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	NSC1929555165
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Hilcorp Energy Company	OGRID 372171
Contact Name Jennifer Deal	Contact Telephone 505-801-6517
Contact email jdeal@hilcorp.com	Incident # *(assigned by OCD)* NCS1929555165
Contact mailing address 382 Road 3100, Aztec, NM 87410	

Location of Release Source

Latitude 36.93152 Longitude -107.68402
(NAD 83 in decimal degrees to 5 decimal places)

Site Name SJ 32-8 Water Gathering	Site Type Water Pipeline
Date Release Discovered 10/7/2019 @ 2:45pm	API# *(if applicable)* 3004532119 (closest well)

Unit Letter	Section	Township	Range	County
C	04	31N	08W	San Juan

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (*Name: Bolack Tommy Trust*)

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) 33.5	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride 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
A release of ~33.5 bbls of produced water was released due to the water line leaking from internal corrosion. The leak was stopped as the pipeline was pulled to vacuum and isolated. A one call was submitted to begin excavation to repair the line. Water traveled approximately 2000ft south down a dry wash. 0 bbls were recovered.

State of New Mexico
Oil Conservation Division

Incident ID	NCS1929555165
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Spill is >25 bbls
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notified Cory Smith with OCD on October 8, 2019 at 7:41am	

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: _____Jennifer Deal_____ Title: _____Environmental Specialist_____

Signature: __ Jennifer Deal _____ Date: ___4/10/2020__

email: _____jdeal@hilcorp.com_____ Telephone: _____5053245128_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NCS1929555165
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Facility ID	
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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?	250 (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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NCS1929555165
District RP	
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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: _____Jennifer Deal_____ Title: _____Environmental Specialist_____

Signature:____  _____ Date: __4/10/2020____

email: _____jdeal@hilcorp.com_____ Telephone: ____5053245128_____

OCD Only

Received by: _____ Date: _____

Incident ID	NCS1929555165
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: _____Jennifer Deal_____ Title: _____Environmental Specialist_____

Signature: _____ Jennifer Deal _____ Date: ____4/10/2020___

email: _____jdeal@hilcorp.com_____ Telephone: _____5053245128_____

OCD Only

Received by: _____ Date: _____

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

Signature: _____ Date: _____

Incident ID	NCS1929555165
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: _____ _____ Date: ____4/10/2020_____

email: _____jdeal@hilcorp.com_____ Telephone: _____5053245128_____

OCD Only

Received by: OCD Date: 4/10/2020

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: 7/8/2020

Printed Name: Cory Smith Title: Environmental Specialist

LT Environmental, Inc.
848 East Second Avenue
Durango, Colorado 81301
970.385.1096

April 10, 2020

Mr. Cory Smith
Environmental Specialist
New Mexico Oil Conservation District
1000 Rio Brazos
Aztec, New Mexico 87410

RE: Closure Request
SJ 32-8 Water Gathering
NCS1929555165
Hilcorp Energy Company
San Juan County, New Mexico

Dear Mr. Smith:

LT Environmental, Inc. (LTE), on behalf of Hilcorp Energy Company (Hilcorp), presents the following Closure Request for the SJ 32-8 Water Gathering pipeline release (Site). The Site is located in Jaquez Canyon between Pump Mesa and Rattlesnake Canyon approximately 5,000 feet north of Arena Canyon in Unit C of Section 4 of Township 31 North, Range 8 West, San Juan County, New Mexico. The Site is approximately 11 miles south of Ignacio, Colorado, west of New Mexico State Road 511 (Figure 1).

BACKGROUND

On October 7, 2019, approximately 33.5 barrels (bbls) of produced water were released from a pipeline due to internal corrosion. Upon discovery, Hilcorp controlled the release by pulling a vacuum on the pipeline to isolate it. The release traveled approximately 2,000 feet down a dry arroyo and no fluids were recovered. Hilcorp submitted an initial C-141 to the New Mexico Oil Conservation Division (NMOCD) on October 16, 2019 and was assigned incident number NCS1929555165. Hilcorp submitted a Remediation Work Plan for the Site on December 13, 2019 detailing site assessment soil sampling results and the planned remediation activities at the Site. On February 24, 2020, the NMOCD denied the Remediation Work Plan due to the Site not being fully delineated and gave a new deadline of April 10, 2020 to submit an updated Remediation Work Plan or Closure Request. On March 30, 2020, Hilcorp returned to the Site to collect additional delineation soil samples. This closure request is being submitted in lieu of a revised Remediation Work Plan based on the results of the most recent soil sampling event at the Site.

Site Characterization

Within the Remediation Work Plan submitted on December 13, 2019, LTE detailed the site characterization according to Table 1, *Closure Criteria for Soils Impacted by a Release*, in

19.15.29.12 of the New Mexico Administrative Code (NMAC). Due to the Site having a depth to groundwater of less than 50 feet, the following NMOCD Table 1 closure criteria apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); 100 mg/kg total petroleum hydrocarbons (TPH); and 600 mg/kg chloride.

Delineation Activities

Delineation and initial excavation activities between October 16, 2019 and November 11, 2019 are detailed within the Remediation Work Plan submitted on December 13, 2019. Initial excavation activities were made to repair the line leak. A soil sample for the spoil pile of the excavation was collected during the March 2020 sampling event.

Between October 16, 2019, and November 11, 2019, Hilcorp conducted soil delineation activities at the Site using shovels and hand augers. A total of 26 soil samples were collected following the release; 3 samples were collected from the excavation sidewalls and floor (S ½ SOURCE, N ½ SOURCE), and at depth below the excavation floor (SOURCE @ 8") ; 2 samples were collected upgradient of the release point(Sample 1 and S1 @8"); and 19 samples were collected within the release path. Samples were collected at depths ranging from surface to 18 inches bgs.

After the initial sampling events impacted soil was identified in sample areas 1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, and 17. No chloride impacts have been identified downgradient of sample area 17 during any sapling event.

In the denial of the Remediation Work Plan sent by the NMOCD on February 24, 2020, NMOCD requested vertical delineation at the following location: sample areas 2,3,6,7,11,12,13,14.

On March 30, 2020 Hilcorp returned to the Site to collect delineation soil samples. Hilcorp personnel resampled in locations that previously contained concentration of chloride exceeding the Table 1 Closure Criteria of 600 mg/kg (Sample Areas 1, 2, 3, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, and 17) and collected vertical delineation samples (Sample Areas 2, 3, 6, 7, 11, 12, 13, and 14)

The soil was characterized by visually inspecting the soil samples, field screening the soil headspace using a photo-ionization detector (PID) to monitor for the presence of volatile organic vapors and assessing the presence of chloride using Hach® Quantab® titrator strips. Soil samples collected from the excavation spoil pile during the March 2020 sampling event were submitted for laboratory analysis of BTEX by United States Environmental Protection Agency (EPA) method 8021, gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO) by EPA Method 8015, and chloride by EPA Method 300.0. Due to the absence of any BTEX, GRO, DRO, and MRO in the previous sampling events, samples collected from within the release path during the March 2020 sampling event were only submitted for laboratory analysis of chloride by EPA method 300.0. All collected samples were placed on ice to maintain a temperature of approximately 4 degrees Celsius (°C) and sealed in a cooler for shipped via FedEx

overnight shipping to Pace Analytical Laboratory, of Lakewood, Colorado, for analysis. Samples were labeled with the date and time of collection, sample name, sampler's name, and parameters to be analyzed. Strict chain-of-custody (COC) procedures were documented including the date and time sampled, sample number, type of sample, sampler's name and signature, preservative used, and analyses required. Soil sample locations are depicted on Figure 3.

RESULTS

Laboratory analytical results of soil samples collected by Hilcorp during the multiple delineation events indicate concentrations of chloride compliant with the NMOCD Table 1 closure criteria for all soil samples.

The soil analytical results, as compared to the NMOCD Table 1 closure criteria, are presented on Figure 3 and summarized in Table 1. The laboratory analytical reports are included as Attachment 1.

CONCLUSIONS

Laboratory analytical results of soil samples collected from the release path indicate all soil samples collected within the release footprint are compliant with the applicable NMOCD standard. These results suggest that residual chloride within the wash likely naturally attenuated due to snow melt and other precipitation events. No evidence of elevated chloride concentrations infiltrating deeper to the subsurface or dispersing further down the wash were identified during the March 2020 sampling. As such, Hilcorp requests no further action for incident number NCSS192555165.

LTE appreciates the opportunity to provide this Closure Request to the NMOCD. If you have any questions or comments regarding this Closure Request, do not hesitate to contact us at (970) 385-1096 or via electronic mail at dhencmann@ltenv.com or Jennifer Deal at (505) 324-5128 or via electronic mail at jdeal@hilcorp.com

Sincerely,

LT ENVIRONMENTAL, INC.

Josh Adams, G.I.T.
Staff Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: jdeal@hilcorp.com

FIGURES

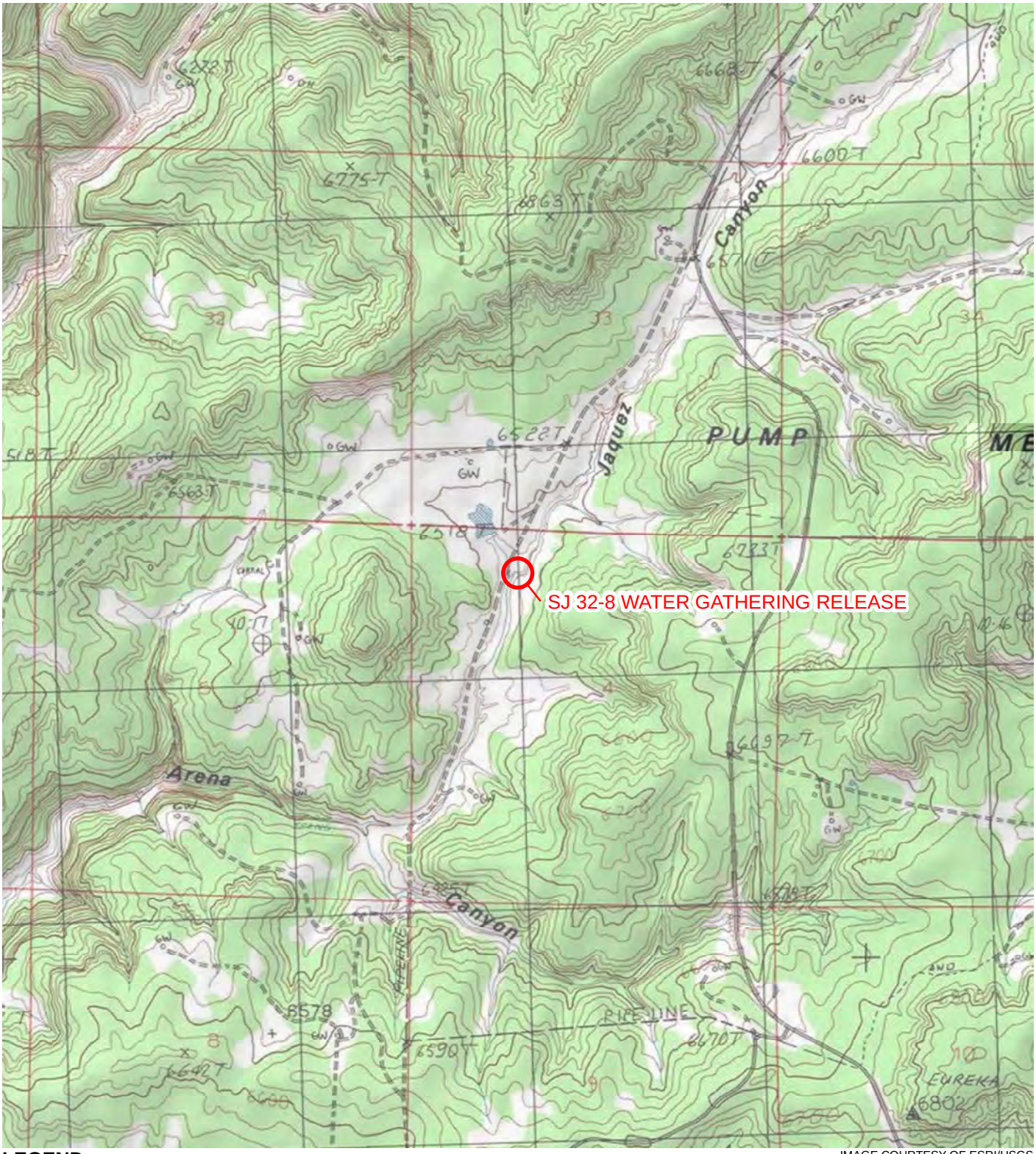

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

FIGURE 1
SITE LOCATION MAP
SJ 32-8 WATER GATHERING RELEASE
LOT 3 SEC 4-T31N-R8W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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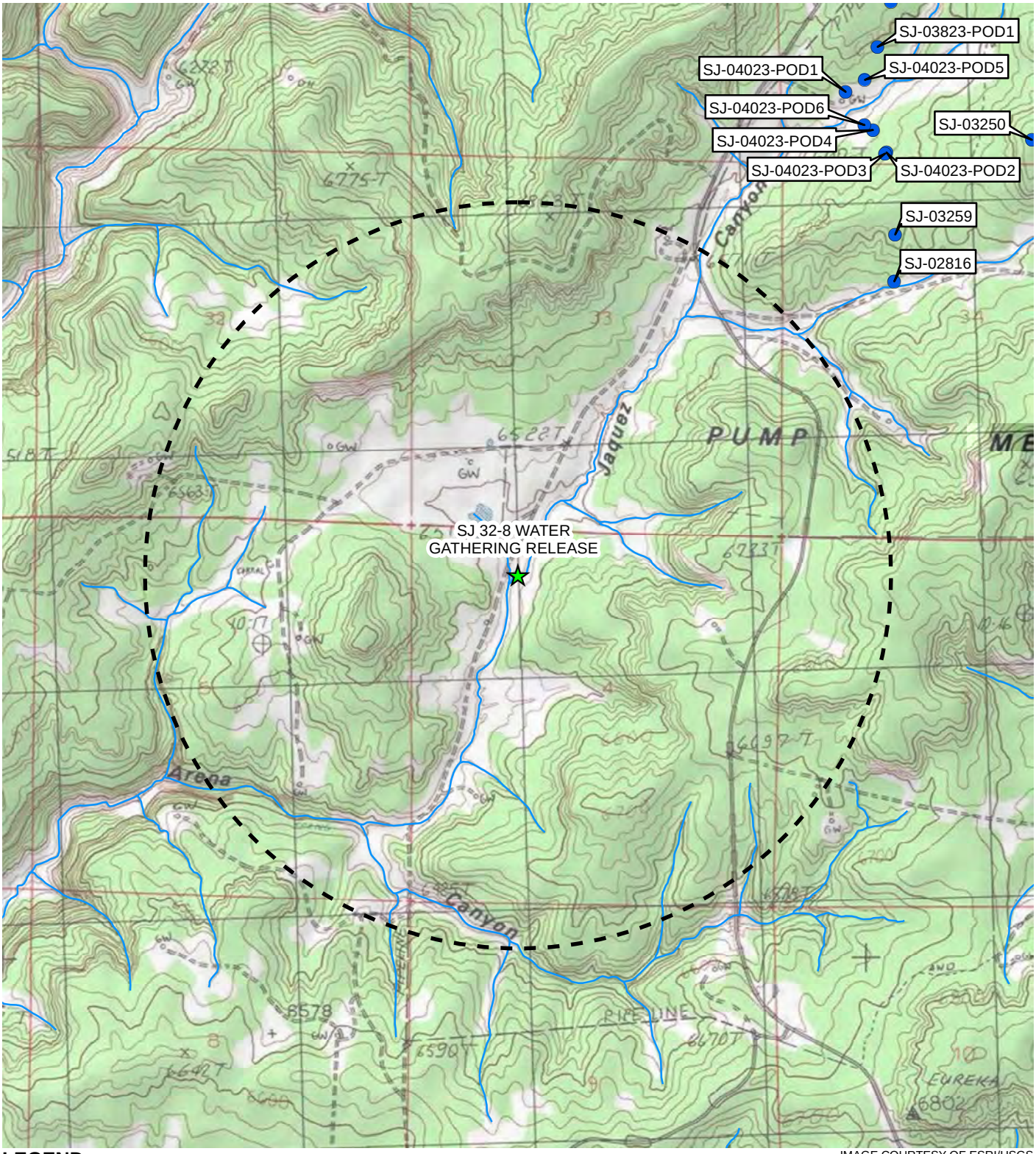

IMAGE COURTESY OF ESRI/USGS

LEGEND

- SITE LOCATION
- WATER WELL
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- 1 MILE RADIUS

0 2,000 4,000
Feet

N

FIGURE 2
RECEPTOR MAP
SJ 32-8 WATER GATHERING RELEASE
LOT 3 SEC 4-T31N-R8W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

P:\Hilcorp\GIS\MXD\017819023_SJ 32-8 WATER GATHERING\017819023_FIG02_RECEPTOR.mxd

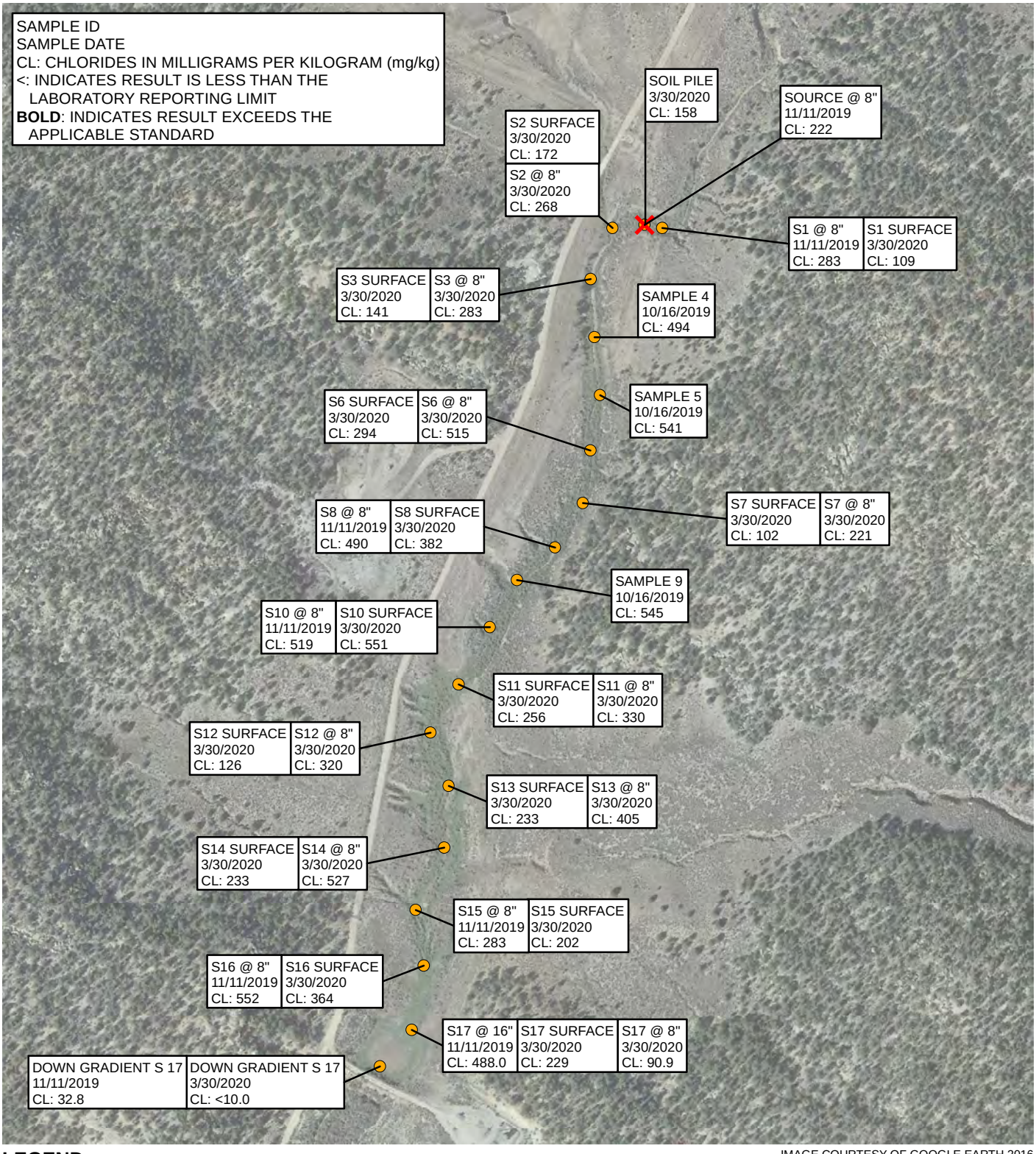

IMAGE COURTESY OF GOOGLE EARTH 2016

LEGEND

- RELEASE LOCATION
- SOIL SAMPLE

0 400 800
Feet

N

FIGURE 3
SOIL ANALYTICAL RESULTS
SJ 32-8 WATER GATHERING RELEASE
LOT 3 SEC 4-T31N-R8W
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

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TABLE

TABLE 1
SOIL ANALYTICAL RESULTS

SJ 32-8 WATER GATHERING
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Soil Sample Identification	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
Source Samples											
N 1/2 SOURCE	10/16/2019	<0.000505	<0.00505	<0.000505	<0.00152	<0.00505	**676**	0.130	5.58	5.63	11.34
S 1/2 SOURCE	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	560	<0.100	<4	4.44	4.44
SOURCE @ 8"	11/11/2019	NA	NA	NA	NA	NA	222	NA	NA	NA	NA
Soil Pile	3/30/2020	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	158	<0.100	NA	NA	<0.100
Sample Area 1											
Sample 1	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	**802**	0.618	5.46	10.7	16.78
S1 Surface	3/30/2020	NA	NA	NA	NA	NA	109	NA	NA	NA	NA
S1 @ 8"	11/11/2019	NA	NA	NA	NA	NA	306	NA	NA	NA	NA
Sample Area 2											
Sample 2	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	**758**	0.266	15.6	30.4	46.27
S2 Surface	3/30/2020	NA	NA	NA	NA	NA	172	NA	NA	NA	NA
S2 @ 8"	3/30/2020	NA	NA	NA	NA	NA	268	NA	NA	NA	NA
Sample Area 3											
Sample 3	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	**674**	<0.100	7.51	12.00	19.51
S3 Surface	3/30/2020	NA	NA	NA	NA	NA	141	NA	NA	NA	NA
S3 @ 8"	3/30/2020	NA	NA	NA	NA	NA	283	NA	NA	NA	NA
Sample Area 4											
Sample 4	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	494	<0.100	10.7	20.7	31.40
Sample Area 5											
Sample 5	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	541	<0.100	11.2	20.4	31.60
Sample Area 6											
Sample 6	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	**638**	<0.100	5.95	10.8	16.75
S6 Surface	3/30/2020	NA	NA	NA	NA	NA	294	NA	NA	NA	NA
S6 @ 8"	3/30/2020	NA	NA	NA	NA	NA	515	NA	NA	NA	NA
Sample Area 7											
Sample 7	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	**672**	0.105	4.85	9.45	14.30
S7 Surface	3/30/2020	NA	NA	NA	NA	NA	102	NA	NA	NA	NA
S7 @ 8"	3/30/2020	NA	NA	NA	NA	NA	221	NA	NA	NA	NA
Sample Area 8											
Sample 8	10/16/2019	<0.000505	<0.00505	<0.000505	<0.00152	<0.00505	**2,070**	<0.101	5.71	13.4	19.11
S8 Surface	3/30/2020	NA	NA	NA	NA	NA	382	NA	NA	NA	NA
S8 @ 8"	11/11/2019	NA	NA	NA	NA	NA	490	NA	NA	NA	NA
Sample Area 9											
Sample 9	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00505	545	0.126	6.16	16.5	22.79
Sample Area 10											
Sample 10	10/16/2019	<0.000505	<0.00505	<0.000505	<0.00152	<0.00505	**5,220**	<0.101	18.10	54.3	72.40
S10 Surface	3/30/2020	NA	NA	NA	NA	NA	551	NA	NA	NA	NA
S10 @ 8"	11/11/2019	NA	NA	NA	NA	NA	519	NA	NA	NA	NA
Sample Area 11											
Sample 11	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	**684**	0.113	7.15	13.0	20.26
S11 Surface	3/30/2020	NA	NA	NA	NA	NA	256	NA	NA	NA	NA
S11 @ 8"	3/30/2020	NA	NA	NA	NA	NA	330	NA	NA	NA	NA
Sample Area 12											
Sample 12	10/16/2019	<0.0005010	<0.00510	<0.000510	<0.00153	<0.00510	**679**	0.124	<4.00	4.33	4.45
S12 Surface	3/30/2020	NA	NA	NA	NA	NA	126	NA	NA	NA	NA
S12 @ 8"	3/30/2020	NA	NA	NA	NA	NA	320	NA	NA	NA	NA
Sample Area 13											
Sample 13	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	**663**	<0.100	<4.00	4.89	4.89
S13 Surface	3/30/2020	NA	NA	NA	NA	NA	487	NA	NA	NA	NA
S13 @ 8"	3/30/2020	NA	NA	NA	NA	NA	405	NA	NA	NA	NA

TABLE 1
SOIL ANALYTICAL RESULTS

SJ 32-8 WATER GATHERING
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Soil Sample Identification	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	Chloride (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
Sample Area 14											
Sample 14	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	**719**	<0.100	<4.00	<4.00	<4.00
S14 Surface	3/30/2020	NA	NA	NA	NA	NA	233	NA	NA	NA	NA
S14 @ 8"	3/30/2020	NA	NA	NA	NA	NA	527	NA	NA	NA	NA
Sample Area 15											
Sample 15	10/16/2019	<0.000505	<0.00505	<0.000505	<0.00152	<0.00505	**1,040**	<0.101	<4.00	5.94	5.94
S15 Surface	3/30/2020	NA	NA	NA	NA	NA	202	NA	NA	NA	NA
S15 @ 8"	11/11/2019	NA	NA	NA	NA	NA	283	NA	NA	NA	NA
Sample Area 16											
Sample 16	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	**948**	0.114	7.93	24.0	32.04
S16 Surface	3/30/2020	NA	NA	NA	NA	NA	364	NA	NA	NA	NA
S16 @ 8"	11/11/2019	NA	NA	NA	NA	NA	552	NA	NA	NA	NA
Sample Area 17											
Sample 17	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	**1,470**	<0.100	<4.00	10.6	10.6
S17 Surface	3/30/2020	NA	NA	NA	NA	NA	229	NA	NA	NA	NA
S17 @ 8"	11/11/2019	NA	NA	NA	NA	NA	**743**	NA	NA	NA	NA
S17 @ 8"	3/30/2020	NA	NA	NA	NA	NA	90.9	NA	NA	NA	NA
S17 @ 16"	11/11/2019	NA	NA	NA	NA	NA	488	NA	NA	NA	NA
Down Gradient S 17	11/11/2019	NA	NA	NA	NA	NA	32.8	NA	NA	NA	NA
Down Gradient S 17	3/30/2020	NA	NA	NA	NA	NA	<10.0	NA	NA	NA	NA
Background											
Background	10/16/2019	<0.000500	<0.00500	<0.000500	<0.00150	<0.00500	<10.0	0.151	<4.00	<4.00	0.151
NMOCD Closure Criteria		**10**	**NE**	**NE**	**NE**	**50**	**600**	**NE**	**NE**	**NE**	**100**

NOTES:

BTEX - benzene, toluene, ethylbenzene, and total xylenes analyzed by US EPA Method 8021B
DRO - diesel range organics analyzed by US EPA Method 8015D
GRO - gasoline range organics analyzed by US EPA Method 8015D
mg/kg - milligrams per kilogram
MRO - motor oil range organics analyzed by US EPA method 8015D
NA - not analyzed
NE - not established
NMOCD - New Mexico Oil Conservation Division
TPH - total petroleum hydrocarbon (sum of GRO, DRO, and MRO)
< - indicates result is less than the stated laboratory reporting limit
Bold - indicates value exceeds stated NMOCD standard

ATTACHMENTS: LABORATORY ANALYTICAL REPORTS AND PHOTOGRAPHIC LOG

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

October 28, 2019

HilCorp-Farmington, NM

Sample Delivery Group:	L1151542
Samples Received:	10/18/2019
Project Number:	
Description:	32-8 Water Line
Site:	32-8 WATER LINE
Report To:	Jennifer Deal 382 Road 3100 Aztec, NM 87401

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

N. 1/2 SOURCE L1151542-01 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 09:35 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1366667	5	10/22/19 19:45	10/22/19 22:51	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1.01	10/19/19 09:24	10/24/19 16:59	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366131	1	10/20/19 11:04	10/20/19 21:21	KME	Mt. Juliet, TN

S. 1/2 SOURCE L1151542-02 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 09:40 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1366667	5	10/22/19 19:45	10/22/19 23:19	LDC	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1	10/19/19 09:24	10/24/19 17:21	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366131	1	10/20/19 11:04	10/20/19 22:00	KME	Mt. Juliet, TN

SAMPLE 1 L1151542-03 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 09:47 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 13:01	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1369842	1	10/19/19 09:24	10/26/19 17:45	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366131	1	10/20/19 11:04	10/20/19 22:14	KME	Mt. Juliet, TN

SAMPLE 2 L1151542-04 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 09:54 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 13:20	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1	10/19/19 09:24	10/24/19 18:05	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/22/19 00:09	KME	Mt. Juliet, TN

SAMPLE 3 L1151542-05 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 09:59 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 13:30	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1	10/19/19 09:24	10/24/19 18:28	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 22:15	KME	Mt. Juliet, TN

SAMPLE 4 L1151542-06 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:03 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 13:39	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1	10/19/19 09:24	10/24/19 18:50	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 22:28	KME	Mt. Juliet, TN

SAMPLE 5 L1151542-07 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:08 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 13:49	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1	10/19/19 09:24	10/24/19 19:11	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 22:40	KME	Mt. Juliet, TN

SAMPLE 6 L1151542-08 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:13 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 14:17	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1369842	1	10/19/19 09:24	10/26/19 18:07	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 22:53	KME	Mt. Juliet, TN

SAMPLE 7 L1151542-09 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:20 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 14:27	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1369842	1	10/19/19 09:24	10/26/19 18:30	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 23:06	KME	Mt. Juliet, TN

SAMPLE 8 L1151542-10 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:24 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 14:36	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1.01	10/19/19 09:24	10/24/19 20:19	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 23:18	KME	Mt. Juliet, TN

SAMPLE 9 L1151542-11 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:28 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 14:46	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1369842	1	10/19/19 09:24	10/26/19 18:52	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 23:31	KME	Mt. Juliet, TN

SAMPLE 10 L1151542-12 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:32 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	10	10/23/19 10:45	10/23/19 14:55	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1.01	10/19/19 09:24	10/24/19 21:03	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/22/19 09:02	KME	Mt. Juliet, TN

SAMPLE 11 L1151542-13 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:37 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 15:05	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1369842	1	10/19/19 09:24	10/26/19 19:14	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 21:27	KME	Mt. Juliet, TN

SAMPLE 12 L1151542-14 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:42 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 15:14	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1.02	10/19/19 09:24	10/24/19 21:50	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 21:53	KME	Mt. Juliet, TN

SAMPLE 13 L1151542-15 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:48 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 15:24	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1	10/19/19 09:24	10/24/19 22:12	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 21:40	KME	Mt. Juliet, TN

SAMPLE 14 L1151542-16 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:53 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	1	10/23/19 10:45	10/23/19 15:33	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1	10/19/19 09:24	10/24/19 22:35	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 20:43	KME	Mt. Juliet, TN

SAMPLE 15 L1151542-17 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 10:58 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 16:21	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1.01	10/19/19 09:24	10/24/19 23:28	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 21:02	KME	Mt. Juliet, TN

SAMPLE 16 L1151542-18 Solid

Collected by: K Hoekstra | Collected date/time: 10/16/19 11:04 | Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 16:31	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1	10/19/19 09:24	10/24/19 23:50	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 23:56	KME	Mt. Juliet, TN

SAMPLE 17 L1151542-19 Solid

Collected by: K Hoekstra
Collected date/time: 10/16/19 11:09
Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	5	10/23/19 10:45	10/23/19 16:40	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1	10/19/19 09:24	10/25/19 00:12	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 23:44	KME	Mt. Juliet, TN

BACKGROUND L1151542-20 Solid

Collected by: K Hoekstra
Collected date/time: 10/16/19 11:42
Received date/time: 10/18/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1367862	1	10/23/19 10:45	10/23/19 16:50	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1368742	1	10/19/19 09:24	10/25/19 00:35	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1366382	1	10/21/19 06:52	10/21/19 21:15	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.

Olivia Studebaker
Project Manager

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	676		50.0	5	10/22/2019 22:51	WG1366667

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	10/24/2019 16:59	WG1368742
Toluene	ND		0.00505	1.01	10/24/2019 16:59	WG1368742
Ethylbenzene	ND		0.000505	1.01	10/24/2019 16:59	WG1368742
Total Xylene	ND		0.00152	1.01	10/24/2019 16:59	WG1368742
TPH (GC/FID) Low Fraction	0.130	B	0.101	1.01	10/24/2019 16:59	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/24/2019 16:59*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*97.8*		*72.0-128*		*10/24/2019 16:59*	WG1368742

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	5.58		4.00	1	10/20/2019 21:21	WG1366131
C28-C40 Oil Range	5.63		4.00	1	10/20/2019 21:21	WG1366131
(S) o-Terphenyl	*83.9*		*18.0-148*		*10/20/2019 21:21*	WG1366131

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

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	560		50.0	5	10/22/2019 23:19	WG1366667

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	10/24/2019 17:21	WG1368742
Toluene	ND		0.00500	1	10/24/2019 17:21	WG1368742
Ethylbenzene	ND		0.000500	1	10/24/2019 17:21	WG1368742
Total Xylene	ND		0.00150	1	10/24/2019 17:21	WG1368742
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2019 17:21	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/24/2019 17:21*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*99.7*		*72.0-128*		*10/24/2019 17:21*	WG1368742

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	10/20/2019 22:00	WG1366131
C28-C40 Oil Range	4.44		4.00	1	10/20/2019 22:00	WG1366131
(S) o-Terphenyl	*77.2*		*18.0-148*		*10/20/2019 22:00*	WG1366131

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	802		50.0	5	10/23/2019 13:01	WG1367862

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	10/26/2019 17:45	WG1369842
Toluene	ND		0.00500	1	10/26/2019 17:45	WG1369842
Ethylbenzene	ND		0.000500	1	10/26/2019 17:45	WG1369842
Total Xylene	ND		0.00150	1	10/26/2019 17:45	WG1369842
TPH (GC/FID) Low Fraction	0.618	B	0.100	1	10/26/2019 17:45	WG1369842
(S) a,a,a-Trifluorotoluene(FID)	*105*		*77.0-120*		*10/26/2019 17:45*	WG1369842
(S) a,a,a-Trifluorotoluene(PID)	*111*		*72.0-128*		*10/26/2019 17:45*	WG1369842

Sample Narrative:

L1151542-03 WG1369842: Low IS/SURR recovery due to matrix effect.

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	5.46		4.00	1	10/20/2019 22:14	WG1366131
C28-C40 Oil Range	10.7		4.00	1	10/20/2019 22:14	WG1366131
(S) o-Terphenyl	*79.4*		*18.0-148*		*10/20/2019 22:14*	WG1366131

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

SAMPLE 2
Collected date/time: 10/16/19 09:54
L1151542

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	758		50.0	5	10/23/2019 13:20	WG1367862

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	10/24/2019 18:05	WG1368742
Toluene	ND		0.00500	1	10/24/2019 18:05	WG1368742
Ethylbenzene	ND		0.000500	1	10/24/2019 18:05	WG1368742
Total Xylene	ND		0.00150	1	10/24/2019 18:05	WG1368742
TPH (GC/FID) Low Fraction	0.266	B	0.100	1	10/24/2019 18:05	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/24/2019 18:05*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*98.4*		*72.0-128*		*10/24/2019 18:05*	WG1368742

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	15.6		4.00	1	10/22/2019 00:09	WG1366382
C28-C40 Oil Range	30.4		4.00	1	10/22/2019 00:09	WG1366382
(S) o-Terphenyl	*65.1*		*18.0-148*		*10/22/2019 00:09*	WG1366382

SAMPLE 5
Collected date/time: 10/16/19 09:59
L1151542

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	674		50.0	5	10/23/2019 13:30	WG1367862

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	10/24/2019 18:28	WG1368742
Toluene	ND		0.00500	1	10/24/2019 18:28	WG1368742
Ethylbenzene	ND		0.000500	1	10/24/2019 18:28	WG1368742
Total Xylene	ND		0.00150	1	10/24/2019 18:28	WG1368742
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2019 18:28	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/24/2019 18:28*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*97.4*		*72.0-128*		*10/24/2019 18:28*	WG1368742

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	7.51		4.00	1	10/21/2019 22:15	WG1366382
C28-C40 Oil Range	12.0		4.00	1	10/21/2019 22:15	WG1366382
(S) o-Terphenyl	*50.5*		*18.0-148*		*10/21/2019 22:15*	WG1366382

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

SAMPLE 4
Collected date/time: 10/16/19 10:03
L1151542

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	494		50.0	5	10/23/2019 13:39	WG1367862

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	10/24/2019 18:50	WG1368742
Toluene	ND		0.00500	1	10/24/2019 18:50	WG1368742
Ethylbenzene	ND		0.000500	1	10/24/2019 18:50	WG1368742
Total Xylene	ND		0.00150	1	10/24/2019 18:50	WG1368742
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2019 18:50	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/24/2019 18:50*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*97.9*		*72.0-128*		*10/24/2019 18:50*	WG1368742

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	10.7		4.00	1	10/21/2019 22:28	WG1366382
C28-C40 Oil Range	20.7		4.00	1	10/21/2019 22:28	WG1366382
(S) o-Terphenyl	*50.3*		*18.0-148*		*10/21/2019 22:28*	WG1366382

SAMPLE 5
Collected date/time: 10/16/19 10:08
L1151542

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	541		50.0	5	10/23/2019 13:49	WG1367862

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	10/24/2019 19:11	WG1368742
Toluene	ND		0.00500	1	10/24/2019 19:11	WG1368742
Ethylbenzene	ND		0.000500	1	10/24/2019 19:11	WG1368742
Total Xylene	ND		0.00150	1	10/24/2019 19:11	WG1368742
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2019 19:11	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/24/2019 19:11*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*95.9*		*72.0-128*		*10/24/2019 19:11*	WG1368742

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	11.2		4.00	1	10/21/2019 22:40	WG1366382
C28-C40 Oil Range	20.4		4.00	1	10/21/2019 22:40	WG1366382
(S) o-Terphenyl	*54.5*		*18.0-148*		*10/21/2019 22:40*	WG1366382

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

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	638		50.0	5	10/23/2019 14:17	WG1367862

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	10/26/2019 18:07	WG1369842
Toluene	ND		0.00500	1	10/26/2019 18:07	WG1369842
Ethylbenzene	ND		0.000500	1	10/26/2019 18:07	WG1369842
Total Xylene	ND		0.00150	1	10/26/2019 18:07	WG1369842
TPH (GC/FID) Low Fraction	ND		0.100	1	10/26/2019 18:07	WG1369842
(S) a,a,a-Trifluorotoluene(FID)	*103*		*77.0-120*		*10/26/2019 18:07*	WG1369842
(S) a,a,a-Trifluorotoluene(PID)	*100*		*72.0-128*		*10/26/2019 18:07*	WG1369842

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	5.95		4.00	1	10/21/2019 22:53	WG1366382
C28-C40 Oil Range	10.8		4.00	1	10/21/2019 22:53	WG1366382
(S) o-Terphenyl	*60.6*		*18.0-148*		*10/21/2019 22:53*	WG1366382

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	672		50.0	5	10/23/2019 14:27	WG1367862

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	10/26/2019 18:30	WG1369842
Toluene	ND		0.00500	1	10/26/2019 18:30	WG1369842
Ethylbenzene	ND		0.000500	1	10/26/2019 18:30	WG1369842
Total Xylene	ND		0.00150	1	10/26/2019 18:30	WG1369842
TPH (GC/FID) Low Fraction	0.105	B	0.100	1	10/26/2019 18:30	WG1369842
(S) a,a,a-Trifluorotoluene(FID)	*103*		*77.0-120*		*10/26/2019 18:30*	WG1369842
(S) a,a,a-Trifluorotoluene(PID)	*99.2*		*72.0-128*		*10/26/2019 18:30*	WG1369842

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	4.85		4.00	1	10/21/2019 23:06	WG1366382
C28-C40 Oil Range	9.45		4.00	1	10/21/2019 23:06	WG1366382
(S) o-Terphenyl	*79.5*		*18.0-148*		*10/21/2019 23:06*	WG1366382

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

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	2070		50.0	5	10/23/2019 14:36	WG1367862

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	10/24/2019 20:19	WG1368742
Toluene	ND		0.00505	1.01	10/24/2019 20:19	WG1368742
Ethylbenzene	ND		0.000505	1.01	10/24/2019 20:19	WG1368742
Total Xylene	ND		0.00152	1.01	10/24/2019 20:19	WG1368742
TPH (GC/FID) Low Fraction	ND		0.101	1.01	10/24/2019 20:19	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/24/2019 20:19*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*99.6*		*72.0-128*		*10/24/2019 20:19*	WG1368742

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	5.71		4.00	1	10/21/2019 23:18	WG1366382
C28-C40 Oil Range	13.4		4.00	1	10/21/2019 23:18	WG1366382
(S) o-Terphenyl	*53.5*		*18.0-148*		*10/21/2019 23:18*	WG1366382

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	545		50.0	5	10/23/2019 14:46	WG1367862

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	10/26/2019 18:52	WG1369842
Toluene	ND		0.00500	1	10/26/2019 18:52	WG1369842
Ethylbenzene	ND		0.000500	1	10/26/2019 18:52	WG1369842
Total Xylene	ND		0.00150	1	10/26/2019 18:52	WG1369842
TPH (GC/FID) Low Fraction	0.126	B	0.100	1	10/26/2019 18:52	WG1369842
(S) a,a,a-Trifluorotoluene(FID)	*103*		*77.0-120*		*10/26/2019 18:52*	WG1369842
(S) a,a,a-Trifluorotoluene(PID)	*99.4*		*72.0-128*		*10/26/2019 18:52*	WG1369842

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	6.16		4.00	1	10/21/2019 23:31	WG1366382
C28-C40 Oil Range	16.5		4.00	1	10/21/2019 23:31	WG1366382
(S) o-Terphenyl	*60.6*		*18.0-148*		*10/21/2019 23:31*	WG1366382

SAMPLE ID
Collected date/time: 10/16/19 10:32
L1151542

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	5220		100	10	10/23/2019 14:55	WG1367862

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	10/24/2019 21:03	WG1368742
Toluene	ND		0.00505	1.01	10/24/2019 21:03	WG1368742
Ethylbenzene	ND		0.000505	1.01	10/24/2019 21:03	WG1368742
Total Xylene	ND		0.00152	1.01	10/24/2019 21:03	WG1368742
TPH (GC/FID) Low Fraction	ND		0.101	1.01	10/24/2019 21:03	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/24/2019 21:03*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*97.3*		*72.0-128*		*10/24/2019 21:03*	WG1368742

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	18.1		4.00	1	10/22/2019 09:02	WG1366382
C28-C40 Oil Range	54.3		4.00	1	10/22/2019 09:02	WG1366382
(S) o-Terphenyl	*66.7*		*18.0-148*		*10/22/2019 09:02*	WG1366382

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	684		50.0	5	10/23/2019 15:05	WG1367862

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	10/26/2019 19:14	WG1369842
Toluene	ND		0.00500	1	10/26/2019 19:14	WG1369842
Ethylbenzene	ND		0.000500	1	10/26/2019 19:14	WG1369842
Total Xylene	ND		0.00150	1	10/26/2019 19:14	WG1369842
TPH (GC/FID) Low Fraction	0.113	B	0.100	1	10/26/2019 19:14	WG1369842
(S) a,a,a-Trifluorotoluene(FID)	*104*		*77.0-120*		*10/26/2019 19:14*	WG1369842
(S) a,a,a-Trifluorotoluene(PID)	*98.0*		*72.0-128*		*10/26/2019 19:14*	WG1369842

Sample Narrative:

L1151542-13 WG1369842: Low IS/SURR recovery due to matrix effect.

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	7.15		4.00	1	10/21/2019 21:27	WG1366382
C28-C40 Oil Range	13.0		4.00	1	10/21/2019 21:27	WG1366382
(S) o-Terphenyl	*61.8*		*18.0-148*		*10/21/2019 21:27*	WG1366382

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

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	679		50.0	5	10/23/2019 15:14	WG1367862

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	ND		0.000510	1.02	10/24/2019 21:50	WG1368742
Toluene	ND		0.00510	1.02	10/24/2019 21:50	WG1368742
Ethylbenzene	ND		0.000510	1.02	10/24/2019 21:50	WG1368742
Total Xylene	ND		0.00153	1.02	10/24/2019 21:50	WG1368742
TPH (GC/FID) Low Fraction	0.124	B	0.102	1.02	10/24/2019 21:50	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/24/2019 21:50*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*97.8*		*72.0-128*		*10/24/2019 21:50*	WG1368742

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	10/21/2019 21:53	WG1366382
C28-C40 Oil Range	4.33	B	4.00	1	10/21/2019 21:53	WG1366382
(S) o-Terphenyl	*68.8*		*18.0-148*		*10/21/2019 21:53*	WG1366382

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

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	663		50.0	5	10/23/2019 15:24	WG1367862

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	10/24/2019 22:12	WG1368742
Toluene	ND		0.00500	1	10/24/2019 22:12	WG1368742
Ethylbenzene	ND		0.000500	1	10/24/2019 22:12	WG1368742
Total Xylene	ND		0.00150	1	10/24/2019 22:12	WG1368742
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2019 22:12	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*101*		*77.0-120*		*10/24/2019 22:12*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*97.3*		*72.0-128*		*10/24/2019 22:12*	WG1368742

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	10/21/2019 21:40	WG1366382
C28-C40 Oil Range	4.89	B	4.00	1	10/21/2019 21:40	WG1366382
(S) o-Terphenyl	*71.5*		*18.0-148*		*10/21/2019 21:40*	WG1366382

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	719		10.0	1	10/23/2019 15:33	WG1367862

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	10/24/2019 22:35	WG1368742
Toluene	ND		0.00500	1	10/24/2019 22:35	WG1368742
Ethylbenzene	ND		0.000500	1	10/24/2019 22:35	WG1368742
Total Xylene	ND		0.00150	1	10/24/2019 22:35	WG1368742
TPH (GC/FID) Low Fraction	ND		0.100	1	10/24/2019 22:35	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*101*		*77.0-120*		*10/24/2019 22:35*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*97.0*		*72.0-128*		*10/24/2019 22:35*	WG1368742

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	10/21/2019 20:43	WG1366382
C28-C40 Oil Range	ND		4.00	1	10/21/2019 20:43	WG1366382
(S) o-Terphenyl	*64.4*		*18.0-148*		*10/21/2019 20:43*	WG1366382

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	1040		50.0	5	10/23/2019 16:21	WG1367862

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	10/24/2019 23:28	WG1368742
Toluene	ND		0.00505	1.01	10/24/2019 23:28	WG1368742
Ethylbenzene	ND		0.000505	1.01	10/24/2019 23:28	WG1368742
Total Xylene	ND		0.00152	1.01	10/24/2019 23:28	WG1368742
TPH (GC/FID) Low Fraction	ND		0.101	1.01	10/24/2019 23:28	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*101*		*77.0-120*		*10/24/2019 23:28*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*96.1*		*72.0-128*		*10/24/2019 23:28*	WG1368742

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	10/21/2019 21:02	WG1366382
C28-C40 Oil Range	5.94		4.00	1	10/21/2019 21:02	WG1366382
(S) o-Terphenyl	*64.4*		*18.0-148*		*10/21/2019 21:02*	WG1366382

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

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	948		50.0	5	10/23/2019 16:31	WG1367862

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	10/24/2019 23:50	WG1368742
Toluene	ND		0.00500	1	10/24/2019 23:50	WG1368742
Ethylbenzene	ND		0.000500	1	10/24/2019 23:50	WG1368742
Total Xylene	ND		0.00150	1	10/24/2019 23:50	WG1368742
TPH (GC/FID) Low Fraction	0.114	B	0.100	1	10/24/2019 23:50	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/24/2019 23:50*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*97.8*		*72.0-128*		*10/24/2019 23:50*	WG1368742

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	7.93		4.00	1	10/21/2019 23:56	WG1366382
C28-C40 Oil Range	24.0		4.00	1	10/21/2019 23:56	WG1366382
(S) o-Terphenyl	*56.3*		*18.0-148*		*10/21/2019 23:56*	WG1366382

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

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	1470		50.0	5	10/23/2019 16:40	WG1367862

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	10/25/2019 00:12	WG1368742
Toluene	ND		0.00500	1	10/25/2019 00:12	WG1368742
Ethylbenzene	ND		0.000500	1	10/25/2019 00:12	WG1368742
Total Xylene	ND		0.00150	1	10/25/2019 00:12	WG1368742
TPH (GC/FID) Low Fraction	ND		0.100	1	10/25/2019 00:12	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*101*		*77.0-120*		*10/25/2019 00:12*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*96.3*		*72.0-128*		*10/25/2019 00:12*	WG1368742

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	10/21/2019 23:44	WG1366382
C28-C40 Oil Range	10.6		4.00	1	10/21/2019 23:44	WG1366382
(S) o-Terphenyl	*84.2*		*18.0-148*		*10/21/2019 23:44*	WG1366382

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

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	10/23/2019 16:50	WG1367862

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	10/25/2019 00:35	WG1368742
Toluene	ND		0.00500	1	10/25/2019 00:35	WG1368742
Ethylbenzene	ND		0.000500	1	10/25/2019 00:35	WG1368742
Total Xylene	ND		0.00150	1	10/25/2019 00:35	WG1368742
TPH (GC/FID) Low Fraction	0.151	B	0.100	1	10/25/2019 00:35	WG1368742
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*10/25/2019 00:35*	WG1368742
(S) a,a,a-Trifluorotoluene(PID)	*97.9*		*72.0-128*		*10/25/2019 00:35*	WG1368742

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	10/21/2019 21:15	WG1366382
C28-C40 Oil Range	ND		4.00	1	10/21/2019 21:15	WG1366382
(S) o-Terphenyl	*58.9*		*18.0-148*		*10/21/2019 21:15*	WG1366382

Method Blank (MB)

(MB) R3463888-1 10/22/19 21:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	3.40	J	0.795	10.0

L1151935-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1151935-01 10/22/19 23:29 • (DUP) R3463888-5 10/22/19 23:38

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	2520	2520	10	0.0339		20

L1151935-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1151935-05 10/23/19 00:16 • (DUP) R3463888-6 10/23/19 00:26

Analyte	Original Result (dry) mg/kg	DUP Result (dry) mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1700	1720	10	1.26		20

Laboratory Control Sample (LCS)

(LCS) R3463888-2 10/22/19 21:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	203	101	90.0-110	

L1150721-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1150721-11 10/22/19 22:22 • (MS) R3463888-3 10/22/19 22:32 • (MSD) R3463888-4 10/22/19 22:41

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 %
Chloride	500	99.4	606	598	101	99.8	1	80.0-120			1.23	20

Method Blank (MB)

(MB) R3464269-1 10/23/19 12:00

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	2.65	J	0.795	10.0

L1151542-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1151542-03 10/23/19 13:01 • (DUP) R3464269-3 10/23/19 13:11

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	802	783	5	2.39		20

L1151542-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1151542-20 10/23/19 16:50 • (DUP) R3464269-6 10/23/19 16:59

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	2.24	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3464269-2 10/23/19 12:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	202	101	90.0-110	

L1151542-16 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1151542-16 10/23/19 15:33 • (MS) R3464269-4 10/23/19 15:43 • (MSD) R3464269-5 10/23/19 16:11

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 %
Chloride	500	719	1190	1260	93.7	108	1	80.0-120	E	E	5.96	20

Method Blank (MB)

(MB) R3465180-3 10/24/19 16:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0625	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*101*			*72.0-128*

Laboratory Control Sample (LCS)

(LCS) R3465180-1 10/24/19 14:47

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0539	108	76.0-121	
Toluene	0.0500	0.0542	108	80.0-120	
Ethylbenzene	0.0500	0.0514	103	80.0-124	
Total Xylene	0.150	0.152	101	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*100*	*72.0-128*	

Laboratory Control Sample (LCS)

(LCS) R3465180-2 10/24/19 15:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.54	101	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*105*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*105*	*72.0-128*	

L1151542-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1151542-20 10/25/19 00:35 • (MS) R3465180-4 10/25/19 01:07 • (MSD) R3465180-5 10/25/19 01:29

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	0.151	4.05	3.88	70.9	70.6	1	10.0-151			4.29	28
(S) a,a,a-Trifluorotoluene(FID)					*99.3*	*101*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*101*	*102*		*72.0-128*				

L1151542-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1151542-20 10/25/19 00:35 • (MS) R3465180-6 10/25/19 01:52 • (MSD) R3465180-7 10/25/19 02:14

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 %
Benzene	0.0485	ND	0.0434	0.0404	89.5	84.2	1	10.0-155			7.16	32
Toluene	0.0485	ND	0.0404	0.0374	83.3	77.9	1	10.0-160			7.71	34
Ethylbenzene	0.0485	ND	0.0355	0.0343	73.2	71.5	1	10.0-160			3.44	32
Total Xylene	0.146	ND	0.0974	0.0939	66.7	65.2	1	10.0-160			3.66	32
(S) a,a,a-Trifluorotoluene(FID)					*101*	*101*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*97.7*	*97.9*		*72.0-128*				

Method Blank (MB)

(MB) R3465490-3 10/26/19 13:48

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0644	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*99.7*			*72.0-128*

Laboratory Control Sample (LCS)

(LCS) R3465490-1 10/26/19 11:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0588	118	76.0-121	
Toluene	0.0500	0.0596	119	80.0-120	
Ethylbenzene	0.0500	0.0572	114	80.0-124	
Total Xylene	0.150	0.166	111	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			*104*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*101*	*72.0-128*	

Laboratory Control Sample (LCS)

(LCS) R3465490-2 10/26/19 13:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.71	104	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*103*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*107*	*72.0-128*	

Method Blank (MB)

(MB) R3463033-1 10/20/19 17:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*77.9*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3463033-2 10/20/19 18:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	31.7	63.4	50.0-150	
(S) o-Terphenyl			*73.3*	*18.0-148*	

L1151462-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1151462-02 10/20/19 19:09 • (MS) R3463033-3 10/20/19 19:22 • (MSD) R3463033-4 10/20/19 19:36

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	51.7	153	331	213	344	116	1	50.0-150	J5	J3	43.3	20
(S) o-Terphenyl					*82.6*	*80.0*		*18.0-148*				

Method Blank (MB)

(MB) R3463553-1 10/21/19 19:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	0.524	J	0.274	4.00
(S) o-Terphenyl	*80.2*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3463553-2 10/21/19 19:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	31.4	62.8	50.0-150	
(S) o-Terphenyl			*80.2*	*18.0-148*	

L1151542-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1151542-12 10/22/19 09:02 • (MS) R3463553-3 10/22/19 09:14 • (MSD) R3463553-4 10/22/19 09:27

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 %
C10-C28 Diesel Range	50.0	18.1	53.0	48.3	69.8	60.4	1	50.0-150			9.28	20
(S) o-Terphenyl					*71.6*	*77.9*		*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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

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
B	The same analyte is found in the associated blank.
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.

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

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

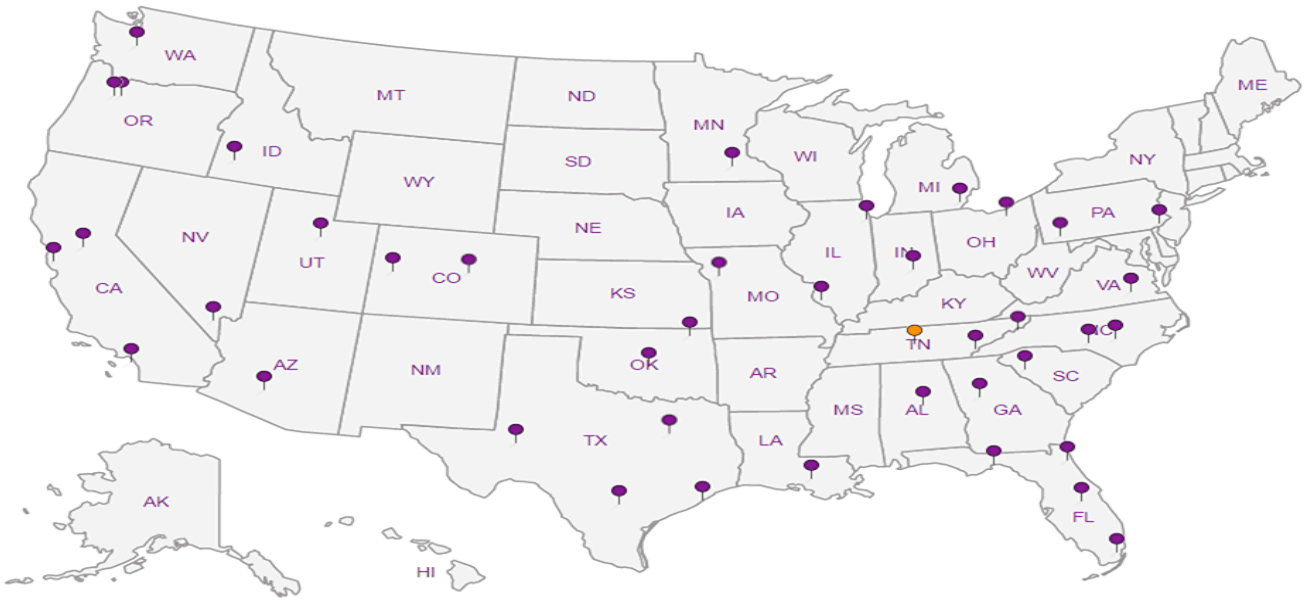
Third Party Federal Accreditations

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.



Billing Information: ATTN: Jennifer Deal

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: jdeal@hilcorp.com; khoekstra@hilcorp

Project Description: 32-8 Water Line

City/State Collected: Aztec, NM

Lab Project #

L# L1151542

C133

Collected by (print): K Hoekstra

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

Site/Facility ID # 32-8 Water Line

P.O. #

Quote #

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

Date Results Needed

Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH - 8015 - DRO, MRO	BTEX 8021	Chloride 300.0	Remarks	Sample # (lab only)
N. 1/2 Source	Comp	SS		10-16	9:35	1	X	X	X		-01
S. 1/2 Source	Comp	SS		10-16	9:40	1	X	X	X		02
Sample 1	Comp	SS		10-16	9:47	1	X	X	X		03
Sample 2	Comp	SS		10-16	9:54	1	X	X	X		04
Sample 3	Comp	SS		10-16	9:59	1	X	X	X		05
Sample 4	Comp	SS		10-16	10:03	1	X	X	X		06
Sample 5	Comp	SS		10-16	10:08	1	X	X	X		07
Sample 6	Comp	SS		10-16	10:13	1	X	X	X		08
Sample 7	Comp	SS		10-16	10:20	1	X	X	X		09
Sample 8	Comp	SS		10-16	10:24	1	X	X	X		10

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: ___ UPS ___ FedEx ___ Courier ___ _____

Tracking # FedEx 4794 8841 5876

Sample Receipt Checklist

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

RAD SCREEN: <0.5 mR/hr

	Date:	Time:		
Relinquished by : (Signature) Kurt Hoekstra	10-17-19	2:15	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.6 2.0 1.6 °C Bottles Received: 20
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/18/19 Time: 9:00

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Billing Information: ATTN: Jennifer Deal

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

L# L151542

Report to: Jennifer Deal

Email To: jdeal@hilcorp.com; khoekstra@hilcorp

Project Description: 32-8 Water Line

City/State Collected: Aztec, NM

Client Project #

Lab Project #

MRO

Collected by (print): K Hoekstra

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

Site/Facility ID # 32-8 Water Line

P.O. #

Quote #

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

Date Results Needed

Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH - 8015 - DRO,	BTEX 8021	Chloride 300.0	Remarks	Sample # (lab only)
Sample 9	Comp	SS		10-16	10:28	1	X	X	X		-11
Sample 10	Comp	SS		10-16	10:32	1	X	X	X		12
Sample 11	Comp	SS		10-16	10:37	1	X	X	X		13
Sample 12	Comp	SS		10-16	10:42	1	X	X	X		14
Sample 13	Comp	SS		10-16	10:48	1	X	X	X		15
Sample 14	Comp	SS		10-16	10:53	1	X	X	X		16
Sample 15	Comp	SS		10-16	10:58	1	X	X	X		17
Sample 16	Comp	SS		10-16	11:04	1	X	X	X		18
Sample 17	Comp	SS		10-16	11:09	1	X	X	X		19
Background	Comp	SS		10-16	11:42	1	X	X	X		20

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist
COC Seal Present/Intact: ✓ NP ___Y ___N
COC Signed/Accurate: ___Y ___N
Bottles arrive intact: ___Y ___N
Correct bottles used: ___Y ___N
Sufficient volume sent: ___Y ___N
If Applicable
VOA Zero Headspace: ___Y ___N
Preservation Correct/Checked: ___Y ___N
RAD SCREEN: <0.5 mR/hr

Samples returned via: ___ UPS ___ FedEx ___ Courier ___

Tracking #

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Kurt Hoekstra	10-17-19	2:15	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No (0) HCL / MeoH TBR

Temp: 1.6 °C Bottles Received: 20

Date: 10/18/19 Time: 9:00

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 18, 2019

HilCorp-Farmington, NM

Sample Delivery Group:	L1160039
Samples Received:	11/13/2019
Project Number:	
Description:	SJ 32-8 Water Line
Site:	SJ 32-8 WATER LINE
Report To:	Jennifer Deal 382 Road 3100 Aztec, NM 87401

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

SOURCE 8" L1160039-01 Solid

Collected by: K Hoekstra | Collected date/time: 11/11/19 09:28 | Received date/time: 11/13/19 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1379898	1	11/13/19 20:30	11/14/19 05:03	ELN	Mt. Juliet, TN

S1 8" L1160039-02 Solid

Collected by: K Hoekstra | Collected date/time: 11/11/19 09:47 | Received date/time: 11/13/19 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1379898	1	11/13/19 20:30	11/14/19 05:18	ELN	Mt. Juliet, TN

S8 8" L1160039-03 Solid

Collected by: K Hoekstra | Collected date/time: 11/11/19 11:23 | Received date/time: 11/13/19 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1379898	1	11/13/19 20:30	11/14/19 05:33	ELN	Mt. Juliet, TN

S10 8" L1160039-04 Solid

Collected by: K Hoekstra | Collected date/time: 11/11/19 11:38 | Received date/time: 11/13/19 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1379898	1	11/13/19 20:30	11/14/19 05:48	ELN	Mt. Juliet, TN

S15 8" L1160039-05 Solid

Collected by: K Hoekstra | Collected date/time: 11/11/19 14:49 | Received date/time: 11/13/19 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1381277	1	11/17/19 23:05	11/18/19 00:53	ST	Mt. Juliet, TN

S16 8" L1160039-06 Solid

Collected by: K Hoekstra | Collected date/time: 11/11/19 15:41 | Received date/time: 11/13/19 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1381277	1	11/17/19 23:05	11/18/19 01:03	ST	Mt. Juliet, TN

S17 8" L1160039-07 Solid

Collected by: K Hoekstra | Collected date/time: 11/11/19 16:24 | Received date/time: 11/13/19 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1381277	1	11/17/19 23:05	11/18/19 01:12	ST	Mt. Juliet, TN

DOWN GRADIENT S17 L1160039-08 Solid

Collected by: K Hoekstra | Collected date/time: 11/11/19 16:56 | Received date/time: 11/13/19 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1381277	1	11/17/19 23:05	11/18/19 01:22	ST	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.

Olivia Studebaker
Project Manager

SOURCE 8
Collected date/time: 11/11/19 09:28
L1160039

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	222		10.0	1	11/14/2019 05:03	WG1379898

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	306		10.0	1	11/14/2019 05:18	WG1379898

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	490		10.0	1	11/14/2019 05:33	WG1379898

S10-8
Collected date/time: 11/11/19 11:38
L1160039

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	519		10.0	1	11/14/2019 05:48	WG1379898

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	283		10.0	1	11/18/2019 00:53	WG1381277

S10 8

Collected date/time: 11/11/19 15:41

L1160039

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	552		10.0	1	11/18/2019 01:03	WG1381277

Collected date/time: 11/11/19 16:24

L1160039

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	743		10.0	1	11/18/2019 01:12	WG1381277

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	32.8	B	10.0	1	11/18/2019 01:22	WG1381277

Method Blank (MB)

(MB) R3471905-1 11/13/19 22:20

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	3.02	J	0.795	10.0

L1159282-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1159282-14 11/13/19 23:04 • (DUP) R3471905-3 11/13/19 23:19

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	134	134	1	0.670		20

L1160036-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1160036-01 11/14/19 04:33 • (DUP) R3471905-6 11/14/19 04:48

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	6.26	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R3471905-2 11/13/19 22:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	201	101	90.0-110	

L1159289-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1159289-08 11/14/19 02:34 • (MS) R3471905-4 11/14/19 02:49 • (MSD) R3471905-5 11/14/19 03:04

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 %
Chloride	500	36.2	535	516	99.8	96.0	1	80.0-120			3.61	20

Method Blank (MB)

(MB) R3473035-1 11/18/19 00:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	4.16	J	0.795	10.0

L1160077-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1160077-07 11/18/19 02:57 • (DUP) R3473035-4 11/18/19 03:06

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	79.2	87.0	1	9.34		20

Laboratory Control Sample (LCS)

(LCS) R3473035-2 11/18/19 00:34

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	203	101	90.0-110	

L1160077-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1160077-08 11/18/19 03:16 • (MS) R3473035-5 11/18/19 03:26 • (MSD) R3473035-6 11/18/19 03:35

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 %
Chloride	500	78.8	583	560	101	96.2	1	80.0-120			4.08	20

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

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.
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
B	The same analyte is found in the associated blank.
J	The identification of the analyte is acceptable; the reported value is an estimate.

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

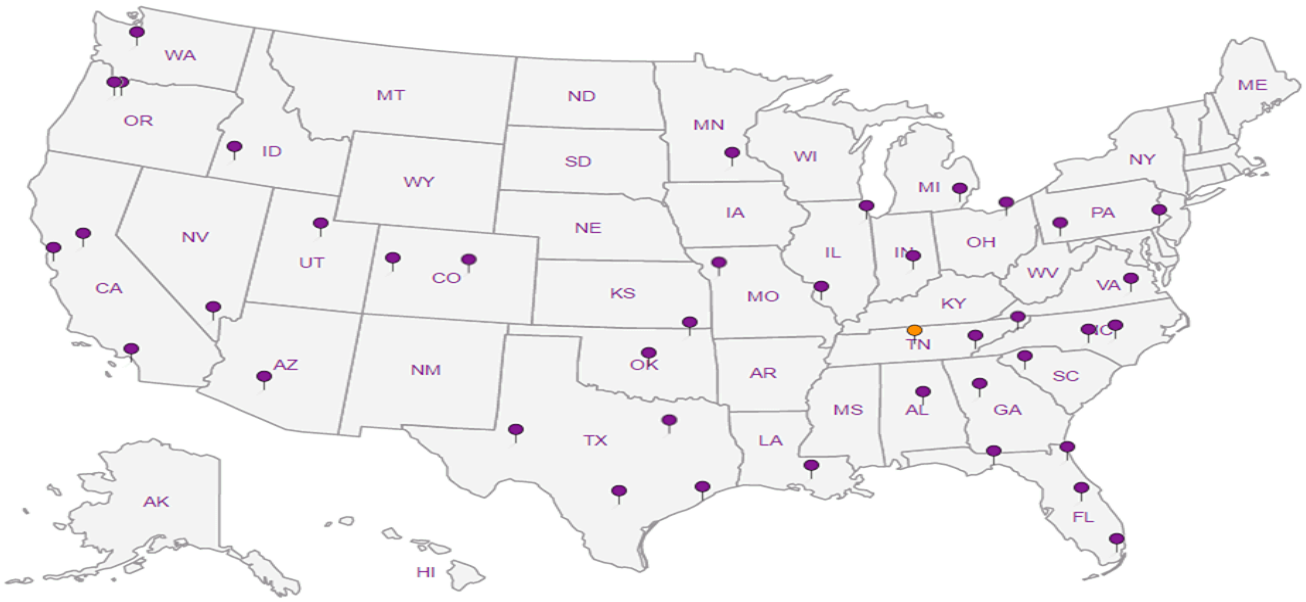
Third Party Federal Accreditations

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.



See Remarks: Please Do Not Analyze Hold Samples until Advised.

Billing Information: **ATTN: Jennifer Deal**

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: **jdeal@hilcorp.com; khoekstra@hilcorp**

Project Description: **SJ 32-8 Water Line**

City/State Collected: **Aztec, NM**

Phone: **505-324-5128**
Fax:

Client Project #

Lab Project #

L# L1160039

M029

Collected by (print): **K Hoekstra**

Site/Facility ID # **SJ 32-8 Water Line**

P.O. #

Acctnum: **HILCORANM**

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Template:
Prelogin:
TSR:
PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride 300.0									Remarks	Sample # (lab only)
Source 8"	Comp	SS	8"	11-11	9:28	1	X										-01
S1 8"	Comp	SS	8"	11-11	9:47	1	X										-02
S1 16"	Comp	SS	16"	11-11	12:18	1	X									Hold 1	
S8 8"	Comp	SS	8"	11-11	11:23	1	X										-03
S8 16"	Comp	SS	16"	11-11	1:38	1	X									Hold 1	
S8 26"	Comp	SS	26"	11-11	1:42	1	X									Hold 2	
S10 8"	Comp	SS	8"	11-11	11:38	1	X										-04
S10 16"	Comp	SS	16"	11-11	1:58	1	X									Hold 1	
S10 24"	Comp	SS	24"	11-11	2:03	1	X									Hold 2	
																	-05

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier __ _____

Tracking # 4794 8836 9531

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

RAD SCREEN: <0.5 mR/hr

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Kurt Hoekstra	11-12-19	9:00		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: -3+1=4°C Bottles Received: 18
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 11-13-19 Time: 8:40

If preservation required by Login: Date/Time

H 11-068

Condition: NCF / OK

See Remarks: Please Do Not Analyze Hold Samples until Advised.

Billing Information: **ATTN: Jennifer Deal**

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: **jdeal@hilcorp.com; khoekstra@hilcorp**

Project Description: **SJ 32-8 Water Line**

City/State Collected: **Aztec, NM**

Phone: **505-324-5128**
Fax:

Client Project #

Lab Project #

L # L1160039

Table #

Collected by (print): **K Hoekstra**

Site/Facility ID # **SJ 32-8 Water Line**

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 ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
X Three Day

Date Results Needed

Quote #

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride 300.0									Remarks	Sample # (lab only)
S15 8"	Comp	SS	8"	11-11	2:49	1	X										-05 -06
S15 16"	Comp	SS	16"	11-11	2:53	1	X									Hold 1	
S15 24"	Comp	SS	24"	11-11	2:57	1	X									Hold 2	
S16 8"	Comp	SS	8"	11-11	3:41	1	X										-06 -07
S16 16"	Comp	SS	16"	11-11	3:45	1	X									Hold 1	
S17 8"	Comp	SS	8"	11-11	4:24	1	X										-07 -08
S17 16"	Comp	SS	16"	11-11	4:28	1	X									Hold 1	
S17 24"	Comp	SS	24"	11-11	4:35	1	X									Hold 2	
Down Gradient S17	Comp	SS		11-11	4:56	1	X										-08

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP __Y __N
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD SCREEN: <0.5 mR/hr

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Kurt Hoekstra	11-12-19	9:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: -3.1 +1.2 °C Bottles Received:	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 21, 2019

HilCorp-Farmington, NM

Sample Delivery Group:	L1162361
Samples Received:	11/13/2019
Project Number:	
Description:	SJ 32-8 Water Line
Site:	SJ 32-8 WATER LINE
Report To:	Jennifer Deal 382 Road 3100 Aztec, NM 87401

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

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SAMPLE SUMMARY

S17 16" L1162361-01 Solid

Collected by: K Hoekstra
Collected date/time: 11/11/19 16:28
Received date/time: 11/13/19 08:40

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1383481	1	11/21/19 07:57	11/21/19 10:15	ELN	Mt. Juliet, TN

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

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.

Olivia Studebaker
Project Manager

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	488		10.0	1	11/21/2019 10:15	WG1383481

Method Blank (MB)

(MB) R3474609-1 11/21/19 09:32

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	3.06	J	0.795	10.0

Laboratory Control Sample (LCS)

(LCS) R3474609-2 11/21/19 09:42

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	203	101	90.0-110	

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
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.
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
J	The identification of the analyte is acceptable; the reported value is an estimate.

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

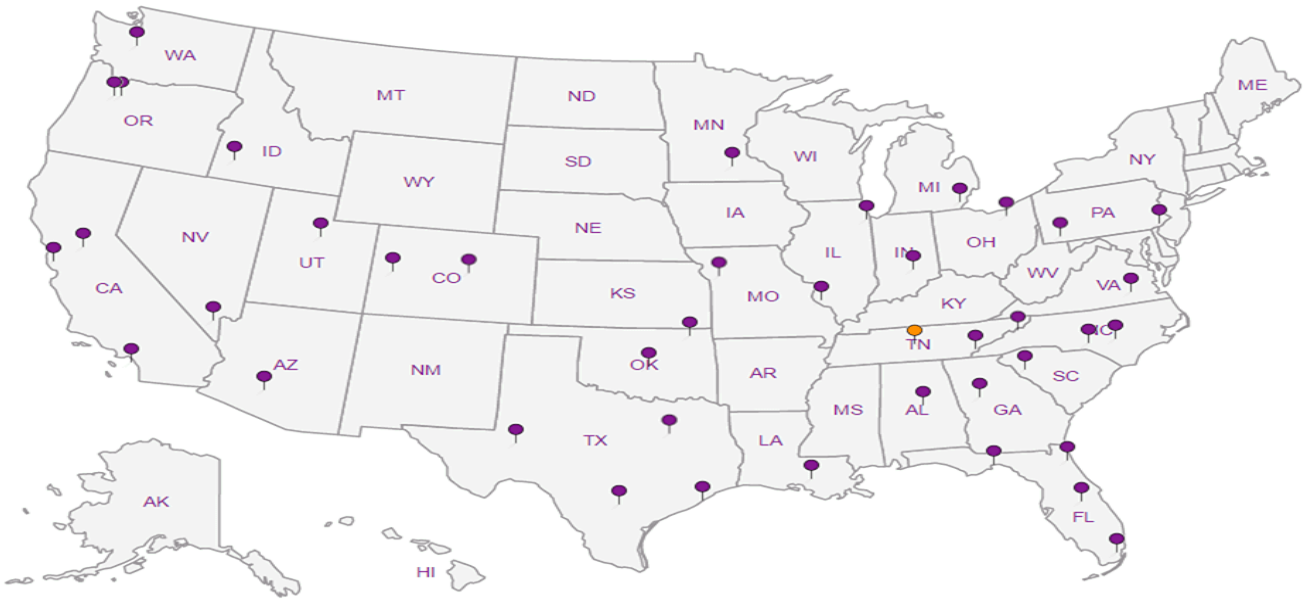
Third Party Federal Accreditations

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.



See Remarks: Please Do Not Analyze Hold Samples until Advised.

Billing Information: **ATTN: Jennifer Deal**

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: **jdeal@hilcorp.com; khoekstra@hilcorp**

Project Description: **SJ 32-8 Water Line**

City/State Collected: **Aztec, NM**

Phone: **505-324-5128**
Fax:

Client Project #

Lab Project #

L # ~~L1160039~~ M029 L1162361

Collected by (print): **K Hoekstra**

Site/Facility ID # **SJ 32-8 Water Line**

P.O. #

Acctnum: **HILCORANM**

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride 300.0	Remarks	Sample # (lab only)
Source 8"	Comp	SS	8"	11-11	9:28	1	X		~~01~~
S1 8"	Comp	SS	8"	11-11	9:47	1	X		-02
S1 16"	Comp	SS	16"	11-11	12:18	1	X	Hold 1	
S8 8"	Comp	SS	8"	11-11	11:23	1	X		-03
S8 16"	Comp	SS	16"	11-11	1:38	1	X	Hold 1	
S8 26"	Comp	SS	26"	11-11	1:42	1	X	Hold 2	
S10 8"	Comp	SS	8"	11-11	11:38	1	X		-04
S10 16"	Comp	SS	16"	11-11	1:58	1	X	Hold 1	
S10 24"	Comp	SS	24"	11-11	2:03	1	X	Hold 2	
									~~05~~

AV 11/19/19

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier _____

Tracking # 4794 8836 9531

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

RAD SCREEN: <0.5 mR/hr

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR
Kurt Hoekstra	11-12-19	9:00		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3+1=4 °C Bottles Received: 18
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 11-13-19 Time: 8:40

If preservation required by Login: Date/Time

11-068

Condition: NCF / OK

See Remarks: Please Do Not Analyze Hold Samples until Advised.

Billing Information: **ATTN: Jennifer Deal**

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: **jdeal@hilcorp.com; khoekstra@hilcorp**

Project Description: **SJ 32-8 Water Line**

City/State Collected: **Aztec, NM**

Phone: **505-324-5128**
Fax:

Client Project #

Lab Project #

Collected by (print): **K Hoekstra**

Site/Facility ID # **SJ 32-8 Water Line**

P.O. #

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

L # ~~L1160037~~

Table # L116236

Acctnum: **HILCORANM**

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Chloride 300.0	Remarks	Sample # (lab only)
S15 8"	Comp	SS	8"	11-11	2:49	1	X		~~-05~~ -06
S15 16"	Comp	SS	16"	11-11	2:53	1	X	Hold 1	
S15 24"	Comp	SS	24"	11-11	2:57	1	X	Hold 2	
S16 8"	Comp	SS	8"	11-11	3:41	1	X		~~-06~~ -07
S16 16"	Comp	SS	16"	11-11	3:45	1	X	Hold 1	
S17 8"	Comp	SS	8"	11-11	4:24	1	X		~~-07~~ -08
S17 16"	Comp	SS	16"	11-11	4:28	1	X	Hold 1	-01
S17 24"	Comp	SS	24"	11-11	4:35	1	X	Hold 2	
Down Gradient S17	Comp	SS		11-11	4:56	1	X		~~-08~~

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

Remarks:

pH ___ Temp ___

Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier __ ___

Tracking #

Sample Receipt Checklist

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

RAD SCREEN: <0.5 mR/hr

	Date:	Time:		
Relinquished by : (Signature) Kurt Hoekstra	11-12-19	9:00	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 3.1 +.4 °C Bottles Received:
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Andy Vann

From: Olivia Studebaker
Sent: Monday, November 18, 2019 4:08 PM
To: Project Service; Sample Storage; Due WetLab
Subject: FW: [EXTERNAL] Pace National Report for SJ 32-8 Water Line L1160039

Importance: High

Please release sample ID S17 16" from hold and log to a new SDG for CHLORIDE-300. Please log as R4 due 11/21.

Thank you,
Olivia

Olivia Studebaker
Project Manager
Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
615-773-9663
ostudebaker@pacenational.com| pacenational.com

ESC Lab Sciences is now Pace Analytical National Center for Testing & Innovation! Please make note of my new email address and website.

From: Jennifer Deal [mailto:jdeal@hilcorp.com]
Sent: Monday, November 18, 2019 4:04 PM
To: Olivia Studebaker; Kurt Hoekstra
Subject: RE: [EXTERNAL] Pace National Report for SJ 32-8 Water Line L1160039
Importance: High

Can you run the S17 16" sample for chlorides. 3 day turnaround. I believe it is on hold.

Thank you,

Jennifer Deal
Environmental Specialist
Hilcorp Energy – L48 West
jdeal@hilcorp.com
Office: (505) 324-5128
Cell: 505-801-6517

From: ostudebaker@pacenational.com [mailto:ostudebaker@pacenational.com]
Sent: Monday, November 18, 2019 3:01 PM
To: Jennifer Deal <jdeal@hilcorp.com>; Kurt Hoekstra <khoekstra@hilcorp.com>

Subject: [EXTERNAL] Pace National Report for SJ 32-8 Water Line L1160039
Importance: High

"Privileged and Confidential"

Please find enclosed PDF report containing your laboratory analysis and chain of custody.

Happy Holidays from Pace National.

Pace Analytical National Center for Testing & Innovation will be closed for the Holidays per the below (all times CST):
Thursday November 28th
Tuesday December 24th at Noon -> Wednesday December 25th
Tuesday December 31st at Noon -> Wednesday January 1st

Considering these dates, please refrain from shipping:
Any/All Samples on Wednesday 11/27, Tuesday 12/24, and Monday 12/30 to avoid a minimum 24-hour delay in processing your samples which may result in unavoidable non-conformance issues.

Pace Analytical National Center for Testing & Innovation will not be accepting these sample types per the following dates:
BOD Samples on Saturday 11/23, Friday 12/20, and Friday 12/27 as the 5-day BOD take off run falls on a holiday.
Microbiological Samples on Wednesday 11/27, Tuesday 12/24 or Tuesday 12/31.

Olivia Studebaker
Project Manager
615-773-9663
ostudebaker@pacenational.com

Pace Analytical National
12065 Lebanon Rd
Mount Juliet, TN 37122
www.pacenational.com

Recipients configured to receive report file: jdeal@hilcorp.com, khoekstra@hilcorp.com

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

April 03, 2020

HilCorp-Farmington, NM

Sample Delivery Group:	L1204481
Samples Received:	04/01/2020
Project Number:	
Description:	San Juan 32-8 Gathering Line
Site:	SJ 32-8 GATHERIING LINE
Report To:	Jenifer Deal 382 Road 3100 Aztec, NM 87410

Entire Report Reviewed By:

[Preliminary Report]

Olivia Studebaker
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

TABLE OF CONTENTS

SOIL PILE L1204481-01 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 09:07 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 00:16	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015	WG1454597	1	04/01/20 14:37	04/03/20 15:00	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8021	WG1454654	1	04/02/20 14:51	04/02/20 22:15	JHH	Mt. Juliet, TN

S1 SURFACE L1204481-02 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 09:28 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 00:34	ELN	Mt. Juliet, TN

S2 SURFACE L1204481-03 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 09:56 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	5	04/01/20 22:05	04/02/20 00:44	ELN	Mt. Juliet, TN

S2 8" L1204481-04 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 10:00 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 00:53	ELN	Mt. Juliet, TN

S3 SURFACE L1204481-05 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 10:27 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 01:03	ELN	Mt. Juliet, TN

S3 8" L1204481-06 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 10:32 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 01:50	ELN	Mt. Juliet, TN

S6 SURFACE L1204481-07 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 11:52 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	5	04/01/20 22:05	04/02/20 02:00	ELN	Mt. Juliet, TN

S6 8" L1204481-08 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 11:55 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	5	04/01/20 22:05	04/02/20 02:09	ELN	Mt. Juliet, TN

S7 SURFACE L1204481-09 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 12:26 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 02:19	ELN	Mt. Juliet, TN

S7 8" L1204481-10 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 12:30 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 02:28	ELN	Mt. Juliet, TN

S8 SURFACE L1204481-11 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 13:08 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	5	04/01/20 22:05	04/02/20 02:38	ELN	Mt. Juliet, TN

S10 SURFACE L1204481-12 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 13:37 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	5	04/01/20 22:05	04/02/20 02:47	ELN	Mt. Juliet, TN

S11 SURFACE L1204481-13 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 14:28 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	5	04/01/20 22:05	04/02/20 02:57	ELN	Mt. Juliet, TN

S11 8" L1204481-14 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 14:33 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 03:06	ELN	Mt. Juliet, TN

S12 SURFACE L1204481-15 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 15:07 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 03:16	ELN	Mt. Juliet, TN

S12 8" L1204481-16 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 15:11 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 03:44	ELN	Mt. Juliet, TN

S13 SURFACE L1204481-17 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 15:58 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	5	04/01/20 22:05	04/02/20 03:54	ELN	Mt. Juliet, TN

S13 8" L1204481-18 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 16:03 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	1	04/01/20 22:05	04/02/20 04:04	ELN	Mt. Juliet, TN

S14 SURFACE L1204481-19 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 16:37 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	5	04/01/20 22:05	04/02/20 04:13	ELN	Mt. Juliet, TN

S14 8" L1204481-20 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 16:43 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453913	5	04/01/20 22:05	04/02/20 04:23	ELN	Mt. Juliet, TN

S15 SURFACE L1204481-21 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 17:50 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453915	5	04/01/20 23:00	04/02/20 11:02	ELN	Mt. Juliet, TN

S16 SURFACE L1204481-22 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 18:15 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453915	5	04/01/20 23:00	04/02/20 11:20	ELN	Mt. Juliet, TN

S17 SURFACE L1204481-23 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 18:53 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453915	5	04/01/20 23:00	04/02/20 11:38	ELN	Mt. Juliet, TN

S17 8" L1204481-24 Solid

Collected by: K. Hoekstra | Collected date/time: 03/30/20 19:00 | Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453915	1	04/01/20 23:00	04/02/20 11:56	ELN	Mt. Juliet, TN

DOWN GRADIENT S17 L1204481-25 Solid

Collected by: K. Hoekstra
Collected date/time: 03/30/20 19:08
Received date/time: 04/01/20 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1453915	1	04/01/20 23:00	04/02/20 12:13	ELN	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.

[Preliminary Report]

Olivia Studebaker
Project Manager

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	158		10.0	1	04/02/2020 00:16	WG1453913

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	04/02/2020 22:15	WG1454654
Toluene	ND		0.00500	1	04/02/2020 22:15	WG1454654
Ethylbenzene	ND		0.000500	1	04/02/2020 22:15	WG1454654
Total Xylene	ND		0.00150	1	04/02/2020 22:15	WG1454654
TPH (GC/FID) Low Fraction	ND		0.100	1	04/03/2020 15:00	WG1454597
(S) a,a,a-Trifluorotoluene(FID)	*97.5*		*77.0-120*		*04/03/2020 15:00*	WG1454597
(S) a,a,a-Trifluorotoluene(FID)	*103*		*77.0-120*		*04/02/2020 22:15*	WG1454654
(S) a,a,a-Trifluorotoluene(PID)	*0.000*	J2	*72.0-128*		*04/03/2020 15:00*	WG1454597
(S) a,a,a-Trifluorotoluene(PID)	*97.3*		*72.0-128*		*04/02/2020 22:15*	WG1454654

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	109		10.0	1	04/02/2020 00:34	WG1453913

S2 SURFACE
Collected date/time: 03/30/20 09:56
L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	172		50.0	5	04/02/2020 00:44	WG1453913

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	268		10.0	1	04/02/2020 00:53	WG1453913

SS SURFACE
Collected date/time: 03/30/20 10:27
L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	141		10.0	1	04/02/2020 01:03	WG1453913

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	283		10.0	1	04/02/2020 01:50	WG1453913

SG SURFACE
Collected date/time: 03/30/20 11:52
L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	294		50.0	5	04/02/2020 02:00	WG1453913

Collected date/time: 03/30/20 11:55

L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	515		50.0	5	04/02/2020 02:09	WG1453913

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	102		10.0	1	04/02/2020 02:19	WG1453913

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	221		10.0	1	04/02/2020 02:28	WG1453913

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	382		50.0	5	04/02/2020 02:38	WG1453913

S10 SURFACE
Collected date/time: 03/30/20 13:37
L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	551		50.0	5	04/02/2020 02:47	WG1453913

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	256		50.0	5	04/02/2020 02:57	WG1453913

SW-8
Collected date/time: 03/30/20 14:33
L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	330		10.0	1	04/02/2020 03:06	WG1453913

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	126		10.0	1	04/02/2020 03:16	WG1453913

SJ2 8
Collected date/time: 03/30/20 15:11
L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	320		10.0	1	04/02/2020 03:44	WG1453913

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	487		50.0	5	04/02/2020 03:54	WG1453913

Collected date/time: 03/30/20 16:03

L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	405		10.0	1	04/02/2020 04:04	WG1453913

SW SURFACE
Collected date/time: 03/30/20 16:37
L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	233		50.0	5	04/02/2020 04:13	WG1453913

Collected date/time: 03/30/20 16:43

L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	527		50.0	5	04/02/2020 04:23	WG1453913

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	202		50.0	5	04/02/2020 11:02	WG1453915

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	364		50.0	5	04/02/2020 11:20	WG1453915

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	229		50.0	5	04/02/2020 11:38	WG1453915

Collected date/time: 03/30/20 19:00

L1204481

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	90.9		10.0	1	04/02/2020 11:56	WG1453915

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	04/02/2020 12:13	WG1453915

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.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
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.
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.
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
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.

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

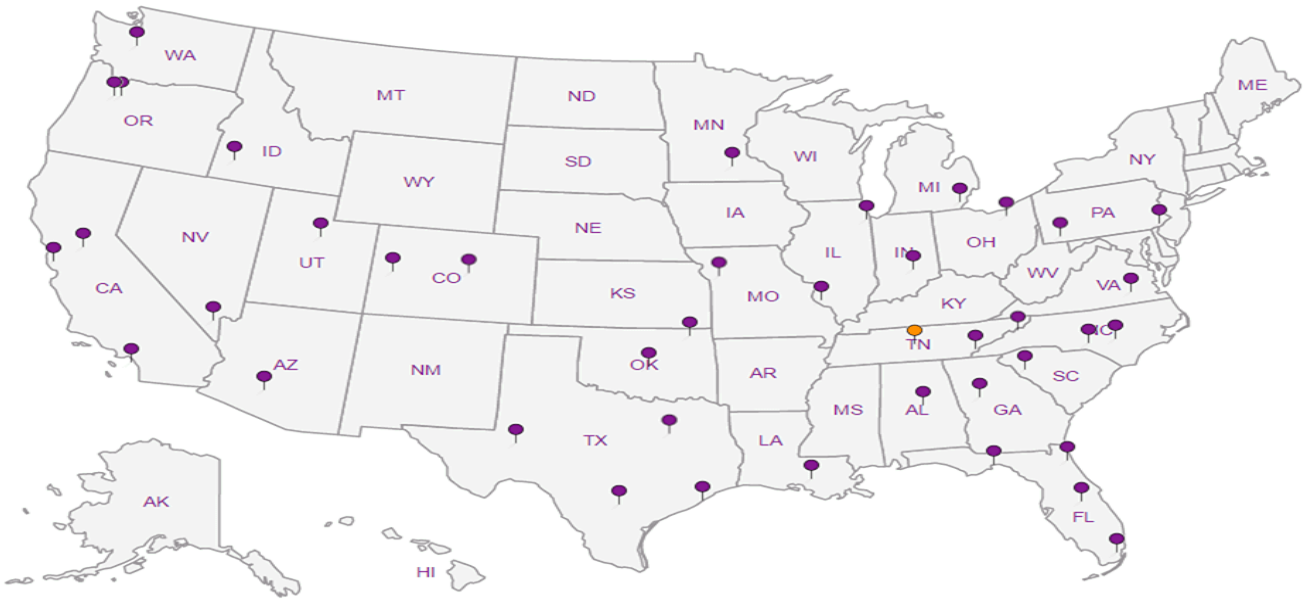
Third Party Federal Accreditations

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.



2 DAY

Billing Information: ATTN: Jennifer Deal

Pres Chk

Report to: Jennifer Deal

Email To: jdeal@hilcorp.com; khoekstra@hilcorp

Project Description: San Juan 32-8 Gathering Line

City/State Collected: Aztec, NM

Phone: 505-324-5128 Fax:

Client Project #

Lab Project #

Collected by (print): K Hoekstra

Site/Facility ID # SJ 32-8 Gathering Line

P.O. #

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH - 8015 - DRO, GRO, MRO	BTEX 8021	Chloride 300.0	Remarks	Sample # (lab only)
Soil Pile	Comp	SS	1'	3-30	9:07	1	X	X	X		01
S1 Surface	Comp	SS		3-30	9:28	1			X		02
S2 Surface	Comp	SS		3-30	9:56	1			X		03
S2 8"	Comp	SS	8"	3-30	10:00	1			X		04
S3 Surface	Comp	SS		3-30	10:27	1			X		05
S3 8"	Comp	SS	8"	3-30	10:32	1			X		06
S6 Surface	Comp	SS		3-30	11:52	1			X		07
S6 8"	Comp	SS	8"	3-30	11:55	1			X		08
S7 Surface	Comp	SS		3-30	12:26	1			X		09
S7 8"	Comp	SS	8"	3-30	12:30	1			X		10

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

L # 120448

1164

Acctnum: HILCORANM

Template:

Prelogin:

TSR:

PB:

Shipped Via:

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier __ _____

Tracking # 443034227688

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

RAD SCREEN: <0.5 mR/hr

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 0.4 °C Bottles Received:
1.0+0=1.0

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Kurt Hoekstra	3-31-20	10:00	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			Date: 4/1/20 Time: 845

2 DAY

Billing Information:

ATTN: Jennifer Deal

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: jdeal@hilcorp.com; khoekstra@hilcorp

Project Description: **San Juan 32-8 Gathering Line**

City/State Collected: **Aztec, NM**

Phone: **505-324-5128**
Fax:

Client Project #

Lab Project #

L # 1204481

I165

Collected by (print): **K Hoekstra**

Site/Facility ID # **SJ 32-8 Gathering Line**

P.O. #

Acctnum: **HILCORANM**

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH - 8015 - DRO, GRO, MRO	BTEX 8021	Chloride 300.0							Remarks	Sample # (lab only)
S8 Surface	Comp	SS		3-30	1:08	1			X								11
S10 Surface	Comp	SS		3-30	1:37	1			X								12
S11 Surface	Comp	SS		3-30	2:28	1			X								13
S11 8"	Comp	SS	8"	3-30	2:33	1			X								14
S12 Surface	Comp	SS		3-30	3:07	1			X								15
S12 8"	Comp	SS	8"	3-30	3:11	1			X								16
S13 Surface	Comp	SS		3-30	3:58	1			X								17
S13 8"	Comp	SS	8"	3-30	4:03	1			X								18
S14 Surface	Comp	SS		3-30	4:37	1			X								19
S14 8"	Comp	SS	8"	3-30	4:43	1			X								20

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

Remarks:

pH ___ Temp ___

Flow ___ Other ___

Samples returned via:
__ UPS __ FedEx __ Courier __ ___

Tracking # 443034227688

Sample Receipt Checklist
COC Seal Present/Intact: NP _Y _N
COC Signed/Accurate: ✓Y _N
Bottles arrive intact: ✓Y _N
Correct bottles used: ✓Y _N
Sufficient volume sent: ✓Y _N
If Applicable
VOA Zero Headspace: _Y _N
Preservation Correct/Checked: _Y _N

RAD SCREEN: <0.5 mR/hr

Relinquished by : (Signature) [signature]	Date: 3-31-20	Time: 10:00	Received by: (Signature)	Trip Blank Received: Yes / No (circled) HCL / MeoH TBR	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.0±0=1.0 °C	Bottles Received: 25	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 4/1/20	Time: 845	Hold:	Condition: NCF / OK

2 DAY

Billing Information: **ATTN: Jennifer Deal**

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: **jdeal@hilcorp.com; khoekstra@hilcorp**

Project Description: **San Juan 32-8 Gathering Line**

City/State Collected: **Aztec, NM**

Phone: **505-324-5128**
Fax:

Client Project #

Lab Project #

L# 120481
1166

Collected by (print): **K Hoekstra**

Site/Facility ID # **SJ 32-8 Gathering Line**

P.O. #

Acctnum: **HILCORANM**

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

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

Quote #

Date Results Needed

Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH - 8015 - DRO, GRO, MRO	BTEX 8021	Chloride 300.0	Remarks	Sample # (lab only)
S15 Surface	Comp	SS		3-30	5:50	1			X		21
S16 Surface	Comp	SS		3-30	6:15	1			X		22
S17 Surface	Comp	SS		3-30	6:53	1			X		23
S17 8"	Comp	SS	8"	3-30	7:00	1			X		24
Down Gradient S17	Comp	SS		3-30	7:08	1			X		25

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier __ _____

Tracking # 1430 3422 7688

Sample Receipt Checklist
COC Seal Present/Intact: NP __Y __N
COC Signed/Accurate: __Y __N
~~Bottles arrive intact:~~ __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N

RAD SCREEN: <0.5 mR/hr

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Kurt Hoekstra	3-31-20	10:00			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4.7 °C 1.0+0=1.0	Bottles Received: 25
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/1/20	Time: 845

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

PHOTOGRAPHIC LOG

Photograph 1: Beginning of leak.

Photograph 2: Produced water in wash.

PHOTOGRAPHIC LOG

Photograph 3: Produced water in wash.

Photograph 4: Soil sample location.

PHOTOGRAPHIC LOG

Photograph 5: Evidence of chlorides in wash.

Photograph 6: Soil sample location.

PHOTOGRAPHIC LOG

Photograph 7: Soil sample location.

Photograph 8: Soil sample location.

PHOTOGRAPHIC LOG

Photograph 8: End of leak.

PHOTOGRAPHIC LOG

Photograph 1: Near release location.

Photograph 2: Sample Area 1.

PHOTOGRAPHIC LOG

Photograph 3: Sample Area 2.

Photograph 4: Sample Area 3.

PHOTOGRAPHIC LOG

Photograph 5: Sample Area 6.

Photograph 6: Sample Area 7.

PHOTOGRAPHIC LOG

Photograph 7: Sample Area 8.

Photograph 8: Sample Area 10.

PHOTOGRAPHIC LOG

Photograph 9: Sample Area 11.

Photograph 10: Sample Area 12.

PHOTOGRAPHIC LOG

Photograph 11: Sample Area 13.

Photograph 12: Sample Area 14.

PHOTOGRAPHIC LOG

Photograph 13: Sample Area 15.

Photograph 14: Sample Area 16.

PHOTOGRAPHIC LOG

Photograph 15: Sample Area 17.

Photograph 16: Downgradient of S17.