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	NVF1905937101
District RP	
Facility ID	
Application ID	

Release Notification

NMOCD
MAY 22 2019
DISTRICT III

Responsible Party

Responsible Party Hilcorp Energy Company	OGRID 372171
Contact Name Jennifer Deal	Contact Telephone 505-801-6517
Contact email jdeal@hilcorp.com	Incident # NVF1905937101
Contact mailing address 382 Road 3100, Aztec NM 87410	

Location of Release Source

Latitude 36.8070183 Longitude -107.8778305
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Sunray B 1F	Site Type Gas Well
Date Release Discovered 2/28/2019 @ 7:00am	API# *30-045-344^'*

Unit Letter	Section	Township	Range	County
M	15	30N	10W	San Juan

DENIED
BY: Cory Smith See Email
DATE: 6/20/19 (505) 334-6178 Ext. 115

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls) 20	Volume Recovered (bbls) 0
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release
A release of 20.04bbls of oil/condensate was released due to corrosion on bottom of the tank. When operator was gauging tank, he noticed a drop in tank level from previous month. There was a trace of condensate on the liner and under the snow. There are no visible leaks on the side of the tank. Nothing was recovered. Tank was taken out of service. Release remained inside the berm.

35

Smith, Cory, EMNRD

From: Smith, Cory, EMNRD
Sent: Thursday, June 20, 2019 2:37 PM
To: 'Jennifer Deal'
Subject: RE: Final C-141 & Report - Sunray B 1F

Jennifer,

OCD has reviewed the Closure report for the below incident and has denied it for the following:

- Depth To water determination is insufficient (Operator may not reference another permit for water information. Operator Can use that data however needs to be included packet)
- Site diagram does not meet the requirements of 19.15.29 NMAC (Needs to show the area of impacts)
- No notice of sampling included in report.
- No Executive summary
- Sample size does not meet the requirements of 19.15.29.12 NMAC was HEC given approval for alternative sampling size? If so when and by whom.

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

From: Jennifer Deal <jdeal@hilcorp.com>
Sent: Tuesday, May 21, 2019 8:45 AM
To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Griswold, Jim, EMNRD <Jim.Griswold@state.nm.us>; Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>; 'Adeloye, Abiodun' <aadeloye@blm.gov>; whitney thomas (l1thomas@blm.gov) <l1thomas@blm.gov>
Subject: [EXT] Final C-141 & Report - Sunray B 1F

Good morning,

Please find attached the final C-141 and Report for the Sunray B 1F. A paper copy will be sent out today. Let me know if you have any questions.

Thank you,

Jennifer Deal
Environmental Specialist
Hilcorp Energy – L48 West
jdeal@hilcorp.com
382 Road 3100
Aztec, NM 87410
Office: (505) 324-5128
Cell: (505) 801-6517

State of New Mexico
Oil Conservation Division

Incident ID	NVF1905937101
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?	>50 (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	NVF1905937101
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: Jennifer Deal Title: Environmental Specialist

Signature: Jennifer Deal Date: 5/21/2019

email: jdeal@hilcorp.com Telephone: (505) 324-5128

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NVF1905937101
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Jennifer Deal Title: Environmental Specialist

Signature: Jennifer Deal Date: 5/21/2019

email: jdeal@hilcorp.com Telephone: 505-801-6517

OCD Only

Received by: OCD Date: 5/22/19

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.

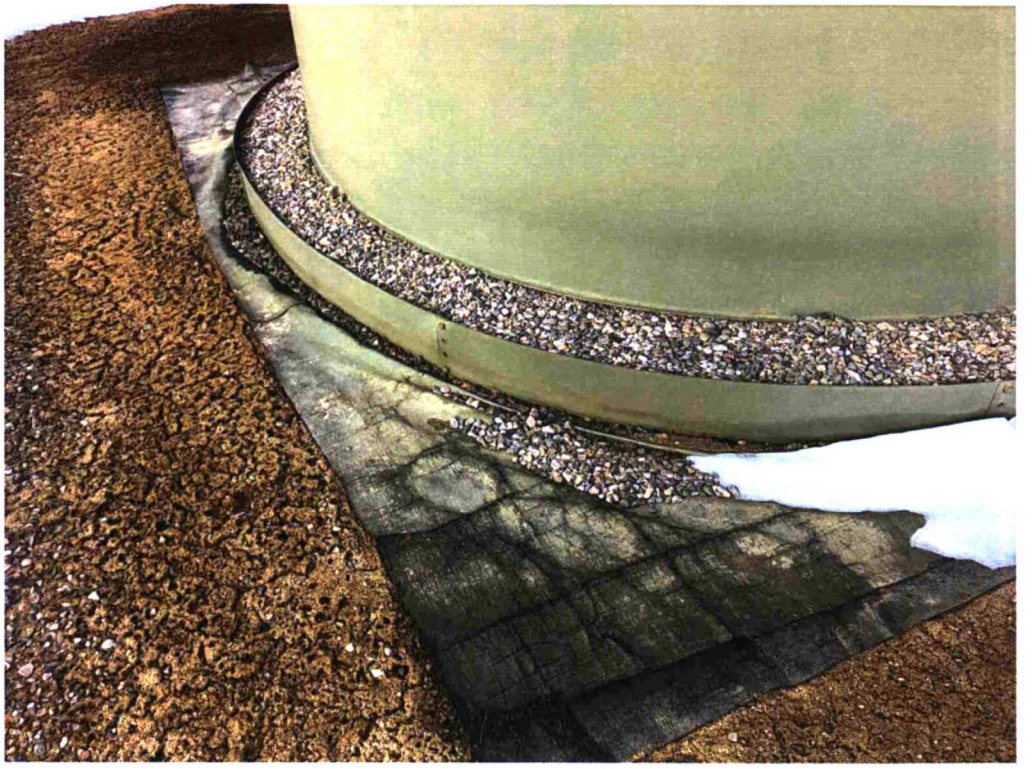
Closure Approved by: Date:

Printed Name: Title:

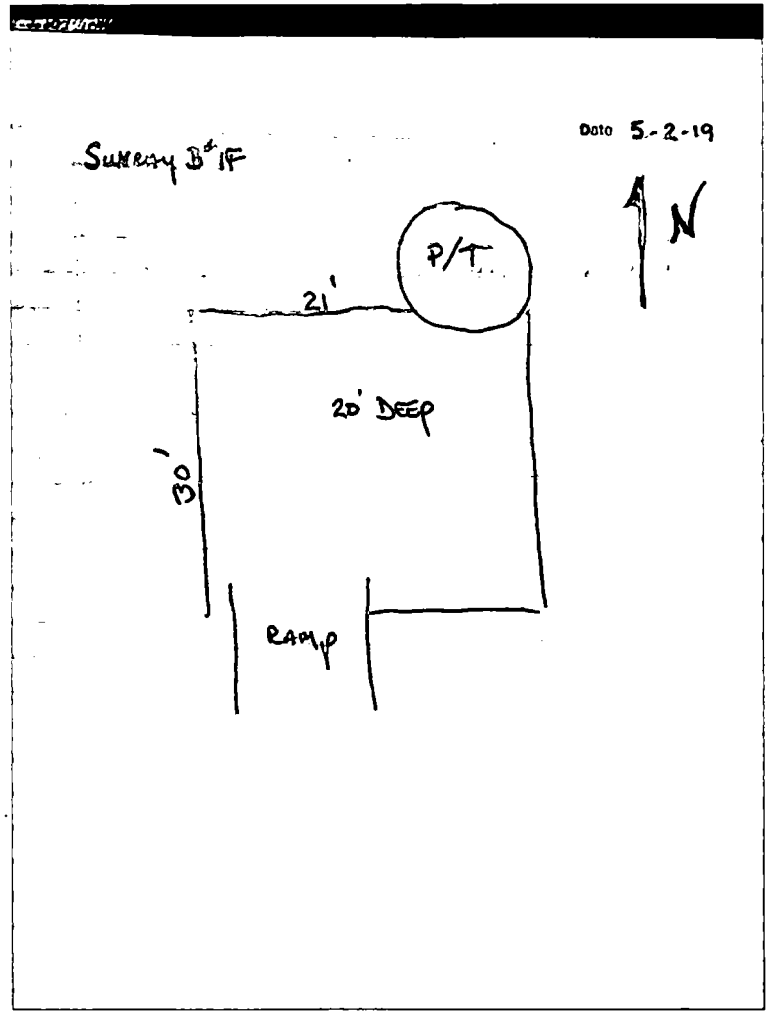
Scaled Map

N

Photographs – 2/28/19 Release Event



Field Data



Data table of soil contaminant concentration data

TABLE 1

SOIL ANALYTICAL RESULTS

SUNRAY B 1F

HILCORP ENERGY - L48 WEST

Soil Sample Identification	Sample Date	Field Headspace	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes	Total BTEX	Chlorides (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	MRO+DRO (mg/kg)	TPH (mg/kg)
Base	5/2/2019		<0.000505	<0.00505	<0.000505	<0.00152	<0.00505	<10	<0.100	<4.0	<4.0	<4.0	<4.0
W. Wall	5/2/2019		<0.0005	<0.005	<0.0005	<0.0015	<0.005	<10	<0.100	<4.0	<4.0	<4.0	<4.0
S. Wall	5/2/2019		<0.0005	<0.005	<0.0005	<0.0015	<0.005	<10	<0.100	<4.0	<4.0	<4.0	<4.0
N. Wall	5/2/2019		<0.0005	<0.005	<0.0005	<0.0015	<0.005	<10	<0.100	<4.0	<4.0	<4.0	<4.0
E. Wall	5/2/2019		<0.0005	<0.005	<0.0005	<0.0015	<0.005	<10	<0.100	<4.0	<4.0	<4.0	<4.0
NMOCD Standards		NE	10	NE	NE	NE	50	10,000	NE	NE	NE	1,000	2,500

Depth to water determination

New Mexico Office of the State Engineer

Water Column/Average Depth to Water

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

No records found.

PLSS Search:

Section(s): 15, 16, 21, 22 **Township:** 30N **Range:** 10W

Ground Water Depth

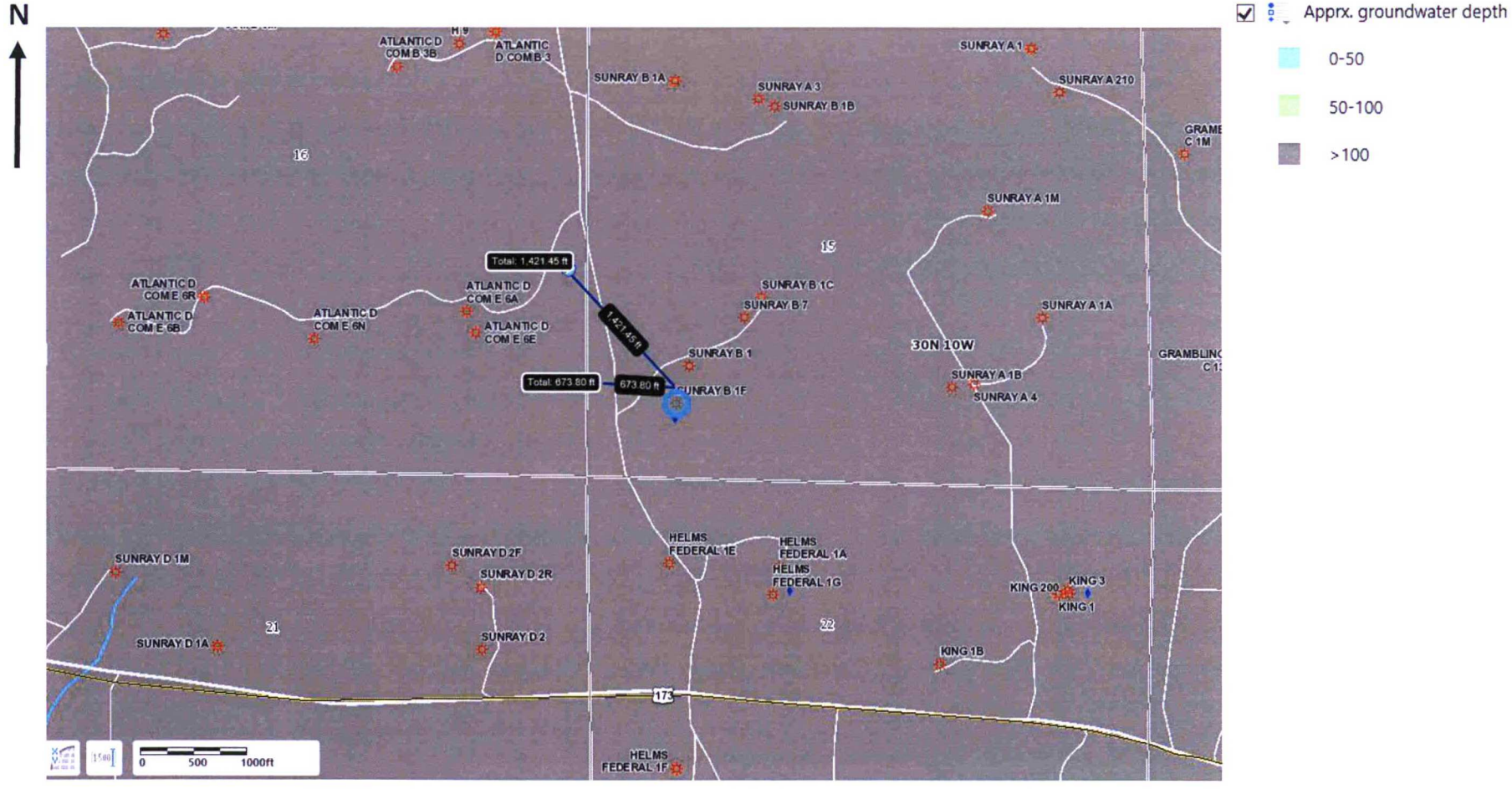
- No depth to ground water data found
- OCD website shows temporary pit closure with closure standards of 2500mg/kg for TPH.

8. **A five point composite sample will be taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.13(B)(1)(b). In the event that the criteria are not met, all contents will be handled per Subparagraph (a) of Paragraph (1) of Subsection B of 19.15.17.13 i.e., Dig and haul.**

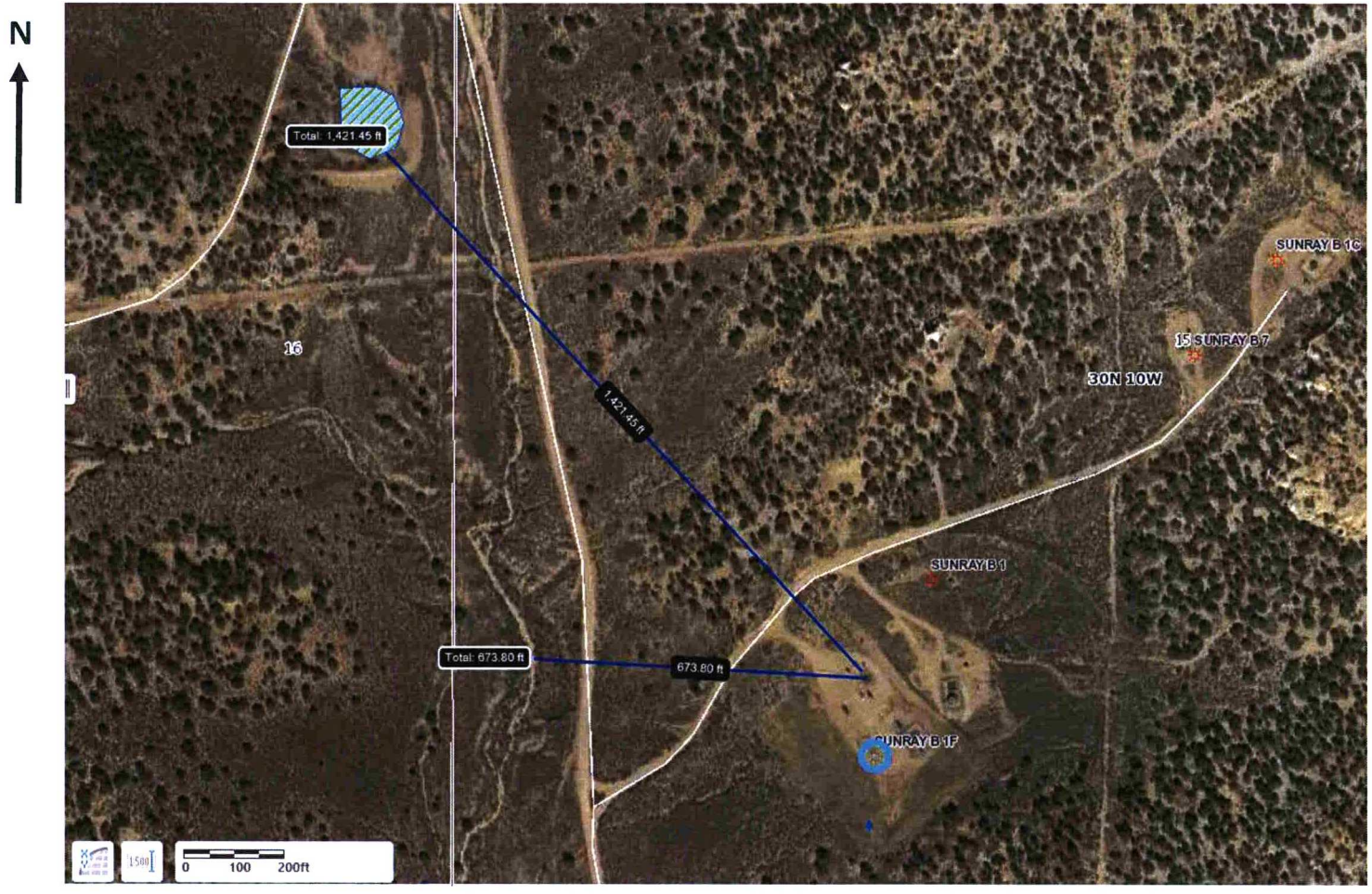
A five point composite sample was taken of the pit using sampling tools and all samples tested per Subsection B of 19.15.17.1 3(B)(1)(b). (Sample results attached).

Components	Tests Method	Limit (mg/Kg)	Results
Benzene	EPA SW-846 8021B or 8260B	0.2	.9 ug/kg
BTEX	EPA SW-846 8021B or 8260B	50	14.3 ug/kG
TPH	EPA SW-846 418.1	2500	504 mg/kg
GRO/DRO	EPA SW-846 8015M	500	ND mg/Kg
Chlorides	EPA 300.1	~~1000~~/500	24.5 mg/L

Determination of water sources and significant watercourses within ½ mile of the lateral extent of the release



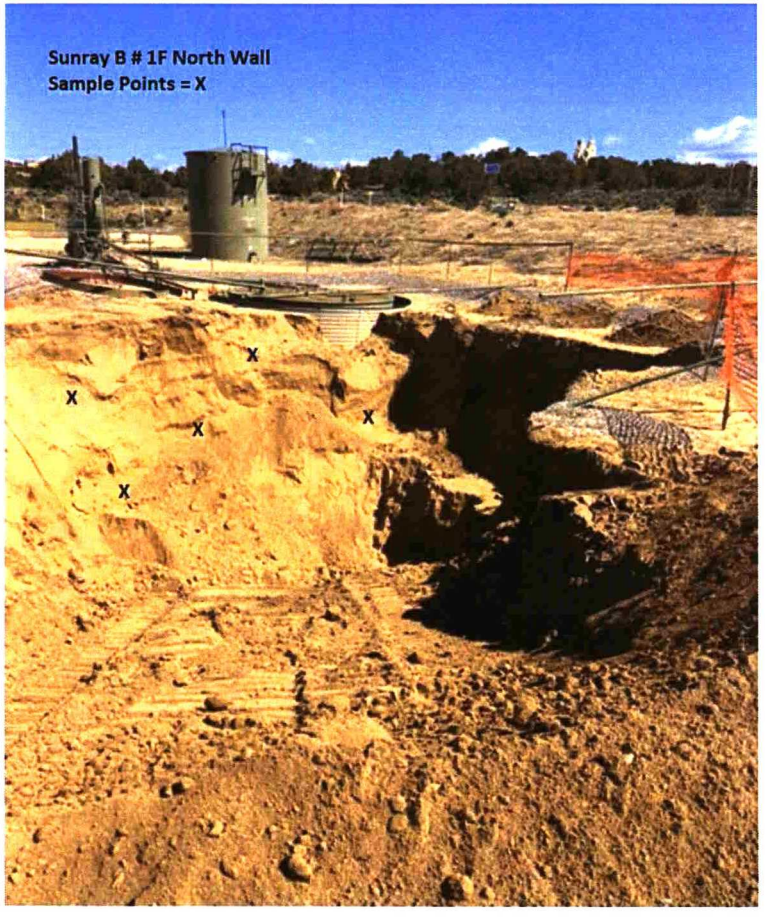
Determination of water sources and significant watercourses within ½ mile of the lateral extent of the release



Photographs – 5/2/19 Sampling Event

Base Sample

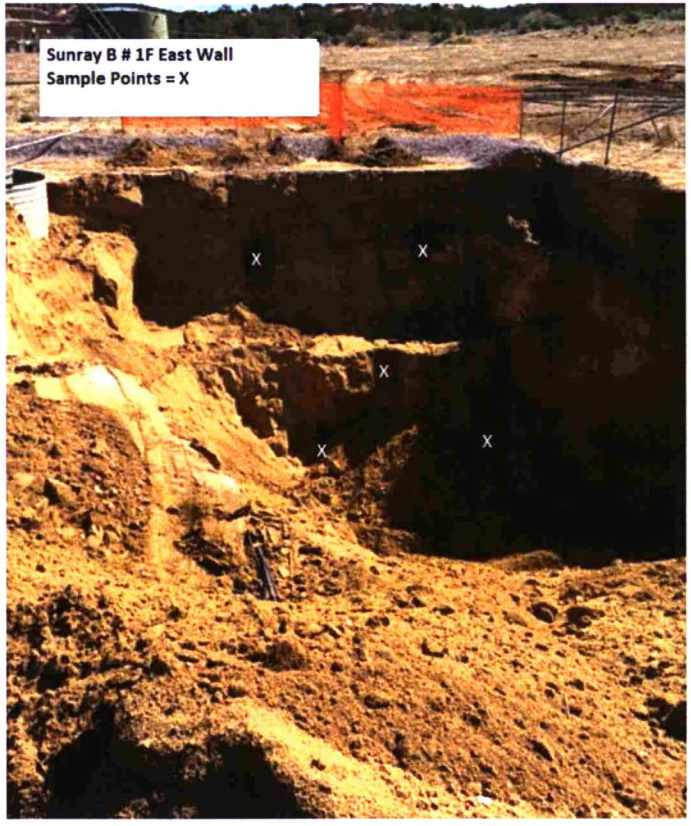
North Wall Sample



Photographs – 5/2/19 Sampling Event

West Sample

East Wall Sample



South Sample

Topographic/Aerial Maps

N

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

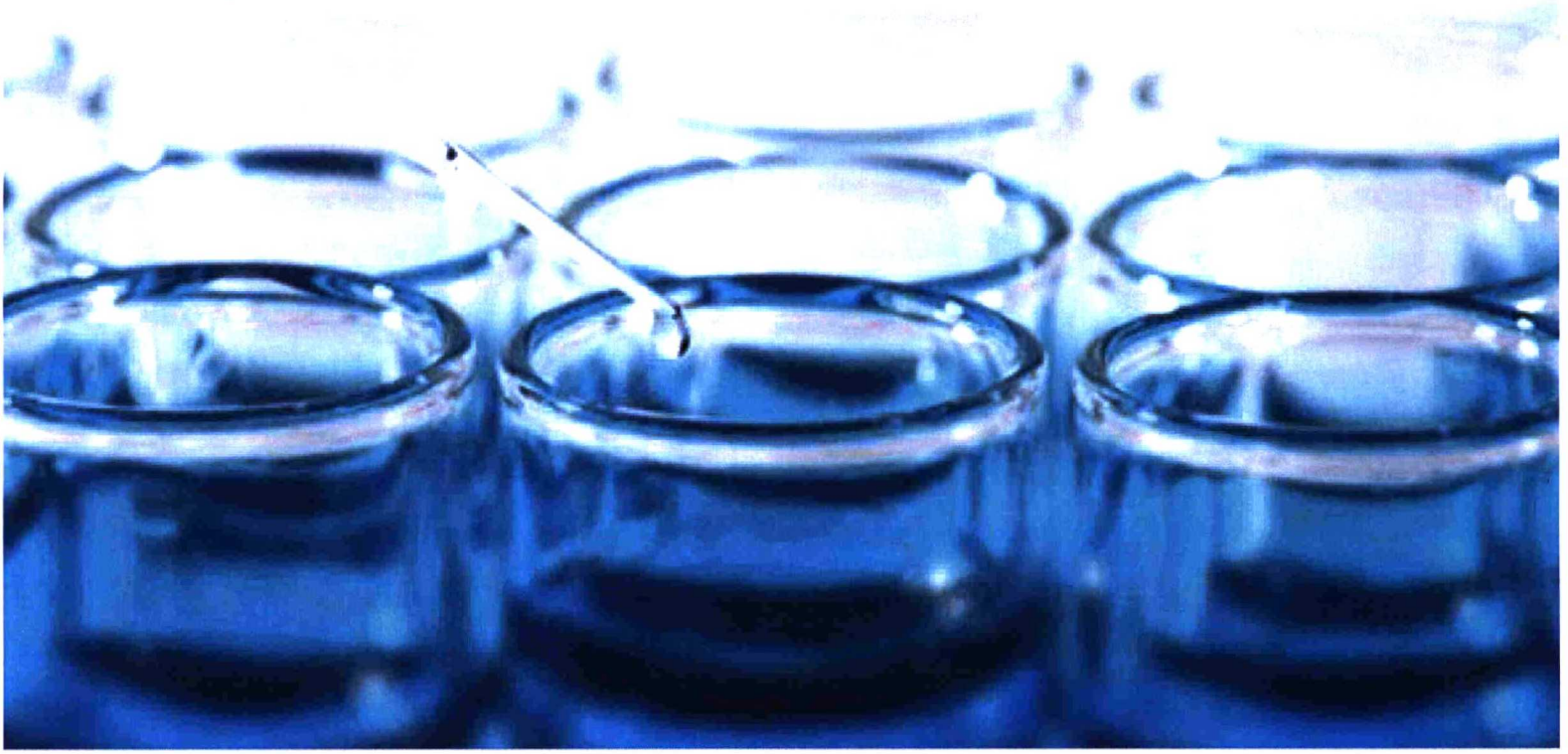
May 13, 2019

HilCorp-Farmington, NM

Sample Delivery Group:	L1095333
Samples Received:	05/04/2019
Project Number:	SUNRAY B #1F
Description:	SUNRAY B #1F
Site:	SUNRAY B #1F
Report To:	Jennifer Deal 382 Road 3100 Aztec, NM 87401

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Project Manager



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SAMPLE SUMMARY

ONE LAB. NATIONWIDE.

BASE L1095333-01 Solid

Collected by	Collected date/time	Received date/time
Kurt	05/02/19 09:22	05/04/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1277444	1	05/08/19 14:50	05/08/19 19:52	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015	WG1277873	1	05/06/19 17:30	05/08/19 14:53	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1278441	1.01	05/06/19 17:30	05/09/19 18:52	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1276910	1	05/07/19 06:18	05/07/19 19:16	KME	Mt. Juliet, TN

W. WALL L1095333-02 Solid

Collected by	Collected date/time	Received date/time
Kurt	05/02/19 09:25	05/04/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1277447	1	05/09/19 14:50	05/13/19 13:37	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015	WG1277873	1	05/06/19 17:30	05/08/19 15:16	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1278441	1	05/06/19 17:30	05/09/19 19:12	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1276910	1	05/07/19 06:18	05/07/19 18:30	KME	Mt. Juliet, TN

S. WALL L1095333-03 Solid

Collected by	Collected date/time	Received date/time
Kurt	05/02/19 09:30	05/04/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1277447	1	05/09/19 14:50	05/13/19 13:55	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015	WG1277873	1	05/06/19 17:30	05/08/19 15:40	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1278441	1	05/06/19 17:30	05/09/19 19:33	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1276910	1	05/07/19 06:18	05/07/19 18:41	KME	Mt. Juliet, TN

N. WALL L1095333-04 Solid

Collected by	Collected date/time	Received date/time
Kurt	05/02/19 09:33	05/04/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1277447	1	05/09/19 14:50	05/13/19 14:04	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015	WG1277873	1	05/06/19 17:30	05/08/19 16:04	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1278441	1	05/06/19 17:30	05/09/19 19:53	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1276910	1	05/07/19 06:18	05/07/19 18:07	KME	Mt. Juliet, TN

E. WALL L1095333-05 Solid

Collected by	Collected date/time	Received date/time
Kurt	05/02/19 09:53	05/04/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1277447	1	05/09/19 14:50	05/13/19 14:13	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1277873	1	05/06/19 17:30	05/08/19 16:28	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1278441	1	05/06/19 17:30	05/09/19 20:14	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1276910	1	05/07/19 06:18	05/07/19 18:18	KME	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne R Richards

Daphne Richards
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	05/08/2019 19:52	WG1277444

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000505	1.01	05/09/2019 18:52	WG1278441
Toluene	ND		0.00505	1.01	05/09/2019 18:52	WG1278441
Ethylbenzene	ND		0.000505	1.01	05/09/2019 18:52	WG1278441
Total Xylene	ND		0.00152	1.01	05/09/2019 18:52	WG1278441
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 14:53	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	*97.9*		*77.0-120*		*05/08/2019 14:53*	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	*92.6*		*77.0-120*		*05/09/2019 18:52*	WG1278441
(S) a,a,a-Trifluorotoluene(PID)	*102*		*72.0-128*		*05/08/2019 14:53*	WG1277873
(S) a,a,a-Trifluorotoluene(PID)	*96.9*		*72.0-128*		*05/09/2019 18:52*	WG1278441

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	05/07/2019 19:16	WG1276910
C28-C40 Oil Range	ND		4.00	1	05/07/2019 19:16	WG1276910
(S) o-Terphenyl	*40.7*		*18.0-148*		*05/07/2019 19:16*	WG1276910

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	05/13/2019 13:37	WG1277447

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	05/09/2019 19:12	WG1278441
Toluene	ND		0.00500	1	05/09/2019 19:12	WG1278441
Ethylbenzene	ND		0.000500	1	05/09/2019 19:12	WG1278441
Total Xylene	ND		0.00150	1	05/09/2019 19:12	WG1278441
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 15:16	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	*97.4*		*77.0-120*		*05/08/2019 15:16*	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	*89.8*		*77.0-120*		*05/09/2019 19:12*	WG1278441
(S) a,a,a-Trifluorotoluene(PID)	*99.9*		*72.0-128*		*05/08/2019 15:16*	WG1277873
(S) a,a,a-Trifluorotoluene(PID)	*93.7*		*72.0-128*		*05/09/2019 19:12*	WG1278441

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	05/07/2019 18:30	WG1276910
C28-C40 Oil Range	ND		4.00	1	05/07/2019 18:30	WG1276910
(S) o-Terphenyl	*53.3*		*18.0-148*		*05/07/2019 18:30*	WG1276910

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	05/13/2019 13:55	WG1277447

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	05/09/2019 19:33	WG1278441
Toluene	ND		0.00500	1	05/09/2019 19:33	WG1278441
Ethylbenzene	ND		0.000500	1	05/09/2019 19:33	WG1278441
Total Xylene	ND		0.00150	1	05/09/2019 19:33	WG1278441
TPH (GC/FID) Low Fraction	ND	J3	0.100	1	05/08/2019 15:40	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	*97.3*		*77.0-120*		*05/08/2019 15:40*	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	*93.0*		*77.0-120*		*05/09/2019 19:33*	WG1278441
(S) a,a,a-Trifluorotoluene(PID)	*102*		*72.0-128*		*05/08/2019 15:40*	WG1277873
(S) a,a,a-Trifluorotoluene(PID)	*96.3*		*72.0-128*		*05/09/2019 19:33*	WG1278441

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	05/07/2019 18:41	WG1276910
C28-C40 Oil Range	ND		4.00	1	05/07/2019 18:41	WG1276910
(S) o-Terphenyl	*51.9*		*18.0-148*		*05/07/2019 18:41*	WG1276910

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	05/13/2019 14:04	WG1277447

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	05/09/2019 19:53	WG1278441
Toluene	ND		0.00500	1	05/09/2019 19:53	WG1278441
Ethylbenzene	ND		0.000500	1	05/09/2019 19:53	WG1278441
Total Xylene	ND		0.00150	1	05/09/2019 19:53	WG1278441
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 16:04	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	*98.1*		*77.0-120*		*05/08/2019 16:04*	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	*92.6*		*77.0-120*		*05/09/2019 19:53*	WG1278441
(S) a,a,a-Trifluorotoluene(PID)	*103*		*72.0-128*		*05/08/2019 16:04*	WG1277873
(S) a,a,a-Trifluorotoluene(PID)	*96.5*		*72.0-128*		*05/09/2019 19:53*	WG1278441

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	05/07/2019 18:07	WG1276910
C28-C40 Oil Range	ND		4.00	1	05/07/2019 18:07	WG1276910
(S) o-Terphenyl	*46.2*		*18.0-148*		*05/07/2019 18:07*	WG1276910

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	05/13/2019 14:13	WG1277447

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000500	1	05/09/2019 20:14	WG1278441
Toluene	ND		0.00500	1	05/09/2019 20:14	WG1278441
Ethylbenzene	ND		0.000500	1	05/08/2019 16:28	WG1277873
Total Xylene	ND		0.00150	1	05/09/2019 20:14	WG1278441
TPH (GC/FID) Low Fraction	ND		0.100	1	05/08/2019 16:28	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	*98.1*		*77.0-120*		*05/08/2019 16:28*	WG1277873
(S) a,a,a-Trifluorotoluene(FID)	*92.9*		*77.0-120*		*05/09/2019 20:14*	WG1278441
(S) a,a,a-Trifluorotoluene(PID)	*102*		*72.0-128*		*05/08/2019 16:28*	WG1277873
(S) a,a,a-Trifluorotoluene(PID)	*96.0*		*72.0-128*		*05/09/2019 20:14*	WG1278441

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C10-C28 Diesel Range	ND		4.00	1	05/07/2019 18:18	WG1276910
C28-C40 Oil Range	ND		4.00	1	05/07/2019 18:18	WG1276910
(S) o-Terphenyl	*55.7*		*18.0-148*		*05/07/2019 18:18*	WG1276910

Method Blank (MB)

(MB) R3409466-1 05/08/19 15:52

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	3.22	J	0.795	10.0

L1094990-27 Original Sample (OS) • Duplicate (DUP)

(OS) L1094990-27 05/08/19 16:53 • (DUP) R3409466-3 05/08/19 17:01

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	1330	1520	5	13.1		15

L1095457-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1095457-02 05/08/19 20:17 • (DUP) R3409466-6 05/08/19 20:26

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	17.6	17.4	1	0.854		15

Laboratory Control Sample (LCS)

(LCS) R3409466-2 05/08/19 16:00

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chloride	200	201	100	80.0-120	

L1095029-13 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095029-13 05/08/19 17:10 • (MS) R3409466-4 05/08/19 17:18 • (MSD) R3409466-5 05/08/19 17:27

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chloride	619	1600	2310	2420	114	131	1	80.0-120	E	E J5	4.58	15

Method Blank (MB)

(MB) R3410702-1 05/13/19 13:11

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	3.79	J	0.795	10.0

L1095333-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1095333-02 05/13/19 13:37 • (DUP) R3410702-3 05/13/19 13:46

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	4.14	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3410702-2 05/13/19 13:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	214	107	80.0-120	

Method Blank (MB)

(MB) R3409525-5 05/08/19 12:14

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Ethylbenzene	U		0.000110	0.000500
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*99.9*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*103*			*72.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3409525-1 05/08/19 10:14 • (LCSD) R3409525-2 05/08/19 10:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.0500	0.0562	0.0483	112	96.6	80.0-124			15.1	20
(S) a,a,a-Trifluorotoluene(FID)				*99.1*	*98.3*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*103*	*100*	*72.0-128*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3409525-3 05/08/19 11:02 • (LCSD) R3409525-4 05/08/19 11:26

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	6.49	6.37	118	116	72.0-127			1.77	20
(S) a,a,a-Trifluorotoluene(FID)				*107*	*108*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*110*	*111*	*72.0-128*				

L1095333-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095333-03 05/08/19 15:40 • (MS) R3409525-6 05/08/19 20:07 • (MSD) R3409525-7 05/08/19 20:30

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	0.0500	ND	0.0447	0.0398	88.9	79.0	1	10.0-160			11.7	32
(S) a,a,a-Trifluorotoluene(FID)					*97.0*	*97.7*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*99.4*	*100*		*72.0-128*				

L1095333-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095333-03 05/08/19 15:40 • (MS) R3409525-8 05/08/19 20:54 • (MSD) R3409525-9 05/08/19 21:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	3.71	1.90	67.5	34.6	1	10.0-151		J3	64.5	28
(S) a,a,a-Trifluorotoluene(FID)					*102*	*98.3*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*106*	*102*		*72.0-128*				

Method Blank (MB)

(MB) R3409968-5 05/09/19 13:06

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000164	J	0.000120	0.000500
Toluene	0.000332	J	0.000150	0.00500
Ethylbenzene	0.000197	J	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
(S) a,a,a-Trifluorotoluene(FID)	*96.2*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*101*			*72.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3409968-1 05/09/19 11:03 • (LCSD) R3409968-2 05/09/19 11:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0507	0.0572	101	114	76.0-121			12.1	20
Toluene	0.0500	0.0499	0.0552	99.7	110	80.0-120			10.2	20
Ethylbenzene	0.0500	0.0501	0.0577	100	115	80.0-124			14.1	20
Total Xylene	0.150	0.160	0.179	107	119	37.0-160			11.0	20
(S) a,a,a-Trifluorotoluene(FID)				*95.5*	*94.6*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*96.8*	*95.6*	*72.0-128*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3409145-1 05/07/19 17:44

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*53.8*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3409145-2 05/07/19 17:56

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	mg/kg	mg/kg	%	%	
C10-C28 Diesel Range	50.0	31.2	62.4	50.0-150	
(S) o-Terphenyl			*58.0*	*18.0-148*	

L1095219-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1095219-02 05/07/19 19:50 • (MS) R3409145-3 05/07/19 20:01 • (MSD) R3409145-4 05/08/19 09:42

Analyte	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
C10-C28 Diesel Range	64.1	10.6	45.4	39.6	54.3	45.8	1	50.0-150		J6	13.5	20
(S) o-Terphenyl					*36.9*	*38.4*		*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.

HilCorp-Farmington, NM
382 Road 3100
Aztec, NM 87401

Billing Information:

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

Report to: JENNIFER DEAL

Email To: whoekstra@hilcorp.com, jdeal@hilcorp.com

Project Description:

City/State Collected:

Phone: **505-486-9543**
Fax:

Client Project #

Lab Project #

L# 1095333

Table # F038

Collected by (print): KURT

Site/Facility ID # SUNRAY B# 1F

P.O. #

Acctnum: **HILCORANM**

Template:

Prelogin:

TSR:

PB:

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH 8015 - DRO, GRO, MRO	BTEX 8021	CHLORIDE							Remarks	Sample # (lab only)
BASE	Comp	Soil		5-2	9:22	1	X	X	X								-01
W. WALL	"	"		"	9:25	1	X	X	X								02
S. WALL	"	"		"	9:30	1	X	X	X								03
N. WALL	"	"		"	9:33	1	X	X	X								04
E. WALL	"	"		"	9:53	1	X	X	X								05

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

RAD SCREEN: <0.5 mR/hr

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
X UPS __ FedEx __ Courier _____

Tracking # 7305 8947 5000

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		X Y N
Bottles arrive intact:		X Y N
Correct bottles used:		X Y N
Sufficient volume sent:		X Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N

	Date:	Time:		
Relinquished by : (Signature) Kurt Hoekstra	5-3-19	6:25	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 2.1+0.1=2.2 5
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) KWillis	Date: 5/4/19 Time: 845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)