 @ 1ft	48	26100	ND	ND
TT1 @ 2ft	16	920	84.9	4.8

Pursuant to the New Mexico One Call clearance, and on March 27, 2019 SESI personnel, together with equipment and personnel from Custom Welding of Hobbs, returned to the site in order to complete the vertical and horizontal delineation of the spill area. Based on the results of the previous sampling event all sample points were advance in one foot increments beyond the former depths. SESI personnel noted that there remained some residual fluid inside the bermed area and that further leaching under the berm may have occurred over time. The test trench was advanced to 4ft bgs., together with the sidewall advancement. At 11:05 AM a line that had not been marked or cleared by New Mexico one call, was struck in the test trench. SESI personnel halted excavation activity in the trench for safety reasons. An additional 1ft. bgs. was advanced in the pasture area, and soil samples retrieved where the spill had traversed. All soil samples were properly packaged, preserved, and transported to Hall Laboratories via chain of custody, and were analyzed for the following constituencies:

Total Petroleum Hydrocarbons (TPH Method 8015), and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX Method 8021B). The table below is a recap of the results from the Hall Laboratory Analyses for ease of reference (Appendix C):

Sample ID	DRO	GRO
East SW	330	ND
North SW	1700	43
South SW	1300	51
West SW	6300	300
TT Bottom	2300	100
SP1 @ 2 ft	220	ND
SP2 @ 2ft	940	ND
SP3 @ 3ft	45	ND
SP4 @ 3ft	34	ND
SP5 @ 3ft	160	ND

VI. Action Plan

Based on the NMOCD soil screening levels and depth to groundwater for this area: Chlorides were not the constituency of concern in this spill. Therefore, SESI is requesting permission to backfill pasture area with fresh topsoil, and reseed with NMSLO approved seed mixture. All impacted soils will be transported to an NMOCD approved facility. The pad area will be restored to grade, excavated pasture area will be backfilled with fresh topsoil and terraced to surrounding area in order to facilitate vegetation, and prevent erosion. SESI, is furthermore requesting that impacted area inside berm and pad location be deferred due to number of lines, to such a point in time that the Battery is decommissioned.

Upon completion of remediation activities: all surface areas off of the pasture area will be re-seeded according New Mexico State Land Office Guidelines. All closure documentation will be drafted and submitted to the proper parties of concern.

VII. Figures & Appendices

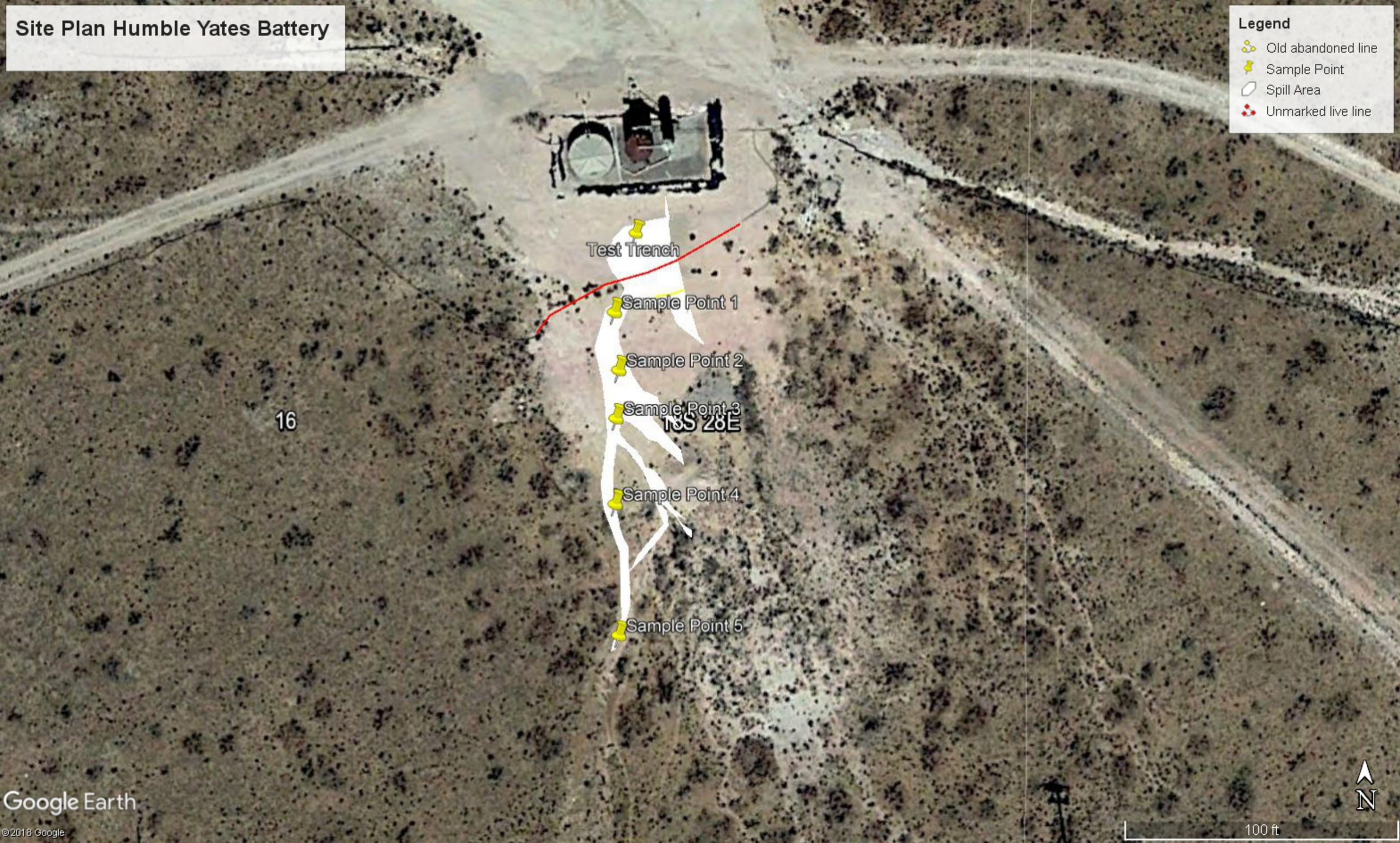
Figure 1 - Vicinity Map
Figure 2 - Site Plan
Appendix A – C-141
Appendix B – Groundwater
Appendix C – Analytical Results
Appendix D – Photo Documentation

Figure 1
Vicinity Map

Vicinity Map- Humble Yates Battery

Figure 2
Site Plan

Site Plan Humble Yates Battery



Appendix A
C-141

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Maverick Natural Resources, LLCD	OGRID
Contact Name Thomas Haigood	Contact Telephone (432) 701-7802
Contact email Thomas.haigood@breitburn.com	Incident # *(assigned by OCD)*
Contact mailing address PO Box 678 Andrews, TX	

Location of Release Source

Latitude _32.750107 Longitude _-104.177252

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Humble Yates Battery	Site Type Battery
Date Release Discovered 01-17-19	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
	16	18S	28E	Eddy

Surface Owner: [x] State [ ] Federal [ ] Tribal [ ] Private (*Name:* _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

[x] Crude	Volume Released (bbls) 66	Volume Recovered (bbls)35
[ ] Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	[ ] Yes [ ] No
[ ] Condensate	Volume Released (bbls)	Volume Recovered (bbls)
[ ] Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
[ ] Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A 210 bbl. crude oil storage tank failed to hold fluid die to the bottom of the tank corroding which resulted in 66bbl of oil spilling into the secondary containment. Approximately 10 bbl of roil began to leak under the containment (berm) wall where the plastic liner barrier appeared to be inadequately sealed. The fluid leached under the containment berm flowing approximately 150 yards before being discovered by the relief pumper while making his daily rounds. The area impacted is approximately 1'-2' wide by 100 yards long. The release does not pose an immediate threat to waterways.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?

If YES, for what reason(s) does the responsible party consider this a major release?
The release volume was > 25bbls

☒ Yes ☐ No

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	Notice was given by Thomas Haigood to Mike Bratcher on 01/07/19 at 3:35 PM MST

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ The source of the release has been stopped.
- ☒ The impacted area has been secured to protect human health and the environment.
- ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
- ☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Thomas Haigood Title: EHS Coordinator

Signature: TH Date: 01/14/19

email: Thomas.haigood@breitburn.com Telephone: (432) 701-7802

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release? 300 (ft bgs)

Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☐ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☐ Field data
- ☐ Data table of soil contaminant concentration data
- ☐ Depth to water determination
- ☐ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☐ Photographs including date and GIS information
- ☐ Topographic/Aerial maps
- ☐ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Thomas Haigood Title: EHS Coordinator

Signature: Date: 01/14/19

email: _Thomas.halgood@breitburn.com Telephone: _: (432) 701-7802

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

- ☐ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☐ Estimated volume of material to be remediated
- ☐ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☐ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD 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 OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD 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.

Printed Name: Thomas Haigood Title: EHS Coordinator

Signature: _____ Date: 1/09/18

email: Thomas.haigood@breitburn.com Telephone: (432) 701-7802

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____

Appendix B
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	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 09588		RA	ED	1	2		33	18S	28E	576976	3619384*	300		

Average Depth to Water: --

Minimum Depth: --

Maximum Depth: --

Record Count: 1

PLSS Search:

Township: 18S **Range:** 28E

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

4/2/19 1:32 PM

WATER COLUMN/ AVERAGE DEPTH TO WATER

Appendix C
Analytical Results

CARDINAL Laboratories

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

January 17, 2019

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: MAV - 19-001

Enclosed are the results of analyses for samples received by the laboratory on 01/14/19 14:16.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/14/2019	Sampling Date:	01/11/2019
Reported:	01/17/2019	Sampling Type:	Soil
Project Name:	MAV - 19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 1 SURFACE (H900108-01)

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	01/16/2019	ND	1.93	96.7	2.00	2.08	
Toluene*	**0.112**	0.050	01/16/2019	ND	2.13	107	2.00	2.51	
Ethylbenzene*	**0.265**	0.050	01/16/2019	ND	2.05	103	2.00	6.12	
Total Xylenes*	**0.532**	0.150	01/16/2019	ND	5.85	97.4	6.00	4.69	
Total BTEX	**0.908**	0.300	01/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/16/2019	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**21.3**	10.0	01/15/2019	ND	209	105	200	4.61	
DRO >C10-C28*	**450**	10.0	01/15/2019	ND	210	105	200	1.44	
EXT DRO >C28-C36	**145**	10.0	01/15/2019	ND					

Surrogate: 1-Chlorooctane *95.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *100 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/14/2019	Sampling Date:	01/11/2019
Reported:	01/17/2019	Sampling Type:	Soil
Project Name:	MAV - 19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 1 1' (H900108-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<1.00	1.00	01/16/2019	ND	1.93	96.7	2.00	2.08	
Toluene*	**20.5**	1.00	01/16/2019	ND	2.13	107	2.00	2.51	
Ethylbenzene*	**41.7**	1.00	01/16/2019	ND	2.05	103	2.00	6.12	
Total Xylenes*	**62.9**	3.00	01/16/2019	ND	5.85	97.4	6.00	4.69	
Total BTEX	**125**	6.00	01/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *114 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	01/16/2019	ND	416	104	400	3.92	

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*	**1730**	100	01/15/2019	ND	209	105	200	4.61	
DRO >C10-C28*	**9630**	100	01/15/2019	ND	210	105	200	1.44	
EXT DRO >C28-C36	**1350**	100	01/15/2019	ND					

Surrogate: 1-Chlorooctane *217 %* *41-142*

Surrogate: 1-Chlorooctadecane *307 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/14/2019	Sampling Date:	01/11/2019
Reported:	01/17/2019	Sampling Type:	Soil
Project Name:	MAV - 19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 2 SURFACE (H900108-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**23.8**	2.00	01/16/2019	ND	1.93	96.7	2.00	2.08	
Toluene*	**166**	2.00	01/16/2019	ND	2.13	107	2.00	2.51	
Ethylbenzene*	**146**	2.00	01/16/2019	ND	2.05	103	2.00	6.12	
Total Xylenes*	**201**	6.00	01/16/2019	ND	5.85	97.4	6.00	4.69	
Total BTEX	**537**	12.0	01/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *115 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/16/2019	ND	416	104	400	3.92	

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*	**4490**	100	01/15/2019	ND	179	89.3	200	7.45	QM-07
DRO >C10-C28*	**10500**	100	01/15/2019	ND	187	93.6	200	8.14	QM-07
EXT DRO >C28-C36	**1370**	100	01/15/2019	ND					

Surrogate: 1-Chlorooctane *260 %* *41-142*

Surrogate: 1-Chlorooctadecane *346 %* *37.6-147*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/14/2019	Sampling Date:	01/11/2019
Reported:	01/17/2019	Sampling Type:	Soil
Project Name:	MAV - 19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: TT 1 SURFACE (H900108-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**18.8**	2.00	01/16/2019	ND	1.93	96.7	2.00	2.08	
Toluene*	**121**	2.00	01/16/2019	ND	2.13	107	2.00	2.51	
Ethylbenzene*	**154**	2.00	01/16/2019	ND	2.05	103	2.00	6.12	
Total Xylenes*	**216**	6.00	01/16/2019	ND	5.85	97.4	6.00	4.69	
Total BTEX	**510**	12.0	01/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *118 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**208**	16.0	01/16/2019	ND	416	104	400	3.92	

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*	**4850**	100	01/15/2019	ND	179	89.3	200	7.45	
DRO >C10-C28*	**34100**	100	01/15/2019	ND	187	93.6	200	8.14	
EXT DRO >C28-C36	**5280**	100	01/15/2019	ND					

Surrogate: 1-Chlorooctane *460 %* *41-142*

Surrogate: 1-Chlorooctadecane *985 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	01/14/2019	Sampling Date:	01/11/2019
Reported:	01/17/2019	Sampling Type:	Soil
Project Name:	MAV - 19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: TT 1 1' (H900108-05)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**44.4**	5.00	01/16/2019	ND	1.93	96.7	2.00	2.08	
Toluene*	**197**	5.00	01/16/2019	ND	2.13	107	2.00	2.51	
Ethylbenzene*	**181**	5.00	01/16/2019	ND	2.05	103	2.00	6.12	
Total Xylenes*	**245**	15.0	01/16/2019	ND	5.85	97.4	6.00	4.69	
Total BTEX	**668**	30.0	01/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *108 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	01/16/2019	ND	416	104	400	3.92	

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*	**7050**	100	01/15/2019	ND	179	89.3	200	7.45	
DRO >C10-C28*	**26100**	100	01/15/2019	ND	187	93.6	200	8.14	
EXT DRO >C28-C36	**4090**	100	01/15/2019	ND					

Surrogate: 1-Chlorooctane *450 %* *41-142*

Surrogate: 1-Chlorooctadecane *766 %* *37.6-147*

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Analytical Results For:

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703 East Clinton
Hobbs NM, 88240
Fax To: (575) 393-4388

Received:	01/14/2019	Sampling Date:	01/11/2019
Reported:	01/17/2019	Sampling Type:	Soil
Project Name:	MAV - 19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: TT 1 2' (H900108-06)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.133**	0.050	01/16/2019	ND	1.93	96.7	2.00	2.08	
Toluene*	**0.825**	0.050	01/16/2019	ND	2.13	107	2.00	2.51	
Ethylbenzene*	**1.39**	0.050	01/16/2019	ND	2.05	103	2.00	6.12	
Total Xylenes*	**2.44**	0.150	01/16/2019	ND	5.85	97.4	6.00	4.69	
Total BTEX	**4.80**	0.300	01/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *121 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16.0**	16.0	01/16/2019	ND	416	104	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**84.9**	10.0	01/15/2019	ND	179	89.3	200	7.45	
DRO >C10-C28*	**920**	10.0	01/15/2019	ND	187	93.6	200	8.14	
EXT DRO >C28-C36	**147**	10.0	01/15/2019	ND					

Surrogate: 1-Chlorooctane *81.3 %* *41-142*

Surrogate: 1-Chlorooctadecane *97.6 %* *37.6-147*

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Analytical Results For:

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

Received:	01/14/2019	Sampling Date:	01/11/2019
Reported:	01/17/2019	Sampling Type:	Soil
Project Name:	MAV - 19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 3 SURFACE (H900108-07)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.500	0.500	01/16/2019	ND	1.93	96.7	2.00	2.08	
Toluene*	**9.45**	0.500	01/16/2019	ND	2.13	107	2.00	2.51	
Ethylbenzene*	**20.6**	0.500	01/16/2019	ND	2.05	103	2.00	6.12	
Total Xylenes*	**36.0**	1.50	01/16/2019	ND	5.85	97.4	6.00	4.69	
Total BTEX	**66.0**	3.00	01/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *120 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	01/16/2019	ND	416	104	400	3.92	

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*	**817**	50.0	01/15/2019	ND	179	89.3	200	7.45	
DRO >C10-C28*	**7740**	50.0	01/15/2019	ND	187	93.6	200	8.14	
EXT DRO >C28-C36	**1290**	50.0	01/15/2019	ND					

Surrogate: 1-Chlorooctane *171 %* *41-142*

Surrogate: 1-Chlorooctadecane *298 %* *37.6-147*

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Fax To: (575) 393-4388

Received:	01/14/2019	Sampling Date:	01/11/2019
Reported:	01/17/2019	Sampling Type:	Soil
Project Name:	MAV - 19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 3 1' (H900108-08)

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	01/16/2019	ND	1.93	96.7	2.00	2.08	
Toluene*	**0.264**	0.050	01/16/2019	ND	2.13	107	2.00	2.51	
Ethylbenzene*	**1.12**	0.050	01/16/2019	ND	2.05	103	2.00	6.12	
Total Xylenes*	**2.25**	0.150	01/16/2019	ND	5.85	97.4	6.00	4.69	
Total BTEX	**3.63**	0.300	01/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *122 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	01/16/2019	ND	416	104	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	**83.1**	10.0	01/15/2019	ND	179	89.3	200	7.45	
DRO >C10-C28*	**1580**	10.0	01/15/2019	ND	187	93.6	200	8.14	
EXT DRO >C28-C36	**283**	10.0	01/15/2019	ND					

Surrogate: 1-Chlorooctane *98.1 %* *41-142*

Surrogate: 1-Chlorooctadecane *134 %* *37.6-147*

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CARDINAL Laboratories

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Analytical Results For:

Safety & Environmental Solutions
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Hobbs NM, 88240
Fax To: (575) 393-4388

Received:	01/14/2019	Sampling Date:	01/14/2019
Reported:	01/17/2019	Sampling Type:	Soil
Project Name:	MAV - 19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 4 SURFACE (H900108-09)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**9.75**	2.00	01/16/2019	ND	1.93	96.7	2.00	2.08	
Toluene*	**148**	2.00	01/16/2019	ND	2.13	107	2.00	2.51	
Ethylbenzene*	**170**	2.00	01/16/2019	ND	2.05	103	2.00	6.12	
Total Xylenes*	**236**	6.00	01/16/2019	ND	5.85	97.4	6.00	4.69	
Total BTEX	**564**	12.0	01/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *120 %* *73.3-129*

Chloride, SM4500Cl-B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**336**	16.0	01/16/2019	ND	416	104	400	3.92	

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*	**5790**	100	01/15/2019	ND	179	89.3	200	7.45	
DRO >C10-C28*	**21400**	100	01/15/2019	ND	187	93.6	200	8.14	
EXT DRO >C28-C36	**3360**	100	01/15/2019	ND					

Surrogate: 1-Chlorooctane *381 %* *41-142*

Surrogate: 1-Chlorooctadecane *670 %* *37.6-147*

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Received:	01/14/2019	Sampling Date:	01/14/2019
Reported:	01/17/2019	Sampling Type:	Soil
Project Name:	MAV - 19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	NONE GIVEN		

Sample ID: SP 4 1' (H900108-10)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.722**	0.500	01/16/2019	ND	1.93	96.7	2.00	2.08	
Toluene*	**22.5**	0.500	01/16/2019	ND	2.13	107	2.00	2.51	
Ethylbenzene*	**36.3**	0.500	01/16/2019	ND	2.05	103	2.00	6.12	
Total Xylenes*	**52.8**	1.50	01/16/2019	ND	5.85	97.4	6.00	4.69	
Total BTEX	**112**	3.00	01/16/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID *123 %* *73.3-129*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**240**	16.0	01/16/2019	ND	416	104	400	3.92	

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*	**1340**	50.0	01/15/2019	ND	179	89.3	200	7.45	
DRO >C10-C28*	**6980**	50.0	01/15/2019	ND	187	93.6	200	8.14	
EXT DRO >C28-C36	**1190**	50.0	01/15/2019	ND					

Surrogate: 1-Chlorooctane *179 %* *41-142*

Surrogate: 1-Chlorooctadecane *281 %* *37.6-147*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
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

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Pg. 1 of 1

Company Name: Safety and Environmental Solutions		**BILL TO**	
Project Manager: Bob Allen		P.O. #:	
Address: 703 East Clinton, PO Box 1613		Company: Same	
City: Hobbs	State: NM Zip: 88240	Attn:	
Phone #: 575 397-0510	Fax #: 575 393-4388	Address:	
Project #: MAV-19-001	Project Owner:	City:	
Project Name:		State:	Zip:
Project Location:		Phone #:	
Sampler Name: Jackie Zaragoza		Fax #:	

ANALYSIS REQUEST

Lab I.D. (FOR LAB USE ONLY) H900108	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	MATRIX: WASTEWATER	MATRIX: SOIL	MATRIX: OIL	MATRIX: SLUDGE	MATRIX: OTHER:	PRESERV.: ACID/BASE:	PRESERV.: ICE / COOL	PRESERV.: OTHER:	SAMPLING: DATE (2019)	SAMPLING: TIME	TPH 8015(Ext)	BTEX	Chloride
1	SP 1 Surface	G				X					X		1-11	0930	X	X	X
2	SP 1 1 Foot												1-11	0940			
3	SP 2 Surface													1000			
4	SP 2 TT/ Surface													1030			
5	TT 1 1 Foot													1030			
6	TT 1 2 Foot													1106			
7	SP3 Surface													1200			
8	SP3 1 Foot													1230			
9	SP4 Surface												1-14	1015			
10	SP4 1 Foot	G				X					X		1-14	1030	X	X	X

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Relinquished By: [signature]	Date: 1-14-19 Time: 14:14	Received By: Tamara Oldaker	Phone Result: ☐ Yes ☑ No Add'l Phone #: / Fax Result: ☐ Yes ☑ No Add'l Fax #: / REMARKS:
Relinquished By:	Date: Time:	Received By:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 3.5°C #97	Sample Condition: Cool ☑ Yes ☐ No; Intact ☐ Yes ☐ No	CHECKED BY: (Initials) TO	

Analytical Report
Lab Order **1903E22**
Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: E-SW
Project: Humble Yates Battery
Collection Date: 3/27/2019 3:00:00 PM
Lab ID: 1903E22-001 **Matrix:** SOIL **Received Date:** 3/29/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	330	9.9		mg/Kg	1	4/1/2019 9:36:05 AM	43976
Motor Oil Range Organics (MRO)	360	49		mg/Kg	1	4/1/2019 9:36:05 AM	43976
Surr: DNOP	90.5	70-130		%Rec	1	4/1/2019 9:36:05 AM	43976
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/1/2019 1:10:44 PM	43962
Surr: BFB	104	73.8-119		%Rec	1	4/1/2019 1:10:44 PM	43962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: N-SW
Project: Humble Yates Battery
Collection Date: 3/27/2019 3:00:00 PM
Lab ID: 1903E22-002 **Matrix:** SOIL **Received Date:** 3/29/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	1700	100		mg/Kg	10	3/30/2019 8:56:18 PM	43976
Motor Oil Range Organics (MRO)	890	510		mg/Kg	10	3/30/2019 8:56:18 PM	43976
Surr: DNOP	0	70-130	S	%Rec	10	3/30/2019 8:56:18 PM	43976
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	43	25		mg/Kg	5	4/1/2019 1:34:09 PM	43962
Surr: BFB	154	73.8-119	S	%Rec	5	4/1/2019 1:34:09 PM	43962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: S-SW
Project: Humble Yates Battery
Collection Date: 3/27/2019 3:05:00 PM
Lab ID: 1903E22-003 **Matrix:** SOIL **Received Date:** 3/29/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	1300	100		mg/Kg	10	3/30/2019 9:20:23 PM	43976
Motor Oil Range Organics (MRO)	640	500		mg/Kg	10	3/30/2019 9:20:23 PM	43976
Surr: DNOP	0	70-130	S	%Rec	10	3/30/2019 9:20:23 PM	43976
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	51	47		mg/Kg	10	4/1/2019 1:57:28 PM	43962
Surr: BFB	136	73.8-119	S	%Rec	10	4/1/2019 1:57:28 PM	43962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: W-SW
Project: Humble Yates Battery
Collection Date: 3/27/2019 3:10:00 PM
Lab ID: 1903E22-004 **Matrix:** SOIL
Received Date: 3/29/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	6300	100		mg/Kg	10	3/30/2019 9:44:30 PM	43976
Motor Oil Range Organics (MRO)	2800	500		mg/Kg	10	3/30/2019 9:44:30 PM	43976
Surr: DNOP	0	70-130	S	%Rec	10	3/30/2019 9:44:30 PM	43976
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	300	48		mg/Kg	10	4/1/2019 2:20:52 PM	43962
Surr: BFB	264	73.8-119	S	%Rec	10	4/1/2019 2:20:52 PM	43962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: Bottom
Project: Humble Yates Battery
Collection Date: 3/27/2019 3:20:00 PM
Lab ID: 1903E22-005 **Matrix:** SOIL
Received Date: 3/29/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	2300	100		mg/Kg	10	3/30/2019 10:56:29 PM	43976
Motor Oil Range Organics (MRO)	1100	500		mg/Kg	10	3/30/2019 10:56:29 PM	43976
Surr: DNOP	0	70-130	S	%Rec	10	3/30/2019 10:56:29 PM	43976
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	100	47		mg/Kg	10	4/1/2019 2:44:18 PM	43962
Surr: BFB	163	73.8-119	S	%Rec	10	4/1/2019 2:44:18 PM	43962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-1 @ 2 ft.
Project: Humble Yates Battery
Collection Date: 3/27/2019 4:00:00 PM
Lab ID: 1903E22-006 **Matrix:** SOIL
Received Date: 3/29/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	220	9.4		mg/Kg	1	4/1/2019 11:12:52 AM	43976
Motor Oil Range Organics (MRO)	150	47		mg/Kg	1	4/1/2019 11:12:52 AM	43976
Surr: DNOP	119	70-130		%Rec	1	4/1/2019 11:12:52 AM	43976
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/1/2019 3:07:44 PM	43962
Surr: BFB	95.0	73.8-119		%Rec	1	4/1/2019 3:07:44 PM	43962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-2 @ 2 ft.
Project: Humble Yates Battery
Collection Date: 3/27/2019 4:02:00 PM
Lab ID: 1903E22-007 **Matrix:** SOIL **Received Date:** 3/29/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	940	9.9		mg/Kg	1	4/1/2019 11:37:01 AM	43976
Motor Oil Range Organics (MRO)	510	50		mg/Kg	1	4/1/2019 11:37:01 AM	43976
Surr: DNOP	92.5	70-130		%Rec	1	4/1/2019 11:37:01 AM	43976
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/1/2019 3:31:19 PM	43962
Surr: BFB	92.0	73.8-119		%Rec	1	4/1/2019 3:31:19 PM	43962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-3 @ 3 ft.
Project: Humble Yates Battery
Collection Date: 3/27/2019 4:05:00 PM
Lab ID: 1903E22-008 **Matrix:** SOIL **Received Date:** 3/29/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	45	9.8		mg/Kg	1	3/31/2019 12:08:37 AM	43976
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/31/2019 12:08:37 AM	43976
Surr: DNOP	84.4	70-130		%Rec	1	3/31/2019 12:08:37 AM	43976
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/1/2019 6:17:02 PM	43962
Surr: BFB	94.3	73.8-119		%Rec	1	4/1/2019 6:17:02 PM	43962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-4 @ 3 ft.
Project: Humble Yates Battery
Collection Date: 3/27/2019 4:10:00 PM
Lab ID: 1903E22-009 **Matrix:** SOIL
Received Date: 3/29/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	34	10		mg/Kg	1	3/31/2019 12:32:34 AM	43976
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/31/2019 12:32:34 AM	43976
Surr: DNOP	125	70-130		%Rec	1	3/31/2019 12:32:34 AM	43976
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	4/1/2019 6:40:37 PM	43962
Surr: BFB	90.2	73.8-119		%Rec	1	4/1/2019 6:40:37 PM	43962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-5 @ 3 ft.
Project: Humble Yates Battery
Collection Date: 3/27/2019 4:15:00 PM
Lab ID: 1903E22-010 **Matrix:** SOIL
Received Date: 3/29/2019 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **lrm**	
Diesel Range Organics (DRO)	160	10		mg/Kg	1	3/31/2019 12:56:33 AM	43976
Motor Oil Range Organics (MRO)	140	50		mg/Kg	1	3/31/2019 12:56:33 AM	43976
Surr: DNOP	87.3	70-130		%Rec	1	3/31/2019 12:56:33 AM	43976
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **RAA**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	4/1/2019 7:04:15 PM	43962
Surr: BFB	91.5	73.8-119		%Rec	1	4/1/2019 7:04:15 PM	43962

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

H	Holding times for preparation or analysis exceeded	ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified at testcode

Appendix D
Site Photos

Site Photographs

Humble Yates Battery
Sec.16, TS 18S, R 28E

Fluid inside Berm

Spill Pool area locale of test trench

Removal of saturated pasture soil 1-10-19

Historical impact-abandoned line strike

Line Strike in Test Trench

Test Trench Excavation Line Repair

Lines East of Excavation & on pad

Sample Position 5

Sample Position 4

Sample Position 3

Sample Position 2

Sample Position 1

Appendix E
Disposal Manifest

R360 ENVIRONMENTAL SOLUTIONS

Permian Basin

Customer:	MAVERICK NATURAL RESOUR	Ticket #:	700-971242
Customer #:	CRI1602	Bid #:	Walk-in Bid
Ordered by:	CAM ROBERTS	Date:	1/11/2019
AFE #:		Generator:	MAVERICK NATURAL RESOU
PO #:		Generator #:	
Manifest #:	NA	Well Ser. #:	01889
Manif. Date:	1/11/2019	Well Name:	HUMBLE STATE
Hauler:	BIG 10 TRUCKING	Well #:	004
Driver	JAMES	Field:	
Truck #	309	Field #:	
Card #		Rig:	NON-DRILLING
Job Ref #		County	EDDY (NM)

Facility: CRI

Product / Service	Quantity Units
Contaminated Soil (RCRA Exempt)	20.00 yards

	Cell	pH	Cl	Cond.	%Solids	TDS	PCI/GM	MR/HR	H2S	% Oil	Weight
Lab Analysis:	50/51	0.00	0.00	0.00	0						

Generator Certification Statement of Waste Status

I hereby certify that according to the Resource Conservation and Recovery Act (RCRA) and the US Environmental Protection Agency's July 1988 regulatory determination, the above described waste is:

X RCRA Exempt: Oil Field wastes generated from oil and gas exploration and production operations and are not mixed with non-exempt wast

__ RCRA Non-Exempt: Oil field waste which is non-hazardous that does not exceed the minimum standards for waste hazardous by characteristics established in RCRA regulations, 40 CFR 261.21-261.24 or listed hazardous waste as defined in 40 CFR, part 261, subpart D, as amended. The following documentation is attached to demonstrate the above-described waste is non-hazardous. (Check the appropriate items):

__ MSDS Information __ RCRA Hazardous Waste Analysis __ Process Knowledge __ Other (Provide description above)

Driver/ Agent Signature **R360 Representative Signature**

_____ _____

Customer Approval

THIS IS NOT AN INVOICE!

Approved By: _____ Date: _____