Holly Energy Partners

Pump Colgate Osage Lease

Closure

Section 34, Township 19S, Range 29E
Eddy County, New Mexico
2RP-4947

January 31, 2019

Prepared for:

Holly Energy Partners
1602 W. Main
Artesia, NM 88210

By:

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

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I. Company Contacts

Representative	Company	Telephone	E-mail
Melanie Nolan	Holly Energy Partners	214-605-8303	Melanie.nolan@hollyenergy.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 Holly Energy Partners (HEP) to assess a spill area at the Pump at the Colgate Osage Lease, concerning a fifteen (15) bbl. crude oil release. This site is situated in Eddy County, Section 34, Township 19S, and Range 29E.

According to the C-141: HEP technicians discovered that an HEP pump was leaking in the vicinity due to compromised packing in the pump. Approximately fifteen (15) bbls. of crude oil was released.

III. Surface and Ground Water

Research of the New Mexico Office of the State Engineer records indicates the average depth to groundwater for the area to be 146' bgs. However, this area is located in a Karst region, and has been remediated accordingly.

IV. Characterization

The aforementioned site has been remediated according to the NMOCD published guidelines (July 24, 2018). The site ranking and soil screening levels as presented in the table below:

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
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

V. Work Performed

On September 21, 2018, SESI personnel were onsite at the HEP Colgate Osage Lease release to obtain confirmation soil samples. HEP personnel had excavated contaminated soils to a depth of four feet in preparation of the confirmation sampling. SESI personnel obtained two bottom soil samples and one sample a piece from the North, South, East and West walls respectively. The excavation and sample points were mapped using the Juno 3B. Site photos were taken of the excavation along with aerial photos using the drone. The sample points were mapped using the Juno 3B. The samples were properly packaged, preserved and transported to Cardinal Laboratories of Hobbs, NM by chain of custody, and analyzed for TPH(total petroleum hydrocarbons)(Method 8015M), BTEX, and Chlorides(Method 4500). The results are presented in the table below:

Soil Sample Results: Cardinal Laboratories 9-27-18								
SAMPLE ID	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	TPH GRO	TPH DRO	TPH EXT DRO
SP-1 Bottom 4ft	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	651	128
SP-2 Bottom 4ft	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	595	62.3
SP-3 North Wall	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	101	13.0
SP-4South Wall	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
SP-5 West Wall	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
SP-6 East Wall	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0

Soil Sample Results: Cardinal Laboratories 9-27-18	
SAMPLE ID	Chlorides
SP-1 Bottom 4ft	80.0
SP-2 Bottom 4ft	64.0
SP-3 North Wall	16.0
SP-4South Wall	64.0
SP-5 West Wall	<16.0
SP-6 East Wall	80.0

On October 29, 2018, SESI personnel were onsite at the HEP Colgate Osage Lease release to obtain soil samples from the bottom of the excavation. The excavation was excavated from four feet to the depth of five feet and two bottom soil samples were obtained in the same area as previously sampled. The soil samples were field tested for TPH. A six point composite sample was obtained on the spoils pile and the samples were properly preserved. Site photos were taken of the excavation. The samples were properly packaged, preserved and transported to Cardinal Laboratories of Hobbs, NM by chain of custody, and analyzed for TPH(total petroleum hydrocarbons)(Method 8015M), BTEX, and Chlorides (Method 4500). The composite sample will be analyzed for TCLP & RCI. The results are presented in the table below:

Soil Sample Results: Cardinal Laboratories 10-31-18								
SAMPLE ID	Benzene	Toluene	Ethyl benzene	Total Xylenes	Total BTEX	TPH GRO	TPH DRO	TPH EXT DRO
SP-6 Bottom 5ft	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0
SP-7 Bottom 5ft	<0.050	<0.050	<0.050	<0.150	<0.300	<10.0	<10.0	<10.0

Soil Sample Results: Cardinal Laboratories 10-31-18	
SAMPLE ID	Chlorides
SP-6 Bottom 5ft	16.0
SP-7 Bottom 5ft	48.0

On October 25, 2018 the request for closure of the remediation on this site was denied by the NMOCD, due to the fact that this incident lies within a Karst region, thereby changing the site ranking and soil screening levels. Wherein areas around SP1, 2, 3, as well as the North wall would require further delineation and excavation.

On January 28, and 29, 2019, SESI personnel together with equipment and operator from B & B Construction revisited the site to further delineate and excavate as per the NMOCD conditions for closure (photo documentation).
The Bottom of the previously excavated area was excavated an additional 1' bgs., and field tested. Further excavation and delineation of the North wall was also conducted until field results for TPH were at or below 100 mg/kg. All soil samples were properly packaged, preserved and transported to Cardinal Laboratories of Hobbs, NM by chain of custody, and analyzed for TPH(total petroleum hydrocarbons)(Method 8015M). The results are recapped in the table below:

Soil Sample Results: Cardinal Laboratories 01-30-19			
SAMPLE ID	TPH GRO	TPH DRO	TPH EXT DRO
SP-7 Bottom 6ft	<10.0	<10.0	<10.0
SP-8 Bottom 6ft	<10.0	<10.0	<10.0
SP-9 North Wall	<10.0	<10.0	<10.0
SP-10 North Wall	<10.0	<10.0	<10.0
SP-11 North Wall	<10.0	<10.0	<10.0

VI. Request for Closure

Due to all sampling results indicating that the excavation removed all impacted soil in excess of 100 ppm, HEP requests that upon closure approval the excavation be backfilled with similar material, returned to grade, and reseeded in the spring of 2019. All Stockpiled soil will be disposed of at an NMOCD approved facility.

Safety and Environmental Solutions Inc., on behalf of Holly Energy Partners, respectfully requests regulatory closure for this incident.

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

Holly Osage Colgate Vicinity Map

Legend

SP11

Holly Osage Colgate

SP10

Bluestem Rd

Hobbs Hwy

19S 28E

19S 29E

19S 30E

19S 31E

20S 28E

20S 29E

20S 30E

20S 31E

21S 27E

21S 28E

21S 29E

21S 30E

360

62

31

243

Google Earth

©2018 Google

4 mi

N

Figure 1
Site Map

Holly Energy Partners Colgate

SP11
SP9 N Wall
Sample Point 4
SP 3 North Wall
SP10
Holly Osage Colgate
SP8 Bottom 5.5'
34
SP 5 West Wall
Sample Point 6
19S 29E
Proposed Borehole 1
SP 1 Bottom 4ft
SP7 Bottom 5.5' bgs
Sample Point 5
SP 4 South Wall

Legend
- Feature 1
- Feature 2
- N Wall Extended
- Proposed Borehole 1
- Sample Point
- SP
- SP
- Spill Area 4

Google Earth

N
60 ft

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 Holly Energy Partners	OGRID
Contact Name Melanie Nolan	Contact Telephone 214-605-8303
Contact email Melanie.Nolan@hollyenergy.com	Incident # *(assigned by OCD)* 2RP-4947
Contact mailing address 1602 W. Main, Artesia, NM 88210	

Location of Release Source

Latitude 32.618708 Longitude -104.061213
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Colgate Osage Lease	Site Type Pump Station
Date Release Discovered 8/21/18	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
	34	19S	29E	Eddy

Surface Owner: ☐ 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)

☒ Crude Oil	Volume Released (bbls) 15 Barrels	Volume Recovered (bbls) 0
☐ 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

The HEP pump was discovered to be leaking due to the packing going bad in the pump.

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? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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: Melanie Nolan Title: Environmental Specialist

Signature: Melanie Nolan Date: 10/8/18

email: Melanie Nolan Telephone: 214-605-8303

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: Melanie Nolan Title: Environmental Specialist

Signature: Melanie Nolan Date: 1/14/2019

email: Melanie.Nolan@hollyenergy.com Telephone: 214-605-8303

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☐ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☐ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☐ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☐ Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Melanie Nolan Title: Environmental Specialist

Signature: Melanie Nolan Date: 1/14/2019

email: Melanie.Nolan@hollyenergy.com Telephone: 214-605-8303

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

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	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
CP 00626 POD1	CP	ED	2	3	1	03	19S	29E	587360	3617575	286	247	39
CP 00626 POD2	CP	ED	3	2	1	03	19S	29E	587660	3617880	240	195	45
CP 00646	CP	ED	1	1	4	07	19S	29E	583155	3615551	199	150	49
CP 00681	CP	ED	1	1	3	34	19S	29E	587230	3609127*			
CP 00703 POD1	CP	ED		4	1	36	19S	29E	591050	3609382	225	115	110
CP 00739 POD1	CP	ED	3	4	4	35	19S	29E	590068	3608622	200	110	90
CP 00741	CP	ED	1	3	2	34	19S	29E	588030	3609533*	230	60	170
CP 00820 POD1	CP	LE		2	4	13	19S	29E	591713	3613870*	120		
CP 00821 POD1	CP	LE		4	4	25	19S	29E	591743	3610248*	120		

Average Depth to Water: **146 feet**

Minimum Depth: **60 feet**

Maximum Depth: **247 feet**

Record Count: 9

PLSS Search:

Township: 19S **Range:** 29E

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

Appendix C
Analytical Results

CARDINAL Laboratories

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

September 27, 2018

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: HEP-18-017

Enclosed are the results of analyses for samples received by the laboratory on 09/21/18 13:00.

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:	09/21/2018	Sampling Date:	09/21/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	HEP-18-017	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP-1 BOTTOM 4' (H802682-01)

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	09/25/2018	ND	1.82	90.8	2.00	2.77	
Toluene*	<0.050	0.050	09/25/2018	ND	1.99	99.4	2.00	2.46	
Ethylbenzene*	<0.050	0.050	09/25/2018	ND	2.15	107	2.00	1.21	
Total Xylenes*	<0.150	0.150	09/25/2018	ND	6.20	103	6.00	0.969	
Total BTEX	<0.300	0.300	09/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *69.8-142*

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	09/25/2018	ND	432	108	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	09/24/2018	ND	196	97.9	200	1.20	
DRO >C10-C28*	**651**	10.0	09/24/2018	ND	187	93.6	200	2.84	
EXT DRO >C28-C36	**128**	10.0	09/24/2018	ND					

Surrogate: 1-Chlorooctane *94.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *118 %* *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:	09/21/2018	Sampling Date:	09/21/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	HEP-18-017	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP-2 BOTTOM 4' (H802682-02)

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	09/25/2018	ND	1.82	90.8	2.00	2.77	
Toluene*	<0.050	0.050	09/25/2018	ND	1.99	99.4	2.00	2.46	
Ethylbenzene*	<0.050	0.050	09/25/2018	ND	2.15	107	2.00	1.21	
Total Xylenes*	<0.150	0.150	09/25/2018	ND	6.20	103	6.00	0.969	
Total BTEX	<0.300	0.300	09/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *69.8-142*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	09/25/2018	ND	432	108	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	09/24/2018	ND	196	97.9	200	1.20	
DRO >C10-C28*	**595**	10.0	09/24/2018	ND	187	93.6	200	2.84	
EXT DRO >C28-C36	**62.3**	10.0	09/24/2018	ND					

Surrogate: 1-Chlorooctane *80.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *102 %* *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:	09/21/2018	Sampling Date:	09/21/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	HEP-18-017	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP-3 NORTH WALL (H802682-03)

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	09/25/2018	ND	1.82	90.8	2.00	2.77	
Toluene*	<0.050	0.050	09/25/2018	ND	1.99	99.4	2.00	2.46	
Ethylbenzene*	<0.050	0.050	09/25/2018	ND	2.15	107	2.00	1.21	
Total Xylenes*	<0.150	0.150	09/25/2018	ND	6.20	103	6.00	0.969	
Total BTEX	<0.300	0.300	09/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *69.8-142*

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	09/25/2018	ND	432	108	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	09/24/2018	ND	196	97.9	200	1.20	
DRO >C10-C28*	**101**	10.0	09/24/2018	ND	187	93.6	200	2.84	
EXT DRO >C28-C36	**13.0**	10.0	09/24/2018	ND					

Surrogate: 1-Chlorooctane *83.0 %* *41-142*

Surrogate: 1-Chlorooctadecane *86.0 %* *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:	09/21/2018	Sampling Date:	09/21/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	HEP-18-017	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP-4 SOUTH WALL (H802682-04)

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	09/25/2018	ND	1.82	90.8	2.00	2.77	
Toluene*	<0.050	0.050	09/25/2018	ND	1.99	99.4	2.00	2.46	
Ethylbenzene*	<0.050	0.050	09/25/2018	ND	2.15	107	2.00	1.21	
Total Xylenes*	<0.150	0.150	09/25/2018	ND	6.20	103	6.00	0.969	
Total BTEX	<0.300	0.300	09/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *106 %* *69.8-142*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	09/25/2018	ND	432	108	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	09/24/2018	ND	196	97.9	200	1.20	
DRO >C10-C28*	<10.0	10.0	09/24/2018	ND	187	93.6	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	09/24/2018	ND					

Surrogate: 1-Chlorooctane *81.2 %* *41-142*

Surrogate: 1-Chlorooctadecane *79.8 %* *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:	09/21/2018	Sampling Date:	09/21/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	HEP-18-017	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP-5 WEST WALL (H802682-05)

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	09/25/2018	ND	1.82	90.8	2.00	2.77	
Toluene*	<0.050	0.050	09/25/2018	ND	1.99	99.4	2.00	2.46	
Ethylbenzene*	<0.050	0.050	09/25/2018	ND	2.15	107	2.00	1.21	
Total Xylenes*	<0.150	0.150	09/25/2018	ND	6.20	103	6.00	0.969	
Total BTEX	<0.300	0.300	09/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *69.8-142*

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	09/25/2018	ND	432	108	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	09/24/2018	ND	196	97.9	200	1.20	
DRO >C10-C28*	<10.0	10.0	09/24/2018	ND	187	93.6	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	09/24/2018	ND					

Surrogate: 1-Chlorooctane *95.4 %* *41-142*

Surrogate: 1-Chlorooctadecane *93.0 %* *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:	09/21/2018	Sampling Date:	09/21/2018
Reported:	09/27/2018	Sampling Type:	Soil
Project Name:	HEP-18-017	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP-6 EAST WALL (H802682-06)

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	09/25/2018	ND	1.82	90.8	2.00	2.77	
Toluene*	<0.050	0.050	09/25/2018	ND	1.99	99.4	2.00	2.46	
Ethylbenzene*	<0.050	0.050	09/25/2018	ND	2.15	107	2.00	1.21	
Total Xylenes*	<0.150	0.150	09/25/2018	ND	6.20	103	6.00	0.969	
Total BTEX	<0.300	0.300	09/25/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *105 %* *69.8-142*

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	09/25/2018	ND	432	108	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	09/24/2018	ND	196	97.9	200	1.20	
DRO >C10-C28*	<10.0	10.0	09/24/2018	ND	187	93.6	200	2.84	
EXT DRO >C28-C36	<10.0	10.0	09/24/2018	ND					

Surrogate: 1-Chlorooctane *91.5 %* *41-142*

Surrogate: 1-Chlorooctadecane *87.0 %* *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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

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 #:	HEP-18-017	Project Owner:	City:
Project Name:			State: Zip:
Project Location:			Phone #:
Sampler Name:			Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	ANALYSIS REQUEST: TPH (8015 Ext)	BTEX	Chlorides (4500)
H802682																	
1	SP-1 Bottom 4ft	G	1			X					X		09/21	0845	X	X	X
2	SP-2 Bottom 4ft	G	1			X					X						
3	SP-3 North Wall	G	1			X					X						
4	SP-4 South Wall	G	1			X					X						
5	SP-5 West Wall	G	1			X					X						
6	SP-6 East Wall	G	1			X					X				X	X	X

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 the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 09/21/18	Received By: Jodi Henson	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Time: 0103 pm	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
	Date:		REMARKS:
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 1.2°C/#97	Time:	Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials)

CARDINAL Laboratories

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

October 31, 2018

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: COLGATE - OSAGE

Enclosed are the results of analyses for samples received by the laboratory on 10/29/18 15:00.

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:	10/29/2018	Sampling Date:	10/29/2018
Reported:	10/31/2018	Sampling Type:	Soil
Project Name:	COLGATE - OSAGE	Sampling Condition:	Cool & Intact
Project Number:	HEP - 18 - 017	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 6 BOTTOM 5' (H803087-01)

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	10/30/2018	ND	2.03	101	2.00	2.74	
Toluene*	<0.050	0.050	10/30/2018	ND	1.90	95.0	2.00	2.87	
Ethylbenzene*	<0.050	0.050	10/30/2018	ND	1.91	95.3	2.00	2.74	
Total Xylenes*	<0.150	0.150	10/30/2018	ND	5.75	95.8	6.00	2.67	
Total BTEX	<0.300	0.300	10/30/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *92.6 %* *69.8-142*

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	10/30/2018	ND	416	104	400	3.77	

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	10/30/2018	ND	206	103	200	0.651	
DRO >C10-C28*	<10.0	10.0	10/30/2018	ND	200	100	200	0.788	
EXT DRO >C28-C36	<10.0	10.0	10/30/2018	ND					

Surrogate: 1-Chlorooctane *90.7 %* *41-142*

Surrogate: 1-Chlorooctadecane *89.6 %* *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:	10/29/2018	Sampling Date:	10/29/2018
Reported:	10/31/2018	Sampling Type:	Soil
Project Name:	COLGATE - OSAGE	Sampling Condition:	Cool & Intact
Project Number:	HEP - 18 - 017	Sample Received By:	Tamara Oldaker
Project Location:	NOT GIVEN		

Sample ID: SP - 7 BOTTOM 5' (H803087-02)

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	10/30/2018	ND	2.03	101	2.00	2.74	
Toluene*	<0.050	0.050	10/30/2018	ND	1.90	95.0	2.00	2.87	
Ethylbenzene*	<0.050	0.050	10/30/2018	ND	1.91	95.3	2.00	2.74	
Total Xylenes*	<0.150	0.150	10/30/2018	ND	5.75	95.8	6.00	2.67	
Total BTEX	<0.300	0.300	10/30/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID *93.6 %* *69.8-142*

Chloride, SM4500Cl-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	10/30/2018	ND	416	104	400	3.77	

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	10/30/2018	ND	206	103	200	0.651	
DRO >C10-C28*	<10.0	10.0	10/30/2018	ND	200	100	200	0.788	
EXT DRO >C28-C36	<10.0	10.0	10/30/2018	ND					

Surrogate: 1-Chlorooctane *90.6 %* *41-142*

Surrogate: 1-Chlorooctadecane *89.6 %* *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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

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

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 #:	HEP-18-017 Project Owner:	City:	
Project Name:	Colgate Osage	State: Zip:	
Project Location:		Phone #:	
Sampler Name:	[illegible]	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	ACID/BASE:	ICE / COOL	OTHER:	DATE	TIME	BTEX	TPH (8015 Ext)	Chlorides (4500)									
H803087																										
1	SP-6 Bottom 5ft	G	1			X					X		10/29	0930	X	X	X									
2	SP-7 Bottom 5ft	G	1			X					X		10/29	1015	X	X	X									

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 the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 10/29/18	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 0300 PM		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One) Sampler - UPS - Bus - Other: 3.9°C #97	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials) TO

CARDINAL Laboratories

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

January 31, 2019

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: HEP-18-017

Enclosed are the results of analyses for samples received by the laboratory on 01/30/19 11:40.

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:	01/30/2019	Sampling Date:	01/29/2019
Reported:	01/31/2019	Sampling Type:	Soil
Project Name:	HEP-18-017	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 7 BOTTOM (H900316-01)

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	01/30/2019	ND	184	92.1	200	3.64	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	193	96.7	200	2.43	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane	*92.3 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*86.8 %*	*37.6-147*

Sample ID: SP 8 BOTTOM (H900316-02)

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	01/30/2019	ND	184	92.1	200	3.64	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	193	96.7	200	2.43	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane	*84.2 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*81.6 %*	*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:	01/30/2019	Sampling Date:	01/30/2019
Reported:	01/31/2019	Sampling Type:	Soil
Project Name:	HEP-18-017	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 9 NORTH WALL (H900316-03)

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	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane	*83.6 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*80.5 %*	*37.6-147*

Sample ID: SP 10 NORTH WALL (H900316-04)

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	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane	*88.5 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*85.5 %*	*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:	01/30/2019	Sampling Date:	01/30/2019
Reported:	01/31/2019	Sampling Type:	Soil
Project Name:	HEP-18-017	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: SP 11 NORTH WALL (H900316-05)

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	01/30/2019	ND	218	109	200	3.69	
DRO >C10-C28*	<10.0	10.0	01/30/2019	ND	207	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	01/30/2019	ND					

Surrogate: 1-Chlorooctane	*77.5 %*	*41-142*
Surrogate: 1-Chlorooctadecane	*76.0 %*	*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

Notes and Definitions

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name:	Safety and Environmental Solutions
Project Manager:	Bob Allen
Address:	703 East Clinton, PO Box 1613
City:	Hobbs State: NM Zip: 88240
Phone #:	575 397-0510 Fax #: 575 393-4388
Project #:	HEP-18-017 Project Owner:
Project Name:	
Project Location:	
Sampler Name:	Jackie Zaragoza

BILL TO

P.O. #:	
Company:	Same
Attn:	
Address:	
City:	
State:	Zip:
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	TPH
H900316													2019		
1	SP 7 Bottom	G				X					X		1-29	12:00pm	X
2	SP 8 Bottom	G				X					X		1-29	1:40pm	
3	SP 9 North wall	G				X					X		1-30	8:15AM	
4	SP 10 North wall	G				X					X		1-30	8:35AM	
5	SP 11 North wall	G				X					X		1-30	09:10AM	X

Relinquished By: Jackie Zaragoza	Date: 1/29	Received By: Jodi Henson	
	Time: 1:40		
Relinquished By:	Date:	Received By:	
	Time:		

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 5.3°C / #97

Sample Condition: Cool ☑ Yes ☐ No; Intact ☑ Yes ☐ No

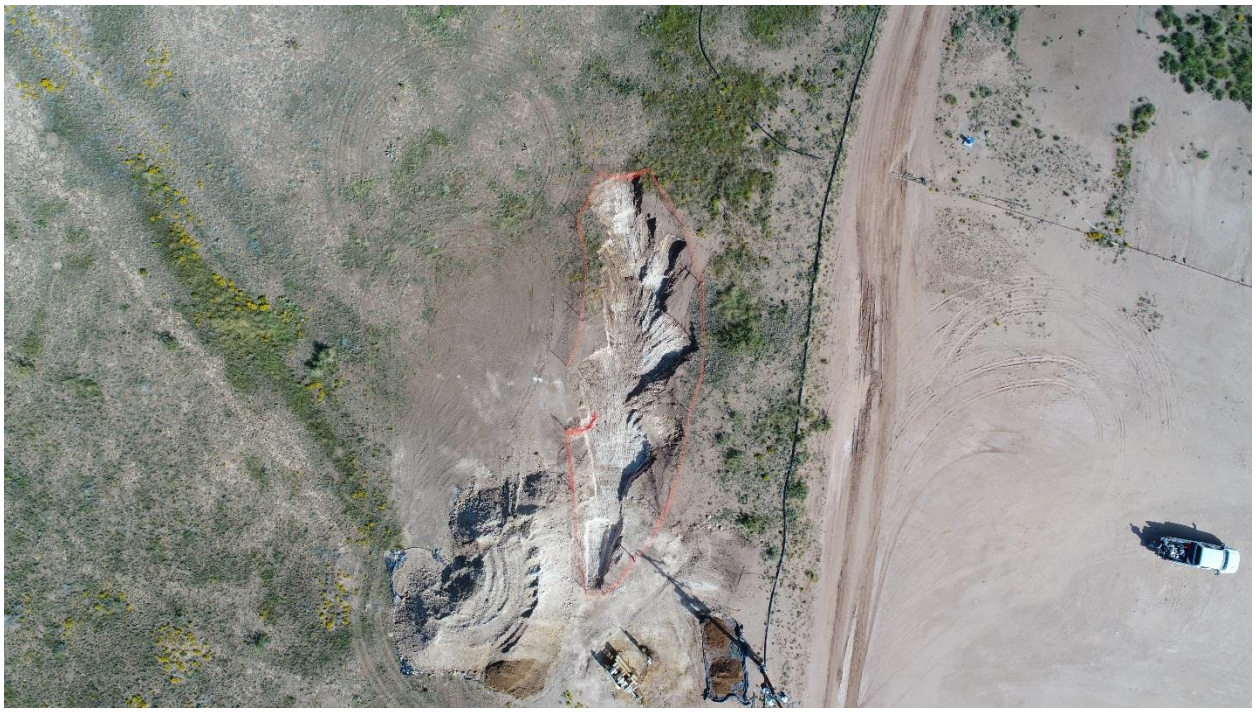
CHECKED BY: (Initials)

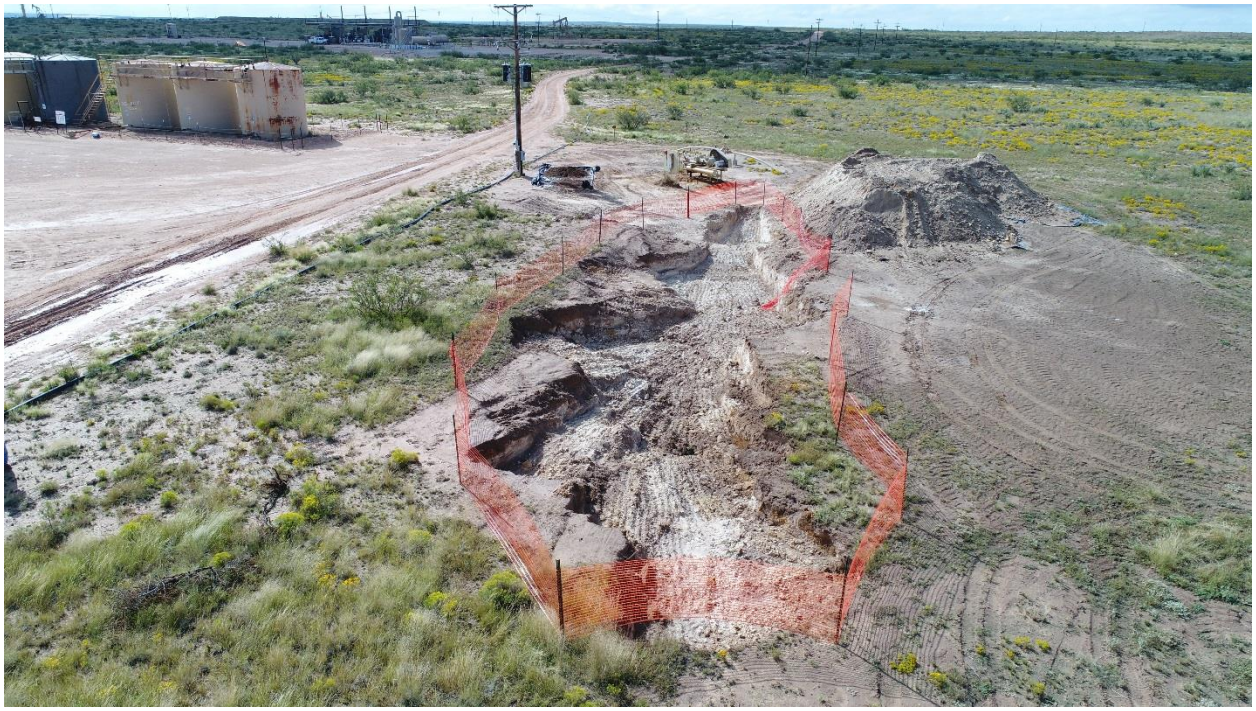
Appendix D
Site Photos

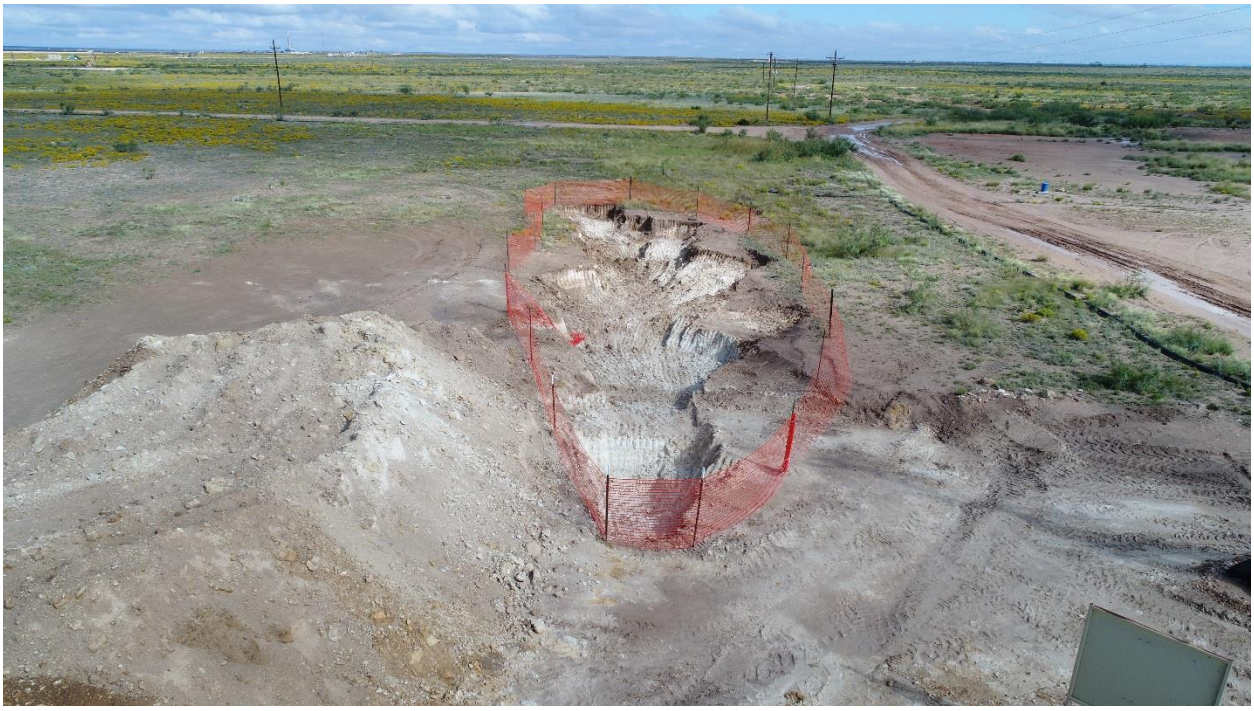
Holly Energy Partners

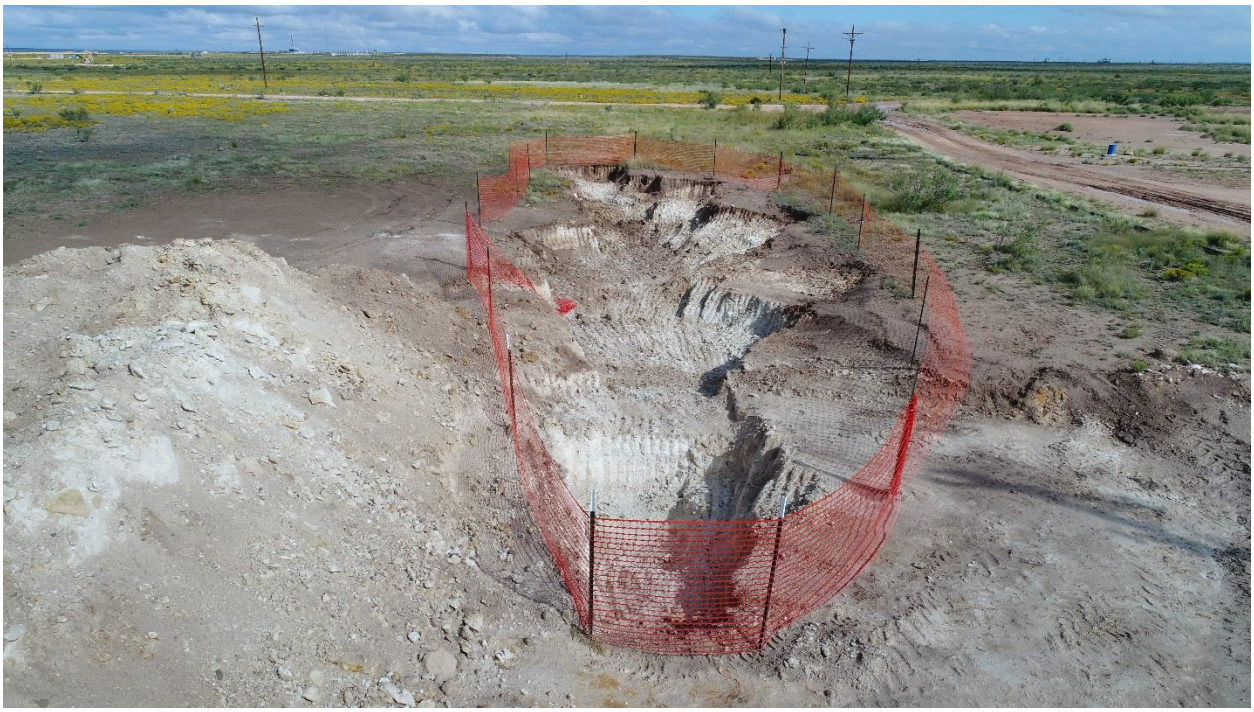
Pump Colgate Osage Lease

Drone Photos-9/21/2018

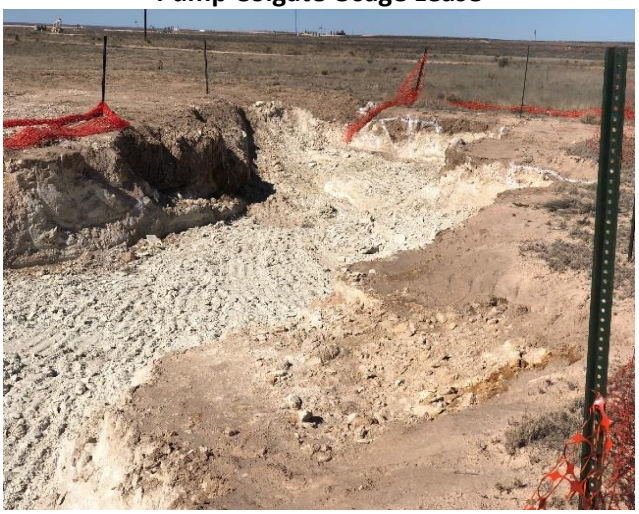




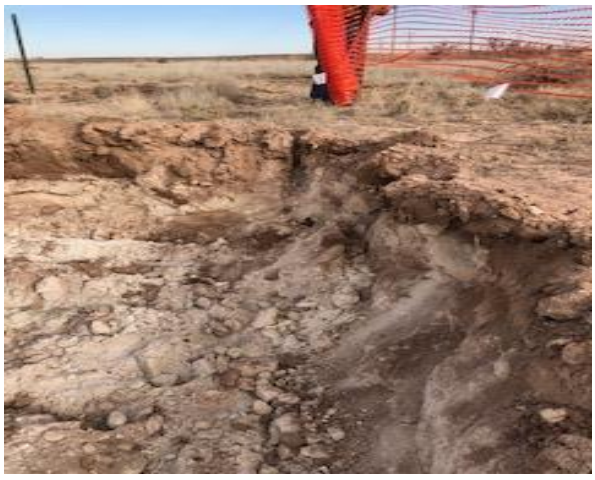




Holly Energy Partners
Pump Colgate Osage Lease



Additional excavation N. Wall 1-28-19



Additional Excavation W. Wall 1-29-19

Stockpile 1-29-19