

Breitburn Operating, LP

**Jalmat Field Yates Unit #225
Delineation Report & Work Plan**

**Section 10, Township 22S, Range 35E
Lea County, New Mexico**

30-025-38704

March 22, 2019



**Prepared for:
Maverick Resources
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.....	1
II. BACKGROUND	1
III. SURFACE AND GROUND WATER	1
IV. CHARACTERIZATION	1
V. WORK PERFORMED	2
VI. ACTION PLAN	2
VII. FIGURES & APPENDICES.....	3
Figure 1 – Vicinity Map	4
Figure 2 – Site Plan	5
Appendix A – C-141	5
Appendix B – Groundwater.....	6
Appendix C – Analytical Results	7
Appendix D – Site Photos.....	8

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 Resources to assess a spill area on the Jalmat #225 Flowline location, concerning a seventeen (17) bbl. release comprised of crude oil and produced water. This site is situated in Lea County, Section 10, Township 22 S, and Range 35 E.

According to the C-141: A bullet struck the poly flow line that originates from the Jalmat #225 flowing to the production facility. There was an approximate 17 bbl. release of produced water. A vacuum truck was contacted and utilized to recover approximately 10 bbls of the fluid. A Trimble Juno 3B handheld was used to map the spill area. Whereby, the total area of impact was estimated to be 18,000 sq. ft. (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 185' 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.

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	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 February 08, 2019 approximately 46 yards of saturated soil was excavated and removed for disposal at Sundance Disposal facility by TMI Services.

On March 14, 2019 SESI personnel together with equipment and personnel from Custom Welding of Hobbs, NM were on site to advance test trenches for purposes of soil delineation and screening. The impacted area was assessed for proper placement of test trenches, mapped, and photographed. It was determined that 5 Test Trenches would be adequate for horizontal and vertical delineation for the area. Soil samples were retrieved at Surface and 1' bgs increments. The samples were properly packaged, preserved, and transported to Hall Laboratories for analyses of Chloride (CI 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 Hall Laboratory Analyses (Appendix C):

Sample Point ID	Chloride	DRO	GRO	BTEX
TT 1 @ Surface	730	21000	9000	62
TT 1 @ 1 ft.	640	6600	710	30
TT 1 @ 2 ft.	1000	29	ND	ND
TT 1 @ 3 ft.	560	ND	ND	ND
TT 1 @ 4 ft.	520	14	ND	ND
TT 2 @ Surface	1500	25000	160	6.3
TT 2 @ 1 ft.	210	14	ND	ND
TT 2 @ 2 ft.	130	61	ND	ND
TT 3 @ Surface	960	19000	190	6.1
TT 3 @ 1 ft.	410	ND	ND	ND
TT 4 @ Surface	300	36000	81	3.3
TT 4 @ 1 ft.	ND	31	ND	ND
TT 5 @ Surface	210	32000	12	.20
TT 5 @ 1 ft.	860	110	ND	ND
TT 5 @ 2 ft.	300	150	ND	ND
Background	ND	ND	ND	ND

VI. Action Plan

Based on the NMOCD soil screening levels and depth to groundwater for this area: SESI is proposing to excavate and remove soil that is > 600 mg/kg in chlorides, and > 1,000 mg/kg in Diesel Organics (DRO). All impacted soils will be transported to an NMOCD approved facility. The excavated area will be backfilled with fresh topsoil and terraced to surrounding area in order to facilitate vegetation, and prevent erosion. Sidewall and Bottom Samples will be retrieved and included in all Closure Documentation.

Upon completion of remediation activities: all surface areas off of the location 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 Jalmat 225

N32.4252°

N32.418°

N32.4108°

Jalmat 225
Test Trench 1
Test Trench 2
site #5
site #6

site #6

site #7

22S 35E

22S 36E

21

18

N

1 mi


Google Earth

©2018 Google

Legend

Line Measure 165'

📌 site

 Spill Area

- Test Trench

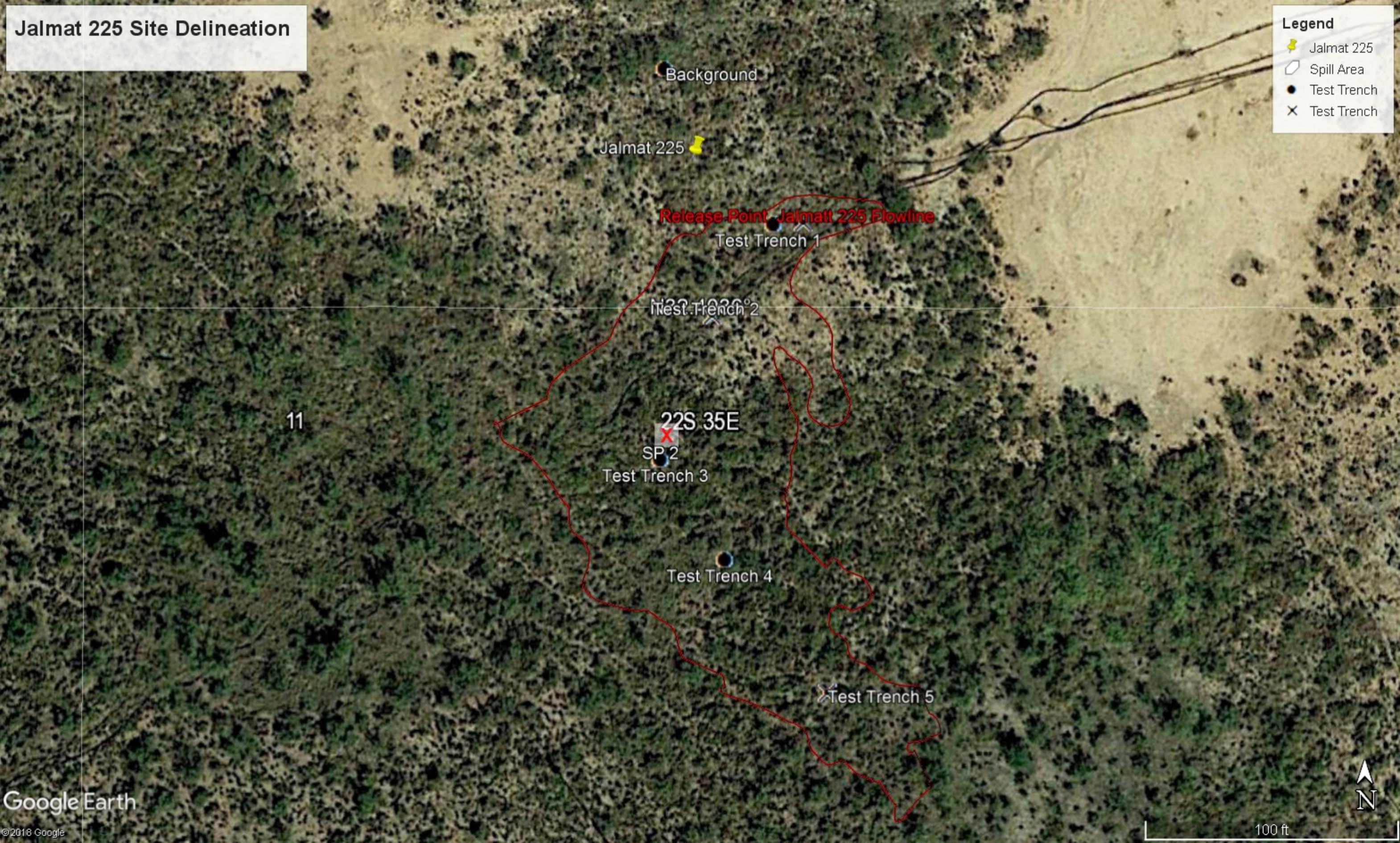
- ✕ Test Trench

Figure 2 Site Plan

Jalmat 225 Site Delineation

Legend

- Jalmat 225
- Spill Area
- Test Trench
- Test Trench



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 <i>Breithorn Operating, LP</i>	OGRID <i>270080</i>
Contact Name Thomas Haigood	Contact Telephone (432) 701-7802
Contact email Thomas.haigood@maurresources.com	Incident # (assigned by OCD)
Contact mailing address PO Box 678 Andrews, TX	

Location of Release Source

Latitude 32.400517 Longitude -103.337703
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Jalmat Field Yates Unit #225	Site Type Pipeline
Date Release Discovered 2-8-19	API# (if applicable) 30.025.38704

Unit Letter	Section	Township	Range	County
J	10	22S	35E	Lea

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)

<input checked="" type="checkbox"/> Crude	Volume Released (bbls) 17	Volume Recovered (bbls) 10
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: A bullet struck the poly flow line heading from the Jalmat #225 well to the production facility.

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?

☐ 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 provided via email to Kerry Fortner 02/08/19 10:30 AM

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: HSE Coordinator

Signature: 

Date: 02/08/19

email: Thomas.haigood@mavresources.com

Telephone: (432) 701-7802

OCD Only

Received by: _____ Date: _____

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?

185 (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.

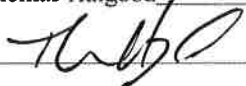
Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☐ 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.

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 HaigoodTitle: HSE CoordinatorSignature: Date: 02/08/19email: Thomas.haigood@mavresources.comTelephone (432) 701-7802**OCD Only**

Received by: _____

Date: _____

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: HSE Coordinator

Signature:  Date: 02/08/19

email: Thomas.haigood@mavresources.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 6	Q 16	Q 4	Sec	Tws	Rng	X	Y	DepthWell	DepthWater	WaterColumn
CP 00593 POD1	CP	LE		4	4	06	22S	35E		650422	3587591*	62		
CP 00594 POD1	CP	LE		2	1	34	22S	35E		654553	3580819*	98		
CP 00595 POD1	CP	LE		2	2	20	22S	35E		652089	3584000*	96		
CP 00753	CP	LE		2	2	14	22S	35E		656891	3585687*	215	185	30

Average Depth to Water: **185 feet**

Minimum Depth: **185 feet**

Maximum Depth: **185 feet**

Record Count: 4

Basin/County Search:

County: Lea

PLSS Search:

Township: 22S **Range:** 35E

*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.

2/8/19 12:36 PM

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Appendix C

Analytical Results

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-1 Surface

Project: Jalmat 225

Collection Date: 3/14/2019 8:45:00 AM

Lab ID: 1903729-001

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	730	60		mg/Kg	20	3/18/2019 4:31:53 PM	43722
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	21000	490		mg/Kg	50	3/18/2019 12:29:50 PM	43711
Motor Oil Range Organics (MRO)	9000	2500		mg/Kg	50	3/18/2019 12:29:50 PM	43711
Surr: DNOP	0	70-130	S	%Rec	50	3/18/2019 12:29:50 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	1400	250		mg/Kg	50	3/18/2019 8:32:26 AM	43708
Surr: BFB	243	73.8-119	S	%Rec	50	3/18/2019 8:32:26 AM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	1.2	D	mg/Kg	50	3/18/2019 8:32:26 AM	43708
Toluene	ND	2.5	D	mg/Kg	50	3/18/2019 8:32:26 AM	43708
Ethylbenzene	ND	2.5	D	mg/Kg	50	3/18/2019 8:32:26 AM	43708
Xylenes, Total	62	5.0	D	mg/Kg	50	3/18/2019 8:32:26 AM	43708
Surr: 4-Bromofluorobenzene	112	80-120	D	%Rec	50	3/18/2019 8:32:26 AM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-1 1ft

Project: Jalmat 225

Collection Date: 3/14/2019 8:50:00 AM

Lab ID: 1903729-002

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	640	61		mg/Kg	20	3/18/2019 5:09:06 PM	43722
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	6600	98		mg/Kg	10	3/18/2019 1:18:23 PM	43711
Motor Oil Range Organics (MRO)	2300	490		mg/Kg	10	3/18/2019 1:18:23 PM	43711
Surr: DNOP	0	70-130	S	%Rec	10	3/18/2019 1:18:23 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	710	100		mg/Kg	20	3/18/2019 8:39:59 PM	43708
Surr: BFB	268	73.8-119	S	%Rec	20	3/18/2019 8:39:59 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.50	D	mg/Kg	20	3/18/2019 8:39:59 PM	43708
Toluene	ND	1.0	D	mg/Kg	20	3/18/2019 8:39:59 PM	43708
Ethylbenzene	ND	1.0	D	mg/Kg	20	3/18/2019 8:39:59 PM	43708
Xylenes, Total	30	2.0	D	mg/Kg	20	3/18/2019 8:39:59 PM	43708
Surr: 4-Bromofluorobenzene	106	80-120	D	%Rec	20	3/18/2019 8:39:59 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-1 2ft

Project: Jalmat 225

Collection Date: 3/14/2019 9:10:00 AM

Lab ID: 1903729-003

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1000	60		mg/Kg	20	3/18/2019 9:17:16 PM	43728
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	29	9.6		mg/Kg	1	3/19/2019 1:15:54 PM	43711
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	3/19/2019 1:15:54 PM	43711
Surr: DNOP	81.8	70-130		%Rec	1	3/19/2019 1:15:54 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	3/18/2019 2:48:31 PM	43708
Surr: BFB	94.9	73.8-119		%Rec	1	3/18/2019 2:48:31 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	3/18/2019 2:48:31 PM	43708
Toluene	ND	0.050		mg/Kg	1	3/18/2019 2:48:31 PM	43708
Ethylbenzene	ND	0.050		mg/Kg	1	3/18/2019 2:48:31 PM	43708
Xylenes, Total	ND	0.10		mg/Kg	1	3/18/2019 2:48:31 PM	43708
Surr: 4-Bromofluorobenzene	97.2	80-120		%Rec	1	3/18/2019 2:48:31 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-1 3ft

Project: Jalmat 225

Collection Date: 3/14/2019 9:20:00 AM

Lab ID: 1903729-004

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	560	59		mg/Kg	20	3/18/2019 10:19:20 PM	43728
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	3/21/2019 3:28:22 PM	43711
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/21/2019 3:28:22 PM	43711
Surr: DNOP	79.2	70-130		%Rec	1	3/21/2019 3:28:22 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/18/2019 4:45:55 PM	43708
Surr: BFB	95.0	73.8-119		%Rec	1	3/18/2019 4:45:55 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	3/18/2019 4:45:55 PM	43708
Toluene	ND	0.048		mg/Kg	1	3/18/2019 4:45:55 PM	43708
Ethylbenzene	ND	0.048		mg/Kg	1	3/18/2019 4:45:55 PM	43708
Xylenes, Total	ND	0.096		mg/Kg	1	3/18/2019 4:45:55 PM	43708
Surr: 4-Bromofluorobenzene	99.6	80-120		%Rec	1	3/18/2019 4:45:55 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-1 4ft

Project: Jalmat 225

Collection Date: 3/14/2019 9:45:00 AM

Lab ID: 1903729-005

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	520	60		mg/Kg	20	3/18/2019 10:31:44 PM	43728
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	24	9.9		mg/Kg	1	3/25/2019 12:05:48 PM	43711
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/25/2019 12:05:48 PM	43711
Surr: DNOP	105	70-130		%Rec	1	3/25/2019 12:05:48 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/18/2019 5:09:08 PM	43708
Surr: BFB	92.8	73.8-119		%Rec	1	3/18/2019 5:09:08 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	3/18/2019 5:09:08 PM	43708
Toluene	ND	0.046		mg/Kg	1	3/18/2019 5:09:08 PM	43708
Ethylbenzene	ND	0.046		mg/Kg	1	3/18/2019 5:09:08 PM	43708
Xylenes, Total	ND	0.092		mg/Kg	1	3/18/2019 5:09:08 PM	43708
Surr: 4-Bromofluorobenzene	97.7	80-120		%Rec	1	3/18/2019 5:09:08 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-2 Surface

Project: Jalmat 225

Collection Date: 3/14/2019 10:00:00 AM

Lab ID: 1903729-006

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	1500	60		mg/Kg	20	3/18/2019 10:44:09 PM	43728
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	25000	500		mg/Kg	50	3/18/2019 2:07:06 PM	43711
Motor Oil Range Organics (MRO)	11000	2500		mg/Kg	50	3/18/2019 2:07:06 PM	43711
Surr: DNOP	0	70-130	S	%Rec	50	3/18/2019 2:07:06 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	160	25		mg/Kg	5	3/18/2019 10:13:28 PM	43708
Surr: BFB	332	73.8-119	S	%Rec	5	3/18/2019 10:13:28 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	3/18/2019 10:13:28 PM	43708
Toluene	0.26	0.25		mg/Kg	5	3/18/2019 10:13:28 PM	43708
Ethylbenzene	0.82	0.25		mg/Kg	5	3/18/2019 10:13:28 PM	43708
Xylenes, Total	6.3	0.49		mg/Kg	5	3/18/2019 10:13:28 PM	43708
Surr: 4-Bromofluorobenzene	115	80-120		%Rec	5	3/18/2019 10:13:28 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-2 1ft

Project: Jalmat 225

Collection Date: 3/14/2019 10:15:00 AM

Lab ID: 1903729-007

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	210	61		mg/Kg	20	3/18/2019 10:56:34 PM	43728
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	14	10		mg/Kg	1	3/19/2019 2:28:12 PM	43711
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/19/2019 2:28:12 PM	43711
Surr: DNOP	81.1	70-130		%Rec	1	3/19/2019 2:28:12 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	3/18/2019 5:32:21 PM	43708
Surr: BFB	96.7	73.8-119		%Rec	1	3/18/2019 5:32:21 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.023		mg/Kg	1	3/18/2019 5:32:21 PM	43708
Toluene	ND	0.046		mg/Kg	1	3/18/2019 5:32:21 PM	43708
Ethylbenzene	ND	0.046		mg/Kg	1	3/18/2019 5:32:21 PM	43708
Xylenes, Total	ND	0.093		mg/Kg	1	3/18/2019 5:32:21 PM	43708
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	3/18/2019 5:32:21 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 7 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative 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	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-2 2ft

Project: Jalmat 225

Collection Date: 3/14/2019 10:30:00 AM

Lab ID: 1903729-008

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	130	60		mg/Kg	20	3/18/2019 11:08:59 PM	43728
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	59	9.9		mg/Kg	1	3/25/2019 12:27:55 PM	43711
Motor Oil Range Organics (MRO)	75	50		mg/Kg	1	3/25/2019 12:27:55 PM	43711
Surr: DNOP	68.3	70-130	S	%Rec	1	3/25/2019 12:27:55 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/18/2019 5:55:40 PM	43708
Surr: BFB	93.0	73.8-119		%Rec	1	3/18/2019 5:55:40 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	3/18/2019 5:55:40 PM	43708
Toluene	ND	0.048		mg/Kg	1	3/18/2019 5:55:40 PM	43708
Ethylbenzene	ND	0.048		mg/Kg	1	3/18/2019 5:55:40 PM	43708
Xylenes, Total	ND	0.095		mg/Kg	1	3/18/2019 5:55:40 PM	43708
Surr: 4-Bromofluorobenzene	97.7	80-120		%Rec	1	3/18/2019 5:55:40 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-3 Surface

Project: Jalmat 225

Collection Date: 3/14/2019 10:40:00 AM

Lab ID: 1903729-009

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	960	60		mg/Kg	20	3/18/2019 11:21:24 PM	43728
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	19000	490		mg/Kg	50	3/18/2019 2:55:40 PM	43711
Motor Oil Range Organics (MRO)	7900	2500		mg/Kg	50	3/18/2019 2:55:40 PM	43711
Surr: DNOP	0	70-130	S	%Rec	50	3/18/2019 2:55:40 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	190	24		mg/Kg	5	3/18/2019 11:00:38 PM	43708
Surr: BFB	434	73.8-119	S	%Rec	5	3/18/2019 11:00:38 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.12		mg/Kg	5	3/18/2019 11:00:38 PM	43708
Toluene	0.30	0.24		mg/Kg	5	3/18/2019 11:00:38 PM	43708
Ethylbenzene	3.8	0.24		mg/Kg	5	3/18/2019 11:00:38 PM	43708
Xylenes, Total	6.1	0.48		mg/Kg	5	3/18/2019 11:00:38 PM	43708
Surr: 4-Bromofluorobenzene	137	80-120	S	%Rec	5	3/18/2019 11:00:38 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-3 1ft

Project: Jalmat 225

Collection Date: 3/14/2019 11:00:00 AM

Lab ID: 1903729-010

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	410	60		mg/Kg	20	3/18/2019 11:33:49 PM	43728
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	3/19/2019 3:16:55 PM	43711
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	3/19/2019 3:16:55 PM	43711
Surr: DNOP	77.9	70-130		%Rec	1	3/19/2019 3:16:55 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	3/18/2019 6:19:07 PM	43708
Surr: BFB	97.2	73.8-119		%Rec	1	3/18/2019 6:19:07 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	3/18/2019 6:19:07 PM	43708
Toluene	ND	0.047		mg/Kg	1	3/18/2019 6:19:07 PM	43708
Ethylbenzene	ND	0.047		mg/Kg	1	3/18/2019 6:19:07 PM	43708
Xylenes, Total	ND	0.094		mg/Kg	1	3/18/2019 6:19:07 PM	43708
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	3/18/2019 6:19:07 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-4 Surface

Project: Jalmat 225

Collection Date: 3/14/2019 11:15:00 AM

Lab ID: 1903729-011

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	300	60		mg/Kg	20	3/19/2019 12:03:58 PM	43755
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	36000	500		mg/Kg	50	3/18/2019 3:44:11 PM	43711
Motor Oil Range Organics (MRO)	15000	2500		mg/Kg	50	3/18/2019 3:44:11 PM	43711
Surr: DNOP	0	70-130	S	%Rec	50	3/18/2019 3:44:11 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	81	9.7		mg/Kg	2	3/18/2019 11:47:33 PM	43708
Surr: BFB	390	73.8-119	S	%Rec	2	3/18/2019 11:47:33 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.049		mg/Kg	2	3/18/2019 11:47:33 PM	43708
Toluene	0.097	0.097		mg/Kg	2	3/18/2019 11:47:33 PM	43708
Ethylbenzene	0.98	0.097		mg/Kg	2	3/18/2019 11:47:33 PM	43708
Xylenes, Total	3.3	0.19		mg/Kg	2	3/18/2019 11:47:33 PM	43708
Surr: 4-Bromofluorobenzene	135	80-120	S	%Rec	2	3/18/2019 11:47:33 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-4 1ft

Project: Jalmat 225

Collection Date: 3/14/2019 11:30:00 AM

Lab ID: 1903729-012

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	3/19/2019 12:16:23 PM	43755
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	32	9.5		mg/Kg	1	3/25/2019 12:49:59 PM	43711
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	3/25/2019 12:49:59 PM	43711
Surr: DNOP	96.7	70-130		%Rec	1	3/25/2019 12:49:59 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/18/2019 6:42:36 PM	43708
Surr: BFB	96.7	73.8-119		%Rec	1	3/18/2019 6:42:36 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	3/18/2019 6:42:36 PM	43708
Toluene	ND	0.048		mg/Kg	1	3/18/2019 6:42:36 PM	43708
Ethylbenzene	ND	0.048		mg/Kg	1	3/18/2019 6:42:36 PM	43708
Xylenes, Total	ND	0.096		mg/Kg	1	3/18/2019 6:42:36 PM	43708
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	3/18/2019 6:42:36 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-5 Surface

Project: Jalmat 225

Collection Date: 3/14/2019 11:45:00 AM

Lab ID: 1903729-013

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	210	60		mg/Kg	20	3/19/2019 12:28:48 PM	43755
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	32000	500		mg/Kg	50	3/18/2019 4:32:47 PM	43711
Motor Oil Range Organics (MRO)	15000	2500		mg/Kg	50	3/18/2019 4:32:47 PM	43711
Surr: DNOP	0	70-130	S	%Rec	50	3/18/2019 4:32:47 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	12	9.5		mg/Kg	2	3/19/2019 12:34:43 AM	43708
Surr: BFB	124	73.8-119	S	%Rec	2	3/19/2019 12:34:43 AM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.048	D	mg/Kg	2	3/19/2019 12:34:43 AM	43708
Toluene	ND	0.095	D	mg/Kg	2	3/19/2019 12:34:43 AM	43708
Ethylbenzene	ND	0.095	D	mg/Kg	2	3/19/2019 12:34:43 AM	43708
Xylenes, Total	0.20	0.19	D	mg/Kg	2	3/19/2019 12:34:43 AM	43708
Surr: 4-Bromofluorobenzene	99.3	80-120	D	%Rec	2	3/19/2019 12:34:43 AM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-5 1ft

Project: Jalmat 225

Collection Date: 3/14/2019 12:05:00 PM

Lab ID: 1903729-014

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	860	60		mg/Kg	20	3/19/2019 12:41:12 PM	43755
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	110	9.7		mg/Kg	1	3/19/2019 4:06:24 PM	43711
Motor Oil Range Organics (MRO)	58	49		mg/Kg	1	3/19/2019 4:06:24 PM	43711
Surr: DNOP	74.8	70-130		%Rec	1	3/19/2019 4:06:24 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/18/2019 7:06:05 PM	43708
Surr: BFB	95.2	73.8-119		%Rec	1	3/18/2019 7:06:05 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	3/18/2019 7:06:05 PM	43708
Toluene	ND	0.049		mg/Kg	1	3/18/2019 7:06:05 PM	43708
Ethylbenzene	ND	0.049		mg/Kg	1	3/18/2019 7:06:05 PM	43708
Xylenes, Total	ND	0.099		mg/Kg	1	3/18/2019 7:06:05 PM	43708
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	3/18/2019 7:06:05 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: TT-5 2ft

Project: Jalmat 225

Collection Date: 3/14/2019 12:30:00 PM

Lab ID: 1903729-015

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	300	60		mg/Kg	20	3/19/2019 12:53:37 PM	43755
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	150	9.6		mg/Kg	1	3/19/2019 4:30:37 PM	43711
Motor Oil Range Organics (MRO)	78	48		mg/Kg	1	3/19/2019 4:30:37 PM	43711
Surr: DNOP	78.6	70-130		%Rec	1	3/19/2019 4:30:37 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	3/18/2019 7:29:33 PM	43708
Surr: BFB	96.7	73.8-119		%Rec	1	3/18/2019 7:29:33 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.024		mg/Kg	1	3/18/2019 7:29:33 PM	43708
Toluene	ND	0.048		mg/Kg	1	3/18/2019 7:29:33 PM	43708
Ethylbenzene	ND	0.048		mg/Kg	1	3/18/2019 7:29:33 PM	43708
Xylenes, Total	ND	0.096		mg/Kg	1	3/18/2019 7:29:33 PM	43708
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	3/18/2019 7:29:33 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1903729**

Date Reported:

CLIENT: Safety & Environmental Solutions

Client Sample ID: Background

Project: Jalmat 225

Collection Date: 3/14/2019 1:00:00 PM

Lab ID: 1903729-016

Matrix: SOIL

Received Date: 3/15/2019 8:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	ND	60		mg/Kg	20	3/19/2019 1:30:51 PM	43755
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: Irm
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	3/19/2019 4:54:54 PM	43711
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	3/19/2019 4:54:54 PM	43711
Surr: DNOP	81.0	70-130		%Rec	1	3/19/2019 4:54:54 PM	43711
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	3/18/2019 7:53:01 PM	43708
Surr: BFB	95.1	73.8-119		%Rec	1	3/18/2019 7:53:01 PM	43708
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	ND	0.025		mg/Kg	1	3/18/2019 7:53:01 PM	43708
Toluene	ND	0.049		mg/Kg	1	3/18/2019 7:53:01 PM	43708
Ethylbenzene	ND	0.049		mg/Kg	1	3/18/2019 7:53:01 PM	43708
Xylenes, Total	ND	0.098		mg/Kg	1	3/18/2019 7:53:01 PM	43708
Surr: 4-Bromofluorobenzene	101	80-120		%Rec	1	3/18/2019 7:53:01 PM	43708

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative 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

Appendix D

Site Photos

**Breitburn
Jalmat #225**



Vaccum Truck Recovery 2-8-19



Source



Spill Area