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	NCH1834660473
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Fasken Oil and Ranch, Ltd	OGRID
Contact Name: Aaron Pachlhofer	Contact Telephone: 432-687-1777
Contact email: aaronp@forl.com	Incident # *(assigned by OCD)*
Contact mailing address: 6101 Holiday Hill Road, Midland , TX 79707	

Location of Release Source

Latitude 33.031060° Longitude -103.180635°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Denton No. 2 SWD well	Site Type: SWD wellhead
Date Release Discovered 11/5/18	API# 30-025-05270

Unit Letter	Section	Township	Range	County
I	10	15S	37E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name: Darr Angell*)

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)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 20	Volume Recovered (bbls) 15
	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: Release caused by external corrosion to injection line. Leak began while Fasken personnel were at lunch, and was discovered upon return to the lease. Estimated period that elapsed between leak start and leak discovery is 15 to 30 minutes. Vacuum truck and equipment were on lease for other purposes so produced water was picked up before there was time for it to be absorbed by the soil.

State of New Mexico
Oil Conservation Division

Incident ID	NCH1834660473
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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)?

Notice was given via voicemail to Olivia Yu at 11:58 MST on 11/6/18. A second voicemail was left at 1:55 MST on 11/6/18

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: Aaron Pachlhofer Title: Environmental Coordinator

Signature: _____ Date: 11/8/2018

email: aaronp@forl.com Telephone: 432-687-1777

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NCH1834660473
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?	70 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☐ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NCH1834660473
District RP	
Facility ID	
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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: Aaron Pachlhofer Title: Environmental Coordinator

Signature: Date: 9/6/19

email: aaronp@forl.com Telephone: 432-687-1777

OCD Only

Received by: Date:

Incident ID	NCH1834660473
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: Aaron Pachlhofer Title: Environmental Coordinator

Signature: _____ Date: _____

email: aaronp@forl.com Telephone: 432-687-1777

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NCH1834660473
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 19.15.29.12NMAC.

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: Aaron Pachlhofer Title: Environmental Coordinator

Signature: Date: 1/15/2020

email: aaronp@forl.com Telephone: 432-687-1777

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:

FASKEN | OIL AND RANCH

6101 Holiday Hill Road
Midland, TX 79707
(432) 687-1777
(432) 687-1570 (FAX)

January 15, 2020

Robert Hamlet
Environmental Specialist
Oil Conservation Division, District 2
811 South Francis Street
Artesia, New Mexico 88210

Work Plan: 1RP-5270– Denton No.2 SWD Wellhead spill

Mr. Hamlet,

On November 4, 2018 a spill occurred at the Fasken Oil and Ranch (Fasken) Denton No.2 SWD well when a hole occurred in the injection line due to corrosion. The well is location at battery is located at 33.031060°, -103.180635°. During the spill, an estimated 50 barrels of produced water was released and no crude oil was released. 30 barrels of produced water was recovered according to Fasken operations personnel. The spill was confined within to the well pad and a lease road. No pasture was affected.

Potential Receptors

According to the New Mexico State Engineer's Office, there five water wells within 1/2 mile of the SWD well. Information from the State Engineers Office show that the depth to water in L-01739 POD1, L-02317, L-02268, and L-14299 is deeper than 50 feet below ground surface. Copies are included as an attachment. No depth to water information is available for well L-00058, so it is no attachments are included for this well. Please also note that Fasken and Plains All American have monitoring wells further to the west approximately 0.75 mile away and further. These wells have a consistent depth to water more than 70 feet below ground surface. Data for these wells is available if required by the OCD.

Other potential receptors: There is no nearby surface water. There are no homes or occupied structures within 1 mile of the release. There are no other potential receptors such as a lakebed, sinkhole, playa lake, continually flowing watercourse, spring, fresh water well, or subsurface mine that have been identified within the distances specified on form C-141.

According to NMAC 19.15.29.12, Table 1, the chloride limit is 10,000 mg/kg

Delineation Sampling

On January 30, 2019, five trenches were opened with a backhoe and three samples from each trench were collected: surface, one foot, and the top of caliche. The surface of the caliche at this location varies from 2 to three below the surface. Laboratory analysis of the samples shows that chloride concentrations are high in the surface samples at TT-1, TT-2, and TT-3. All other sample concentrations are below 2,000 mg/kg chloride. A site plan showing these sample locations is included as an attachment.

On July 18, 2019, three borings were advanced with a hollow stem auger mobile drilling machine. Samples were continuously collected by hollow stem auger in two-foot increments. Four samples from each boring were submitted for laboratory analysis. The maximum concentration for these samples was 1,410 mg/kg chloride in B-2 at 0-2'. All other concentrations were low, and the deepest samples collect from each boring were 320 (B-1), 128 (B-2), and 112 (B-3) mg/kg chloride. A site plan showing these sample locations is included as an attachment.

Additional Delineation and Removal of Pad Material

On October 31, 2019, SESI INC of Hobbs, New Mexico performed additional delineation of the release on behalf of Fasken Oil and Ranch. Additional delineation was performed at the request of OCD. TT-3 and TT-5 were re-sampled below the caliche in order to delineate at these locations. Please note that the depths these samples were mislabeled on the laboratory chain of custody by the SESI technician: the field notes from the technician indicate that samples were obtained after he 'busted out the rocks'. The depth to caliche at the location was previously recorded at approximately three feet below ground surface. Also note that the TT-3 data correlates very well with shallow sample results from adjacent B-3 that was previously advanced. Three new delineation locations were also opened with a backhoe and sampled at the request of the OCD: TT-6, TT-7, and TT-8. These locations were sampled at the surface and at 1 foot below ground surface. All sample locations were field screened prior laboratory analysis. All field screen results were less than 600 mg/kg, according to SESI personnel. Laboratory results for all samples collected ranged from 'not detected' to 370 mg/kg.

On October 31, 2019 SESI also removed approximately 4 inches of the surface pad material around the well that was above the 19.15.29.12 Table 1 limits in the areas of TT1-, TT-2, and TT-3. Approximately 20 cubic yards of material was removed, and stockpiled on plastic pending disposal. The removal of the material did not require replacement of pad material so no new material was imported and backfilled onto the pad.

Following removal of pad material, the surface at TT-1, TT-2, and TT-3 were field screened and re-sampled. Please note that these sample locations are now labeled SP-1, SP-2, and SP-3. Field screening results of these sample locations were less than 600 mg/kg. Laboratory results ranged from 980 to 1,800 mg/kg chloride; well below the Table 1 limits in 19.15.29.12 for groundwater 51 to 100 feet below ground surface.

A summary table and laboratory reports are included.

RECCOMENDATION

Fasken recommends closing this release. All concentrations are below the Table 1 limits for groundwater 51 to 100 feet below ground surface.

If there are any questions or comments, please do not hesitate to contact Aaron Pachlhofer at the letterhead address or 432-687-1777 or aaronp@forl.com.

Thank You,

Aaron Pachlhofer, P.G.
Environmental Coordinator

1RP-5270 Denton No.2 SWD Sample Analysis

Location	Date	Cl- (mg/kg)
TT-1 Surface	1/30/2019	30000
TT-1 1'	1/30/2019	1810
TT-1 2'	1/30/2019	880
TT-2 Surface	1/30/2019	41200
TT-2 1'	1/30/2019	1090
TT-2A 1'	1/30/2019	128
TT-2 2'	1/30/2019	608
TT-3 Surface	1/30/2019	25600
TT-3 1'	1/30/2019	1730
TT-4 Surface	1/30/2019	128
TT-4 1'	1/30/2019	112
TT-4 2'	1/30/2019	272
TT-5 Surface	1/30/2019	656
TT-5 1'	1/30/2019	112
TT-5 3'	1/30/2019	1720
B-1 0-2'	7/18/2019	544
B-1 5-7'	7/18/2019	80
B-1 10-12'	7/18/2019	1070
B-1 15-17'	7/18/2019	608
B-1 20-22'	7/18/2019	320
B-2 0-2'	7/18/2019	1410
B-2 5-7'	7/18/2019	368
B-2 10-12'	7/18/2019	256
B-2 15-17'	7/18/2019	192
B-2' 20-22'	7/18/2019	128
B-3 0-2'	7/18/2019	448
B-3 5-7'	7/18/2019	96
B-3 10-12'	7/18/2019	128
B-3 15-17'	7/18/2019	272
B-3 20-22'	7/18/2019	112
SP-1 Surface	10/31/2019	980
SP-2 Surface	10/31/2019	1800
SP-3 Surface	10/31/2019	1800
TT-3 1.5	10/31/2019	270
TT-5 1.5	10/31/2019	580
TT-6 Surface	10/31/2019	ND
TT-6 1'	10/31/2019	370
TT-7 Surface	10/31/2019	ND
TT-7 1'	10/31/2019	330
TT-8 Surface	10/31/2019	ND
TT-8 1'	10/31/2019	260

Untitled Map

Write a description for your map.

Legend

- Denton 2 SWD
- Feature 1
- Feature 2
- Gas Line AO Battery to Gas Main
- Scraped Aea
- T15S

TT-4
B-2
B-3
TT-3
Denton 2 SWD
TT-2A
TT-1
TT-2
B-1
TT-7
TT-8
TT-6
TT-5

Google Earth

© 2019 Google

N

70 ft

New Mexico Office of the State Engineer
Point of Diversion Summary

Well Tag	POD Number	(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest) Q64	Q16	Q4	Sec	Tws	Rng	(NAD83 UTM in meters) X	Y
	L 01739 POD1	2	2	2	10	15S	37E	669893	3657001*

Driller License:	46	**Driller Company:**	ABBOTT BROTHERS COMPANY		
Driller Name:	MURRELL ABBOTT				
Drill Start Date:	01/20/1953	**Drill Finish Date:**	01/21/1953	**Plug Date:**	09/24/1954
Log File Date:	02/02/1953	**PCW Rcv Date:**	02/12/1953	**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	110 feet	**Depth Water:**	55 feet

Water Bearing Stratifications:	Top	Bottom	Description
	55	110	Sandstone/Gravel/Conglomerate

***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
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	L 02268		2	4	10	15S	37E	669808	3656097*

Driller License: 46 **Driller Company:** ABBOTT BROTHERS COMPANY

Driller Name: ABBOTT, MURRELL

Drill Start Date:	06/20/1953	**Drill Finish Date:**	06/21/1953	**Plug Date:**	04/30/1956
Log File Date:	04/16/1954	**PCW Rcv Date:**	12/16/1953	**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**		**Depth Water:**	55 feet

Water Bearing Stratifications:	Top	Bottom	Description
	55	110	Sandstone/Gravel/Conglomerate

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

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New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	L 02317		1	1	11	15S	37E	670197	3656908*

Driller License: 46 **Driller Company:** ABBOTT BROTHERS COMPANY

Driller Name: MURRELL ABBOTT

Drill Start Date:	08/12/1953	**Drill Finish Date:**	08/13/1953	**Plug Date:**	
Log File Date:	08/20/1953	**PCW Rcv Date:**	08/20/1953	**Source:**	Shallow
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	110 feet	**Depth Water:**	65 feet

Water Bearing Stratifications:	Top	Bottom	Description
	65	110	Sandstone/Gravel/Conglomerate

***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 Right Summary

get image list

WR File Number: L 14299 **Subbasin:** L **Cross Reference:** -

Primary Purpose: STK 72-12-1 LIVESTOCK WATERING

Primary Status: PMT PERMIT

Total Acres: **Subfile:** - **Header:** -

Total Diversion: 3 **Cause/Case:** -

Owner: ANGELL #2 FLP

Contact: JOHN NORRIS

Documents on File

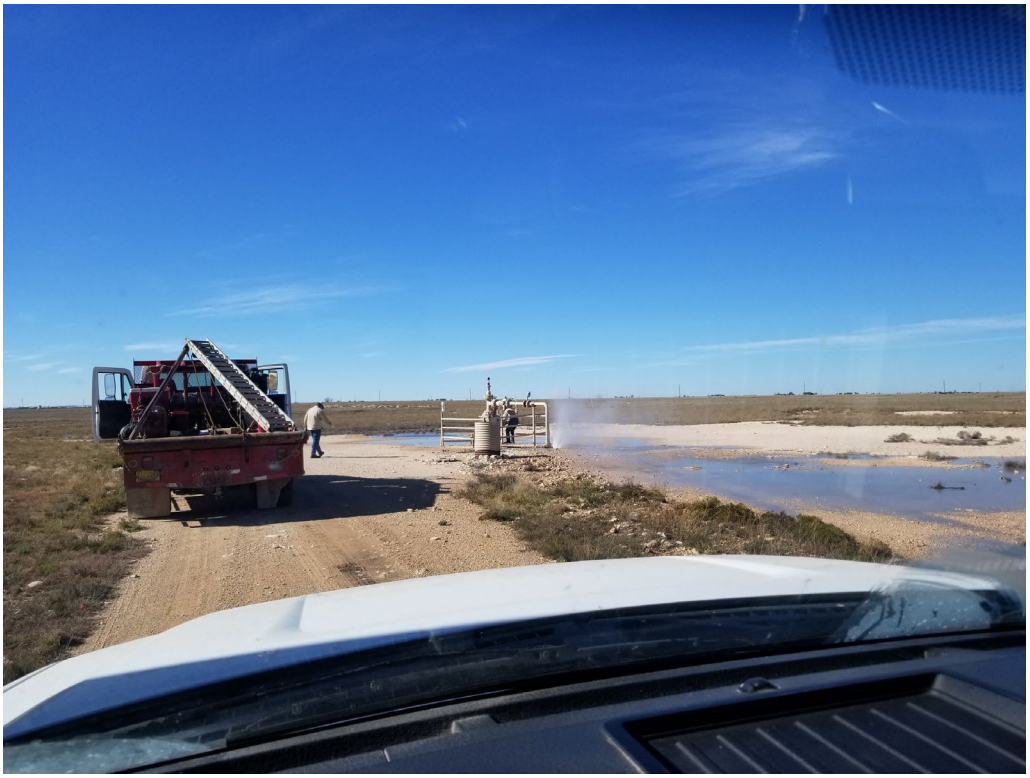
Trn #	Doc	File/Act	Status 1	Status 2	Transaction Desc.	From/ To	Acres	Diversion	Consumptive
get images 609129	72121	2017-07-07	PMT	LOG	L 14299 POD1	T		3	

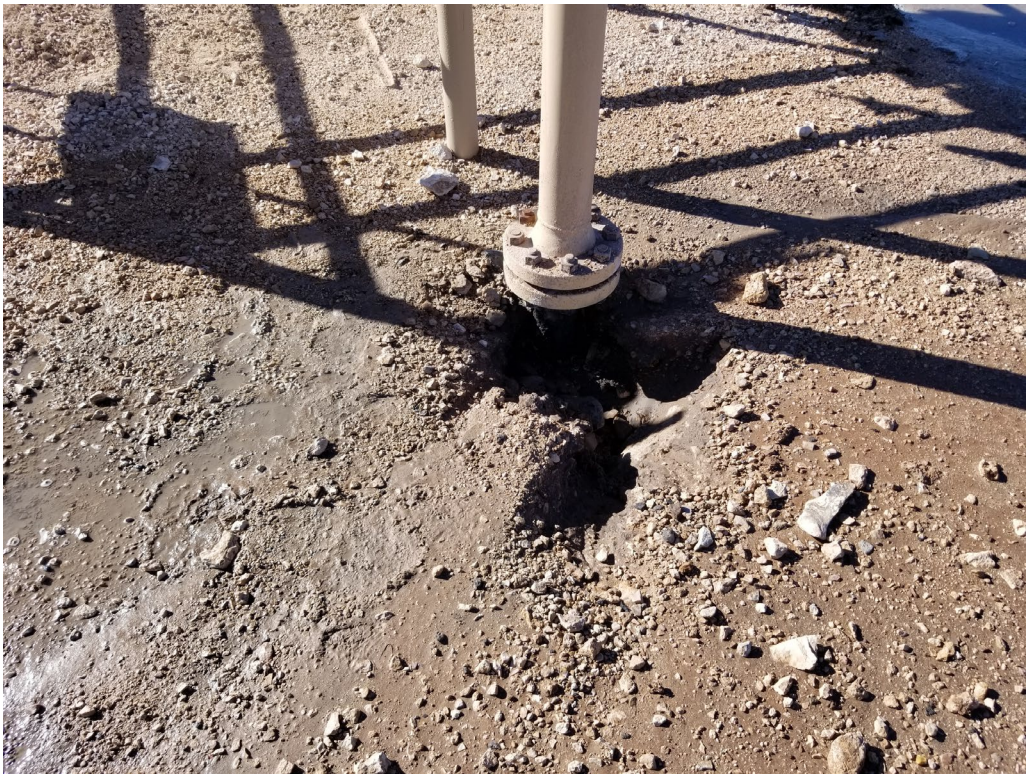
Current Points of Diversion

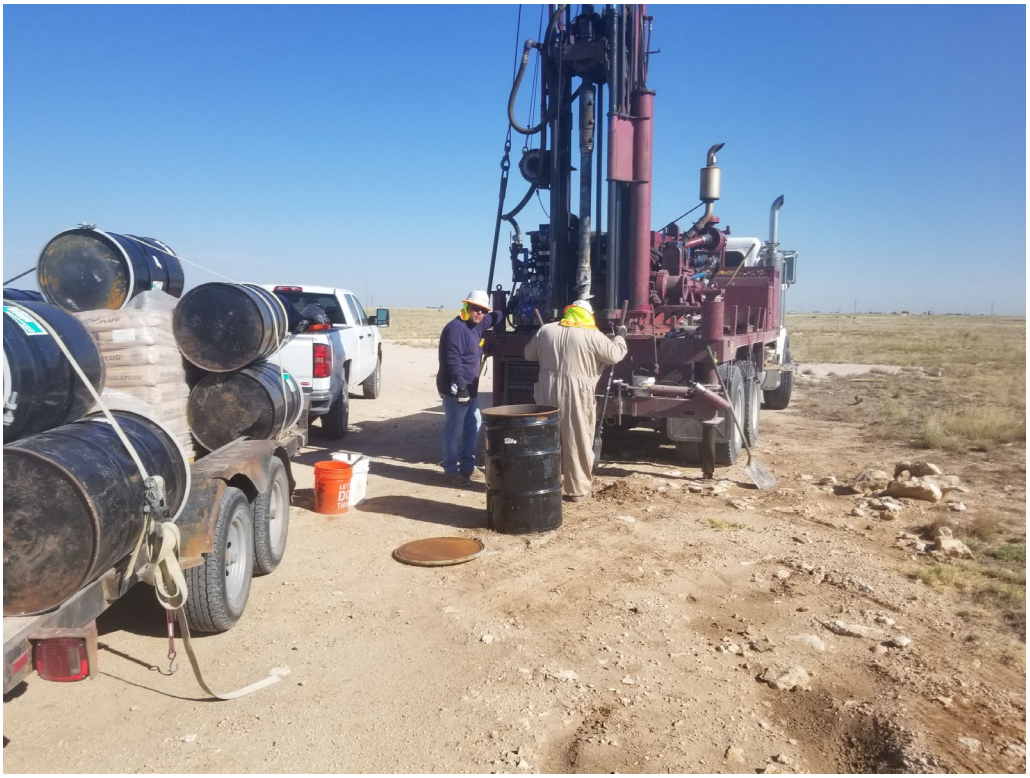
(NAD83 UTM in meters)

POD Number	Well Tag	Source	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Other Location Desc
L 14299 POD1		Shallow	3	3	3	11	15S	37E	670136	3655563	

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.







CARDINAL Laboratories

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

February 04, 2019

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: FAS-19-001

Enclosed are the results of analyses for samples received by the laboratory on 01/30/19 16:53.

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:	01/30/2019
Reported:	02/04/2019	Sampling Type:	Soil
Project Name:	FAS-19-001	Sampling Condition:	Cool & Intact
Project Number:	SWD #2	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: TT-1 SURFACE (H900346-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**30000**	16.0	02/02/2019	ND	416	104	400	3.77	

Sample ID: TT-1, 1' (H900346-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1810**	16.0	02/02/2019	ND	416	104	400	3.77	

Sample ID: TT-1, 2' (H900346-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**880**	16.0	02/02/2019	ND	416	104	400	3.77	

Sample ID: TT-2 SURFACE (H900346-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**41200**	16.0	02/02/2019	ND	416	104	400	3.77	

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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:	02/04/2019	Sampling Type:	Soil
Project Name:	FAS-19-001	Sampling Condition:	Cool & Intact
Project Number:	SWD #2	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: TT-2, 1' (H900346-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1090**	16.0	02/02/2019	ND	416	104	400	3.77	

Sample ID: TT-2A, 1' (H900346-06)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	02/02/2019	ND	416	104	400	0.00	

Sample ID: TT-2 A, 2' (H900346-07)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**608**	16.0	02/02/2019	ND	416	104	400	0.00	

Sample ID: TT-3 SURFACE (H900346-08)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**25600**	16.0	02/02/2019	ND	416	104	400	0.00	

Sample ID: TT-3, 1' (H900346-09)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1730**	16.0	02/02/2019	ND	416	104	400	0.00	

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

Received:	01/30/2019	Sampling Date:	01/30/2019
Reported:	02/04/2019	Sampling Type:	Soil
Project Name:	FAS-19-001	Sampling Condition:	Cool & Intact
Project Number:	SWD #2	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: TT-4 SURFACE (H900346-10)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	02/02/2019	ND	416	104	400	0.00	

Sample ID: TT-4 , 1' (H900346-11)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	02/02/2019	ND	416	104	400	0.00	

Sample ID: TT-4 , 2' (H900346-12)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**272**	16.0	02/02/2019	ND	416	104	400	0.00	

Sample ID: TT-5 SURFACE (H900346-13)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**656**	16.0	02/02/2019	ND	416	104	400	0.00	

Sample ID: TT-5 , 1' (H900346-14)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	02/02/2019	ND	416	104	400	0.00	

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Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

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

Received:	01/30/2019	Sampling Date:	01/30/2019
Reported:	02/04/2019	Sampling Type:	Soil
Project Name:	FAS-19-001	Sampling Condition:	Cool & Intact
Project Number:	SWD #2	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: TT-5, 3' (H900346-15)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1720**	16.0	02/02/2019	ND	416	104	400	0.00	

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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

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 2

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

		BILL TO	
Company Name:	Safety and Environmental Solutions	P.O. #:	
Project Manager:	Bob Allen	Company:	Same
Address:	703 East Clinton, PO Box 1613	Attn:	
City:	Hobbs State: NM Zip: 88240	Address:	
Phone #:	575 397-0510 Fax #: 575 393-4388	City:	
Project #:	FAS-19-001 Project Owner:	State: Zip:	
Project Name:	SWD #2	Phone #:	
Project Location:		Fax #:	
Sampler Name:	Bob Allen		

ANALYSIS REQUEST: Chloride

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	Chloride
H900346													2019		
1	TT-1 Surface		1			X					X		1/30	0900	X
2	TT-1, 1'													0915	
3	TT-1, 2'													0925	
4	TT-2, Surface													0935	
5	TT-2, 1'													0940	
6	TT-2A, 1'													0950	
7	TT-2A, 2'													~~1010~~	
8	TT-3 Surface													1010	
9	TT-3, 1'													1025	
10	~~TT-3 TT-4~~, Surface		1			X					X		1/30	1015	X

1024 AD

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Relinquished By:	Date: 1/30/19	Received By:	
	Time: 1302		
Relinquished By:	Date: 1/30/19	Received By:	
	Time: 16:53		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	3.8°C / #97	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: email: Jzaragoza@jsi-NM.com

Received by OCD: 1/17/2020 7:14:22 AM

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 2 of 2

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 #:	FNS-19-021 Project Owner:
Project Name:	SWD #2
Project Location:	
Sampler Name:	Bob Allen

BILL TO

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

ANALYSIS REQUEST

Chloride

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
H900346													2019	
11	TT-4, 1'		1			X					X		1/30	1045
12	TT-4, 2'		1											1050
13	TT-5, Surface		1											1057
14	TT-5, 1'		1											1100
15	TT-5, 3'		1			X					X		1/30	1105

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Relinquished By: B. Allen	Date: 1/30/19 Time: 1500	Received By:	
Relinquished By:	Date: 1/30/19 Time:	Received By: Jodi Henson	
Delivered By: (Circle One) Sampler - UPS - Bus - Other: 3.8°C / #97	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: email: JZaragoza@sesi-NM.com

Received by OCD: 1/17/2020 7:14:22 AM

CARDINAL Laboratories

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

July 24, 2019

Bob Allen

Safety & Environmental Solutions

703 East Clinton

Hobbs, NM 88240

RE: FAS-19-001

Enclosed are the results of analyses for samples received by the laboratory on 07/19/19 16:40.

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:	07/19/2019	Sampling Date:	07/18/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	FAS-19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LOVINGTON		

Sample ID: B - 1, SWD, 0-2' (H902501-01)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**544**	16.0	07/23/2019	ND	432	108	400	3.77	

Sample ID: B - 1, SWD, 5-7' (H902501-02)

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	07/23/2019	ND	416	104	400	0.00	

Sample ID: B - 1, SWD, 10-12' (H902501-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1070**	16.0	07/23/2019	ND	416	104	400	0.00	

Sample ID: B - 1, SWD, 15-17' (H902501-04)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**608**	16.0	07/23/2019	ND	416	104	400	0.00	

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Analytical Results For:

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

Received:	07/19/2019	Sampling Date:	07/18/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	FAS-19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LOVINGTON		

Sample ID: B - 1, SWD, 20-22' (H902501-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**320**	16.0	07/23/2019	ND	416	104	400	0.00	

Sample ID: B - 2, SWD, 0-2' (H902501-06)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1410**	16.0	07/23/2019	ND	416	104	400	0.00	

Sample ID: B - 2, SWD, 5-7' (H902501-07)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**368**	16.0	07/23/2019	ND	416	104	400	0.00	

Sample ID: B - 2, SWD, 10-12' (H902501-08)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**256**	16.0	07/23/2019	ND	416	104	400	0.00	

Sample ID: B - 2, SWD, 15-17' (H902501-09)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	07/23/2019	ND	416	104	400	0.00	

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Analytical Results For:

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

Received:	07/19/2019	Sampling Date:	07/18/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	FAS-19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LOVINGTON		

Sample ID: B - 2, SWD, 20-22' (H902501-10)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	07/23/2019	ND	416	104	400	0.00	

Sample ID: B - 3, SWD, 0-2' (H902501-11)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**448**	16.0	07/23/2019	ND	416	104	400	0.00	

Sample ID: B - 3, SWD, 5-7' (H902501-12)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	07/23/2019	ND	416	104	400	0.00	

Sample ID: B - 3, SWD, 10-12' (H902501-13)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**128**	16.0	07/23/2019	ND	416	104	400	0.00	

Sample ID: B - 3, SWD, 15-17' (H902501-14)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**272**	16.0	07/23/2019	ND	416	104	400	0.00	

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	07/19/2019	Sampling Date:	07/18/2019
Reported:	07/24/2019	Sampling Type:	Soil
Project Name:	FAS-19-001	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	LOVINGTON		

Sample ID: B - 3, SWD, 20-22' (H902501-15)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**112**	16.0	07/23/2019	ND	416	104	400	0.00	

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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

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 2

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

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

ANALYSIS REQUEST: Chlorides

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	
H902501													2019		
1	B-1 SWD, 0-2'	G	1			X					X		7/18	0855	X
2	" " 5-7'	"	"			"					"		"	0902	"
3	" " 10-12'	"	"			"					"		"	0908	"
4	" " 15-17'	"	"			"					"		"	0912	"
5	B-1, SWD, 20-22'	"	"			"					"		"	0914	"
6	B-2, SWD, 0-2'	"	"			"					"		"	0950	"
7	" " 5-7'	"	"			"					"		"	0954	"
8	" " 10-12'	"	"			"					"		"	0958	"
9	" " 15-17'	"	"			"					"		"	1001	"
10	B-2, SWD, 20-22'	G	1			X					X		7/18	1010	X

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Relinquished By: Radia Boyer	Date: 7/19/19 Time: 16:40	Received By: Tamara Oldaker	
Relinquished By:	Date: Time:	Received By:	
Delivered By: (Circle One) 3.6c #97	Sample Condition Cool: Yes / No Intact: Yes / No	CHECKED BY: (Initials) T.O.	
Sampler - UPS - Bus - Other: Corrected 4.0c			

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

Received by OCD: 1/17/2020 7:14:22 AM

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CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 2 of 2

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 #:	FAS-19-001	Project Owner:	City:
Project Name:			State: Zip:
Project Location:	LOVINGTON		Phone #:
Sampler Name:	DAVID ROYER		Fax #:

ANALYSIS REQUEST: Chlorides

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	Chlorides
H902501													7/19		
11	B-3, SW @ 0-2'	G	1			X					X		7/18	1038	X
12	" " 5-7'	"	"			"					"		"	1042	"
13	" " 10-12'	"	"			"					"		"	1047	"
14	" " 15-17'	"	"			"					"		"	1051	"
15	B-3, SW @ 20-22'	G	1			X					X		7/18	1055	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 consequental 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: 7/19/19	Received By:	
	Time: 16:40		
Relinquished By:	Date:	Received By:	
	Time:		
Delivered By: (Circle One)	3.6° #97	Sample Condition: Cool Yes / No; Intact Yes / No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Corrected 4.0°		T.O.

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

Received by OCD: 1/17/2020 7:14:22 AM

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 08, 2019

Bob Allen
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 397-0510
FAX (575) 393-4388

RE: Faskin SWD 2 OrderNo.: 1911010

Dear Bob Allen:

Hall Environmental Analysis Laboratory received 11 sample(s) on 11/1/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-1 Surface
Project: Faskin SWD 2
Collection Date: 10/31/2019 9:30:00 AM
Lab ID: 1911010-001 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	980	59		mg/Kg	20	11/5/2019 7:08:16 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	41	9.4		mg/Kg	1	11/6/2019 8:55:32 PM	48573
Motor Oil Range Organics (MRO)	89	47		mg/Kg	1	11/6/2019 8:55:32 PM	48573
Surr: DNOP	101	70-130		%Rec	1	11/6/2019 8:55:32 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.6		mg/Kg	1	11/5/2019 3:34:54 AM	48548
Surr: BFB	98.5	77.4-118		%Rec	1	11/5/2019 3:34:54 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.023		mg/Kg	1	11/5/2019 3:34:54 AM	48548
Toluene	ND	0.046		mg/Kg	1	11/5/2019 3:34:54 AM	48548
Ethylbenzene	ND	0.046		mg/Kg	1	11/5/2019 3:34:54 AM	48548
Xylenes, Total	ND	0.092		mg/Kg	1	11/5/2019 3:34:54 AM	48548
Surr: 4-Bromofluorobenzene	103	80-120		%Rec	1	11/5/2019 3:34:54 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-2 Surface
Project: Faskin SWD 2
Collection Date: 10/31/2019 9:45:00 AM
Lab ID: 1911010-002 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	1800	60		mg/Kg	20	11/5/2019 7:20:36 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	73	9.7		mg/Kg	1	11/6/2019 9:19:37 PM	48573
Motor Oil Range Organics (MRO)	150	48		mg/Kg	1	11/6/2019 9:19:37 PM	48573
Surr: DNOP	107	70-130		%Rec	1	11/6/2019 9:19:37 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/5/2019 3:58:28 AM	48548
Surr: BFB	93.1	77.4-118		%Rec	1	11/5/2019 3:58:28 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	11/5/2019 3:58:28 AM	48548
Toluene	ND	0.047		mg/Kg	1	11/5/2019 3:58:28 AM	48548
Ethylbenzene	ND	0.047		mg/Kg	1	11/5/2019 3:58:28 AM	48548
Xylenes, Total	ND	0.095		mg/Kg	1	11/5/2019 3:58:28 AM	48548
Surr: 4-Bromofluorobenzene	98.1	80-120		%Rec	1	11/5/2019 3:58:28 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: SP-3 Surface
Project: Faskin SWD 2
Collection Date: 10/31/2019 10:05:00 AM
Lab ID: 1911010-003 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	1800	60		mg/Kg	20	11/5/2019 7:32:57 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	73	9.6		mg/Kg	1	11/6/2019 9:43:31 PM	48573
Motor Oil Range Organics (MRO)	170	48		mg/Kg	1	11/6/2019 9:43:31 PM	48573
Surr: DNOP	104	70-130		%Rec	1	11/6/2019 9:43:31 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/5/2019 4:22:01 AM	48548
Surr: BFB	93.2	77.4-118		%Rec	1	11/5/2019 4:22:01 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	11/5/2019 4:22:01 AM	48548
Toluene	ND	0.048		mg/Kg	1	11/5/2019 4:22:01 AM	48548
Ethylbenzene	ND	0.048		mg/Kg	1	11/5/2019 4:22:01 AM	48548
Xylenes, Total	ND	0.096		mg/Kg	1	11/5/2019 4:22:01 AM	48548
Surr: 4-Bromofluorobenzene	98.3	80-120		%Rec	1	11/5/2019 4:22:01 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: TT-3 1.5Ft
Project: Faskin SWD 2
Collection Date: 10/31/2019 12:25:00 PM
Lab ID: 1911010-004 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	270	60		mg/Kg	20	11/5/2019 7:45:17 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	170	99		mg/Kg	10	11/5/2019 7:51:08 PM	48573
Motor Oil Range Organics (MRO)	550	500		mg/Kg	10	11/5/2019 7:51:08 PM	48573
Surr: DNOP	0	70-130	S	%Rec	10	11/5/2019 7:51:08 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/5/2019 1:41:06 AM	48548
Surr: BFB	93.7	77.4-118		%Rec	1	11/5/2019 1:41:06 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.025		mg/Kg	1	11/5/2019 1:41:06 AM	48548
Toluene	ND	0.049		mg/Kg	1	11/5/2019 1:41:06 AM	48548
Ethylbenzene	ND	0.049		mg/Kg	1	11/5/2019 1:41:06 AM	48548
Xylenes, Total	ND	0.099		mg/Kg	1	11/5/2019 1:41:06 AM	48548
Surr: 4-Bromofluorobenzene	87.1	80-120		%Rec	1	11/5/2019 1:41:06 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: TT-5 1.5Ft
Project: Faskin SWD 2
Collection Date: 10/31/2019 12:45:00 PM
Lab ID: 1911010-005 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	580	60		mg/Kg	20	11/5/2019 7:57:37 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	37	9.6		mg/Kg	1	11/6/2019 10:07:32 PM	48573
Motor Oil Range Organics (MRO)	220	48		mg/Kg	1	11/6/2019 10:07:32 PM	48573
Surr: DNOP	122	70-130		%Rec	1	11/6/2019 10:07:32 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/5/2019 2:04:01 AM	48548
Surr: BFB	95.6	77.4-118		%Rec	1	11/5/2019 2:04:01 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/5/2019 2:04:01 AM	48548
Toluene	ND	0.047		mg/Kg	1	11/5/2019 2:04:01 AM	48548
Ethylbenzene	ND	0.047		mg/Kg	1	11/5/2019 2:04:01 AM	48548
Xylenes, Total	ND	0.095		mg/Kg	1	11/5/2019 2:04:01 AM	48548
Surr: 4-Bromofluorobenzene	89.5	80-120		%Rec	1	11/5/2019 2:04:01 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: TT-6 Surface
Project: Faskin SWD 2
Collection Date: 10/31/2019 1:30:00 PM
Lab ID: 1911010-006 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	11/5/2019 8:09:58 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	11/5/2019 8:09:36 PM	48573
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	11/5/2019 8:09:36 PM	48573
Surr: DNOP	85.1	70-130		%Rec	1	11/5/2019 8:09:36 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/5/2019 2:26:56 AM	48548
Surr: BFB	96.2	77.4-118		%Rec	1	11/5/2019 2:26:56 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/5/2019 2:26:56 AM	48548
Toluene	ND	0.047		mg/Kg	1	11/5/2019 2:26:56 AM	48548
Ethylbenzene	ND	0.047		mg/Kg	1	11/5/2019 2:26:56 AM	48548
Xylenes, Total	ND	0.095		mg/Kg	1	11/5/2019 2:26:56 AM	48548
Surr: 4-Bromofluorobenzene	89.9	80-120		%Rec	1	11/5/2019 2:26:56 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: TT-6 1Ft
Project: Faskin SWD 2
Collection Date: 10/31/2019 1:35:00 PM
Lab ID: 1911010-007 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	370	60		mg/Kg	20	11/5/2019 8:22:19 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	11/5/2019 8:18:48 PM	48573
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	11/5/2019 8:18:48 PM	48573
Surr: DNOP	87.1	70-130		%Rec	1	11/5/2019 8:18:48 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/5/2019 2:49:51 AM	48548
Surr: BFB	97.8	77.4-118		%Rec	1	11/5/2019 2:49:51 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	11/5/2019 2:49:51 AM	48548
Toluene	ND	0.049		mg/Kg	1	11/5/2019 2:49:51 AM	48548
Ethylbenzene	ND	0.049		mg/Kg	1	11/5/2019 2:49:51 AM	48548
Xylenes, Total	ND	0.097		mg/Kg	1	11/5/2019 2:49:51 AM	48548
Surr: 4-Bromofluorobenzene	92.2	80-120		%Rec	1	11/5/2019 2:49:51 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: TT-7 Surface
Project: Faskin SWD 2
Collection Date: 10/31/2019 1:45:00 PM
Lab ID: 1911010-008 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	11/5/2019 8:59:21 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	25	9.4		mg/Kg	1	11/6/2019 10:55:27 PM	48573
Motor Oil Range Organics (MRO)	90	47		mg/Kg	1	11/6/2019 10:55:27 PM	48573
Surr: DNOP	92.3	70-130		%Rec	1	11/6/2019 10:55:27 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	11/5/2019 3:12:43 AM	48548
Surr: BFB	93.3	77.4-118		%Rec	1	11/5/2019 3:12:43 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/5/2019 3:12:43 AM	48548
Toluene	ND	0.047		mg/Kg	1	11/5/2019 3:12:43 AM	48548
Ethylbenzene	ND	0.047		mg/Kg	1	11/5/2019 3:12:43 AM	48548
Xylenes, Total	ND	0.095		mg/Kg	1	11/5/2019 3:12:43 AM	48548
Surr: 4-Bromofluorobenzene	87.6	80-120		%Rec	1	11/5/2019 3:12:43 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: TT-7 1Ft
Project: Faskin SWD 2
Collection Date: 10/31/2019 1:50:00 PM
Lab ID: 1911010-009 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	330	60		mg/Kg	20	11/5/2019 9:11:42 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	15	9.3		mg/Kg	1	11/6/2019 11:19:22 PM	48573
Motor Oil Range Organics (MRO)	47	46		mg/Kg	1	11/6/2019 11:19:22 PM	48573
Surr: DNOP	92.0	70-130		%Rec	1	11/6/2019 11:19:22 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	11/5/2019 3:35:34 AM	48548
Surr: BFB	95.2	77.4-118		%Rec	1	11/5/2019 3:35:34 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	11/5/2019 3:35:34 AM	48548
Toluene	ND	0.049		mg/Kg	1	11/5/2019 3:35:34 AM	48548
Ethylbenzene	ND	0.049		mg/Kg	1	11/5/2019 3:35:34 AM	48548
Xylenes, Total	ND	0.099		mg/Kg	1	11/5/2019 3:35:34 AM	48548
Surr: 4-Bromofluorobenzene	90.0	80-120		%Rec	1	11/5/2019 3:35:34 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: TT-8 Surface
Project: Faskin SWD 2
Collection Date: 10/31/2019 1:55:00 PM
Lab ID: 1911010-010 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Chloride	ND	60		mg/Kg	20	11/5/2019 9:24:02 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **BRM**	
Diesel Range Organics (DRO)	15	9.4		mg/Kg	1	11/6/2019 11:43:23 PM	48573
Motor Oil Range Organics (MRO)	63	47		mg/Kg	1	11/6/2019 11:43:23 PM	48573
Surr: DNOP	99.4	70-130		%Rec	1	11/6/2019 11:43:23 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/5/2019 9:59:08 AM	48548
Surr: BFB	101	77.4-118		%Rec	1	11/5/2019 9:59:08 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	11/5/2019 9:59:08 AM	48548
Toluene	ND	0.048		mg/Kg	1	11/5/2019 9:59:08 AM	48548
Ethylbenzene	ND	0.048		mg/Kg	1	11/5/2019 9:59:08 AM	48548
Xylenes, Total	ND	0.095		mg/Kg	1	11/5/2019 9:59:08 AM	48548
Surr: 4-Bromofluorobenzene	105	80-120		%Rec	1	11/5/2019 9:59:08 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

Analytical Report
Lab Order **1911010**
Date Reported: **11/8/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: TT-8 1Ft
Project: Faskin SWD 2
Collection Date: 10/31/2019 2:05:00 PM
Lab ID: 1911010-011 **Matrix:** SOIL **Received Date:** 11/1/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Chloride	260	60		mg/Kg	20	11/5/2019 9:36:23 PM	48597
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst:	**BRM**
Diesel Range Organics (DRO)	160	96		mg/Kg	10	11/5/2019 8:55:32 PM	48573
Motor Oil Range Organics (MRO)	560	480		mg/Kg	10	11/5/2019 8:55:32 PM	48573
Surr: DNOP	0	70-130	S	%Rec	10	11/5/2019 8:55:32 PM	48573
EPA METHOD 8015D: GASOLINE RANGE						Analyst:	**NSB**
Gasoline Range Organics (GRO)	ND	4.8		mg/Kg	1	11/5/2019 10:22:53 AM	48548
Surr: BFB	97.6	77.4-118		%Rec	1	11/5/2019 10:22:53 AM	48548
EPA METHOD 8021B: VOLATILES						Analyst:	**NSB**
Benzene	ND	0.024		mg/Kg	1	11/5/2019 10:22:53 AM	48548
Toluene	ND	0.048		mg/Kg	1	11/5/2019 10:22:53 AM	48548
Ethylbenzene	ND	0.048		mg/Kg	1	11/5/2019 10:22:53 AM	48548
Xylenes, Total	ND	0.097		mg/Kg	1	11/5/2019 10:22:53 AM	48548
Surr: 4-Bromofluorobenzene	98.1	80-120		%Rec	1	11/5/2019 10:22:53 AM	48548

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911010**

08-Nov-19

Client: Safety & Environmental Solutions

Project: Faskin SWD 2

Sample ID: **MB-48597**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBS**	Batch ID: **48597**	RunNo: **64258**
Prep Date: **11/5/2019**	Analysis Date: **11/5/2019**	SeqNo: **2199039** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-48597**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSS**	Batch ID: **48597**	RunNo: **64258**
Prep Date: **11/5/2019**	Analysis Date: **11/5/2019**	SeqNo: **2199040** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	98.3	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911010**

08-Nov-19

Client: Safety & Environmental Solutions

Project: Faskin SWD 2

Sample ID: **LCS-48544** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **48544** RunNo: **64236**

Prep Date: **11/1/2019** Analysis Date: **11/5/2019** SeqNo: **2198276** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	4.6		5.000		91.7	70	130			

Sample ID: **MB-48544** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **48544** RunNo: **64236**

Prep Date: **11/1/2019** Analysis Date: **11/5/2019** SeqNo: **2198277** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: DNOP	10		10.00		99.5	70	130			

Sample ID: **LCS-48573** SampType: **LCS** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **LCSS** Batch ID: **48573** RunNo: **64236**

Prep Date: **11/4/2019** Analysis Date: **11/5/2019** SeqNo: **2199139** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.7	63.9	124			
Surr: DNOP	2.8		5.000		56.6	70	130			S

Sample ID: **MB-48573** SampType: **MBLK** TestCode: **EPA Method 8015M/D: Diesel Range Organics**

Client ID: **PBS** Batch ID: **48573** RunNo: **64236**

Prep Date: **11/4/2019** Analysis Date: **11/5/2019** SeqNo: **2199141** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	7.1		10.00		71.1	70	130			

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 Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1911010**

08-Nov-19

Client: Safety & Environmental Solutions

Project: Faskin SWD 2

Sample ID: **RB**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **G64209**	RunNo: **64209**							
Prep Date:	Analysis Date: **11/4/2019**	SeqNo: **2197088**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		102	77.4	118			

Sample ID: **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **G64209**	RunNo: **64209**							
Prep Date:	Analysis Date: **11/4/2019**	SeqNo: **2197089**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		114	77.4	118			

Sample ID: **MB-48548**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **48548**	RunNo: **64208**							
Prep Date: **11/1/2019**	Analysis Date: **11/4/2019**	SeqNo: **2197177**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		93.3	77.4	118			

Sample ID: **LCS-48548**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **48548**	RunNo: **64208**							
Prep Date: **11/1/2019**	Analysis Date: **11/4/2019**	SeqNo: **2197179**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	91.2	80	120			
Surr: BFB	1100		1000		106	77.4	118			

Sample ID: **MB-48579**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **PBS**	Batch ID: **48579**	RunNo: **64244**							
Prep Date: **11/4/2019**	Analysis Date: **11/5/2019**	SeqNo: **2198527**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1000		1000		103	77.4	118			

Sample ID: **LCS-48579**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**							
Client ID: **LCSS**	Batch ID: **48579**	RunNo: **64244**							
Prep Date: **11/4/2019**	Analysis Date: **11/5/2019**	SeqNo: **2198528**	Units: **%Rec**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1100		1000		106	77.4	118			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1911010**
08-Nov-19

Client: Safety & Environmental Solutions
Project: Faskin SWD 2

Sample ID: **MB-48548** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **48548** RunNo: **64208**
Prep Date: **11/1/2019** Analysis Date: **11/4/2019** SeqNo: **2197220** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.97		1.000		97.0	80	120			

Sample ID: **LCS-48548** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **48548** RunNo: **64208**
Prep Date: **11/1/2019** Analysis Date: **11/4/2019** SeqNo: **2197221** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	100	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.0	0.050	1.000	0	101	80	120			
Xylenes, Total	3.1	0.10	3.000	0	102	80	120			
Surr: 4-Bromofluorobenzene	0.99		1.000		99.2	80	120			

Sample ID: **MB-48579** SampType: **MBLK** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBS** Batch ID: **48579** RunNo: **64244**
Prep Date: **11/4/2019** Analysis Date: **11/5/2019** SeqNo: **2198574** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120			

Sample ID: **LCS-48579** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSS** Batch ID: **48579** RunNo: **64244**
Prep Date: **11/4/2019** Analysis Date: **11/5/2019** SeqNo: **2198575** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	1.1		1.000		109	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: **Safety Env Solutions** Work Order Number: **1911010** RcptNo: **1**

Received By: Juan Rojas **11/1/2019 9:00:00 AM**

Completed By: **Erin Melendrez** **11/1/2019 10:36:01 AM**

Reviewed By: DAD 11/1/19

Chain of Custody

1. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
2. How was the sample delivered? Courier

Log In

3. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
5. Sample(s) in proper container(s)? Yes ☑ No ☐
6. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
7. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
8. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
9. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
13. Is it clear what analyses were requested? Yes ☑ No ☐
14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: ENM 11/1/19

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.6	Good	Yes			

Chain-of-Custody Record

Client: Safety + Environmental Solution

Mailing Address: 703 E. Clinton Hobbs N.M 88240

Phone #: 575-397-0510

email or Fax#:

QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
5 Day Rush
☐ Standard ☐ Rush

Project Name: FASKIN SWD #2

Project #: FAS-19-001

Project Manager: Allen Bob

Sampler: Son Jay

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.8-0.2=2.6

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1911010	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chlorides
10/31	0930	S	SP-1 Surface	1	Cool	-001	X	X									X
	0945	S	SP-2 Surface	1		-002											
	1005	S	SP-3 Surface	1		-003											
	1225	S	TT-3 1.5ft	1		-004											
	1245	S	TT-5 1.5ft	1		-005											
	1330	S	TT-6 Surface	1		-006											
	1335	S	TT-6 1ft	1		-007											
	1345	S	TT-7 Surface	1		-008											
	1350	S	TT-7 1ft	1		-009											
	1355	S	TT-8 Surface	1		-010											
10/31	1405	S	TT-8 1ft	1		-011	X	X									X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/31/19	1500	Son Jay			10/31/19	1600 ~~1500~~
10/31/19	1900			carrier	11/1/19	9:00

Remarks:

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Received by OCD: 1/17/2020 7:14:22 AM