



Site Sampling and Remediation Summary:

Larue Compressor Station

Sec 3 T20S R24 East

Eddy County, NM

1.0 Introduction

2.0 Recommended Remedial Action Levels

3.0 Remediation Plan

4.0 Sampling Summary

1.0 Introduction

As a part of the remediation efforts at the Larue Compressor Station, regular sampling is required to ensure removal of contaminated soil. This document sets forth remediation actions taken to address the contamination, and sampling procedures used throughout the cleanup process.

The release at the Larue Compressor Station was the result of a line connected to a backpressure valve on a separator. Due to unusual field conditions, pipeline pressures were elevated, resulting in the separator pressuring up. Any time the separator over pressurized, the backpressure valve would open, causing the release of a small amount of gas and minor amounts of liquid. Upon discovery the inlet lines to the separator were shut in, and the separator itself was taken out of service to prevent further releases. The separator will remain out of service until engineering changes can address the issue, and prevent further releases. Total volume of gas released is unknown, total amounts of liquid released is expected to be well below 5 bbls, based on the extent of contaminated soil.

2.0 Recommended Remedial Action Levels

Based on the *Guidelines for Remediation of Leaks, Spills and Releases* (NMOCD, August 13, 1993), the site ranking criteria are as follows.

Depth to groundwater >100ft (per NMOSE)**	0
Not in a wellhead protection area	0
Distance to surface water body >1000'	<u>0</u>
Total Ranking Score =	0

**Note: The average depth to groundwater in this area is approximately 269 feet, based on Office of the State Engineer records (attached).

For sites with a Total Ranking Score of 0-9, the Recommended Remedial Action Levels (RRAL) are:

Benzene	10 ppm
BTEX	50 ppm
TPH	5000 ppm

3.0 Remedial Action Plan

Due to the minimal soil contamination due to this release, Agave excavated the affected material, and placed it on a plastic pit liner at the location. We are attempting to remediate it on site by turning the pile to encourage flashing of remaining hydrocarbons. Sampling of the excavation floor, side walls, and excavated material will be used to determine the vertical and horizontal extent of contamination, as well as to ensure proper removal of contaminated soil. When analytical results show contamination to be below RRAL, excavation will cease. No excavated material will be returned to the excavation without prior approval from the OCD.

4.0 Sampling Methodology

To ensure the removal of contamination from the affected area, samples have been collected from the excavation floors and sidewalls, as well as the excavated material. Sample locations from the excavation floor were selected using a random number table. Four individual samples were collected from the floor and composited to gain an accurate representation of remaining contamination. Samples from the sidewalls and pile of excavated material were collected in the same manner. The results of said sampling are attached in Appendix A.

Please review the attached information to determine approval or denial of closure of this spill. If you have any questions regarding this release or cleanup work, please do not hesitate to call me at (575) 513-8988, or email at KEgan@agaveenergy.com

Respectfully,



Kerry Egan

Engineering Technician

Agave Energy Company

Appendix A:
Sampling Results

Final Sampling Summary for Larue Compressor Station

Location	Lab ID	Sample Type	Depth	BTEX	GRO	DRO	Total TPH	CI-	Comments
Excavation Floor	H501740-01	Composite	2'-4'	0.988	16.9	339	355.9	ND	
Excavation Sidewalls	H501740-02	Composite	0'-4'	0.568	35.7	1080	1115.7	ND	
Excavated Material Pile	H501740-03	Composite	N/A*	ND	27.8	1160	1187.8	N/A	

Note: All results are in ppm.

*The excavated material was laid out on a plastic liner at the location. The individual subsamples were collected at locations determined using a random number table. The subsamples were collected in a manner to represent the entire pile of excavated material.

Total Site Ranking: 0

Recommended Remediation Action Levels (RRAL) for Sites with Total Ranking Score 0-9

Benzene:	10
BTEX:	50
TPH:	5000

All of the final samples taken from the excavation floors and side walls have been shown to be below the RRAL for this location. These results indicate that Agave has delineated the extent of the contamination, both horizontally and vertically, as required by OCD protocols.

July 15, 2015

KERRY EGAN

AGAVE ENERGY COMPANY

P. O. BOX 158

ARTESIA, NM 88211

RE: LARUE REMEDIATION

Enclosed are the results of analyses for samples received by the laboratory on 07/08/15 14:27.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,



Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

AGAVE ENERGY COMPANY
KERRY EGAN
P. O. BOX 158
ARTESIA NM, 88211
Fax To: (575) 748-4275

Received: 07/08/2015
Reported: 07/15/2015
Project Name: LARUE REMEDIATION
Project Number: NONE GIVEN
Project Location: LARUE COMPRESSOR STATION

Sampling Date: 07/02/2015
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Judy Garcia

Sample ID: LARUE-FLOOR (H501740-01)

BTEX 8021B		mg/kg		Analyzed By: MS				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	0.082	0.050	07/14/2015	ND	2.11	106	2.00	1.29	
Toluene*	0.082	0.050	07/14/2015	ND	2.27	114	2.00	1.21	
Ethylbenzene*	0.112	0.050	07/14/2015	ND	2.15	108	2.00	1.99	
Total Xylenes*	0.712	0.150	07/14/2015	ND	6.55	109	6.00	2.07	
Total BTEX	0.988	0.300	07/14/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 138 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/14/2015	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	16.9	10.0	07/11/2015	ND	199	99.4	200	5.17	
DRO >C10-C28	339	10.0	07/11/2015	ND	202	101	200	12.6	

Surrogate: 1-Chlorooctane 85.8 % 47.2-157

Surrogate: 1-Chlorooctadecane 87.9 % 52.1-176

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

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ARTESIA NM, 88211
Fax To: (575) 748-4275

Received: 07/08/2015
Reported: 07/15/2015
Project Name: LARUE REMEDIATION
Project Number: NONE GIVEN
Project Location: LARUE COMPRESSOR STATION

Sampling Date: 07/02/2015
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Judy Garcia

Sample ID: LARUE-SIDEWALLS (H501740-02)

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	07/15/2015	ND	2.38	119	2.00	1.34	
Toluene*	0.097	0.050	07/15/2015	ND	2.14	107	2.00	1.32	
Ethylbenzene*	0.053	0.050	07/15/2015	ND	2.07	104	2.00	0.259	
Total Xylenes*	0.418	0.150	07/15/2015	ND	6.18	103	6.00	0.577	
Total BTEX	0.568	0.300	07/15/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 85.6-137

Chloride, SM4500Cl-B		mg/kg	Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/14/2015	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	35.7	10.0	07/11/2015	ND	199	99.4	200	5.17	
DRO >C10-C28	1080	10.0	07/11/2015	ND	202	101	200	12.6	

Surrogate: 1-Chlorooctane 93.9 % 47.2-157

Surrogate: 1-Chlorooctadecane 90.6 % 52.1-176

Cardinal Laboratories

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Received: 07/08/2015
Reported: 07/15/2015
Project Name: LARUE REMEDIATION
Project Number: NONE GIVEN
Project Location: LARUE COMPRESSOR STATION

Sampling Date: 07/02/2015
Sampling Type: Soil
Sampling Condition: ** (See Notes)
Sample Received By: Judy Garcia

Sample ID: LARUE-EXFILL PILE (H501740-03)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	07/15/2015	ND	2.38	119	2.00	1.34	
Toluene*	<0.050	0.050	07/15/2015	ND	2.14	107	2.00	1.32	
Ethylbenzene*	<0.050	0.050	07/15/2015	ND	2.07	104	2.00	0.259	
Total Xylenes*	<0.150	0.150	07/15/2015	ND	6.18	103	6.00	0.577	
Total BTX	<0.300	0.300	07/15/2015	ND					

Surrogate: 4-Bromofluorobenzene (PID) 124 % 85.6-137

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	07/14/2015	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	27.8	10.0	07/11/2015	ND	199	99.4	200	5.17	
DRO >C10-C28	1160	10.0	07/11/2015	ND	202	101	200	12.6	

Surrogate: 1-Chlorooctane 90.1 % 47.2-157

Surrogate: 1-Chlorooctadecane 75.6 % 52.1-176

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Company Name: Agave Energy Company

Project Manager: Kerry Egan

Address: 326 South 4th Street

City: Artesia

Phone #: 575-513-8988

Project #:

Project Name: Larue Remediation

Project Location: Larue Compressor Station

Sampler Name: Kerry Egan

State: NM Zip:

Fax #:

Project Owner:

P.O. #: 606-2336

Company: Agave Energy

Attn: Kerry Egan

Address: 326 West Quay

City: Artesia

State: NM Zip: 88210

Phone #: 575 748-4469

Fax #: 575 748-4275

BILL TO

ANALYSIS REQUEST

FOR LAB USE ONLY

Lab I.D. Sample I.D.

#50175

Larue - Floor
Larue - Sidewalls
Larue - Exfill Pile

(G)RAB OR (C)OMP.

CONTAINERS

GROUNDWATER

WASTEWATER

SOIL

OIL

SLUDGE

OTHER :

ACID/BASE:

ICE / COOL

OTHER :

DATE TIME

BTEX

TPH

Cl-

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Relinquished By:

Date: 7/8/15

Received By:

Relinquished By: Kerry Egan

Date: 7/8/15

Received By: Judy Garcia

Time: 9:45AM

Date: 7/8/15

Time: 2:27

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition
Cool ☒ Yes ☐ No
Intact ☒ Yes ☐ No

CHECKED BY: (Initials)

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

Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS: Requesting BTEX, TPH, Cl- analyses

Rush analyses



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW#### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest) (NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 03084			ED	1	03	20S	24E			539366	3607752*	330	268	62

Average Depth to Water: **268 feet**

Minimum Depth: **268 feet**

Maximum Depth: **268 feet**

Record Count: 1

PLSS Search:

Section(s): 2-4

Township: 20S

Range: 24E

*UTM location was derived from PLSS - see Help

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



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW#### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
RA 04245			ED	4	4	35	19S	24E		542005	3608363*	300		
RA 05723			ED	3	3	34	19S	24E		539170	3608353*	310	270	40

Average Depth to Water: **270 feet**

Minimum Depth: **270 feet**

Maximum Depth: **270 feet**

Record Count: 2

PLSS Search:

Section(s): 33-35

Township: 19S

Range: 24E

*UTM location was derived from PLSS - see Help

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