

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	NCS1911540069
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 #NCS1911540069
Contact mailing address 382 Road 3100, Aztec NM 87410	

Location of Release Source

Latitude 36.8889351 _____ Longitude -108.0185242 _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Grenier 13F	Site Type Gas Well
Date Release Discovered 4/18/2019 @ 3:45pm	API# 30-045-33901

Unit Letter	Section	Township	Range	County
D	20	31N	11W	San Juan

Surface Owner: State Federal Tribal Private (Name: _____)

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 33	Volume Recovered (bbls) 0 bbl
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls) 0
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

33 bbls of produced water was released from a 4" hole in the Pit tank due to corrosion. The site was secured and the well was shut in and transporter was called to empty pit and cribbing. No standing fluids were recovered but 12 bbls was pulled from pit tank. Release remained inside the pit "cribbing".

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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?	>50 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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.

<p><u>Characterization Report Checklist:</u> Each of the following items must be included in the report.</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. <input checked="" type="checkbox"/> Field data <input checked="" type="checkbox"/> Data table of soil contaminant concentration data <input checked="" type="checkbox"/> Depth to water determination <input checked="" type="checkbox"/> Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release <input type="checkbox"/> Boring or excavation logs <input checked="" type="checkbox"/> Photographs including date and GIS information <input checked="" type="checkbox"/> Topographic/Aerial maps <input checked="" type="checkbox"/> Laboratory data including chain of custody
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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.

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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: 5/21/19

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

OCD Only

Received by: _____ Date: _____

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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: 5/21/19

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

OCD Only

Received by: OCD Via Email Date: 6/25/19

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:  Date: 7/8/19

Printed Name: Cory Title: Environmental Specialist

Scaled Map



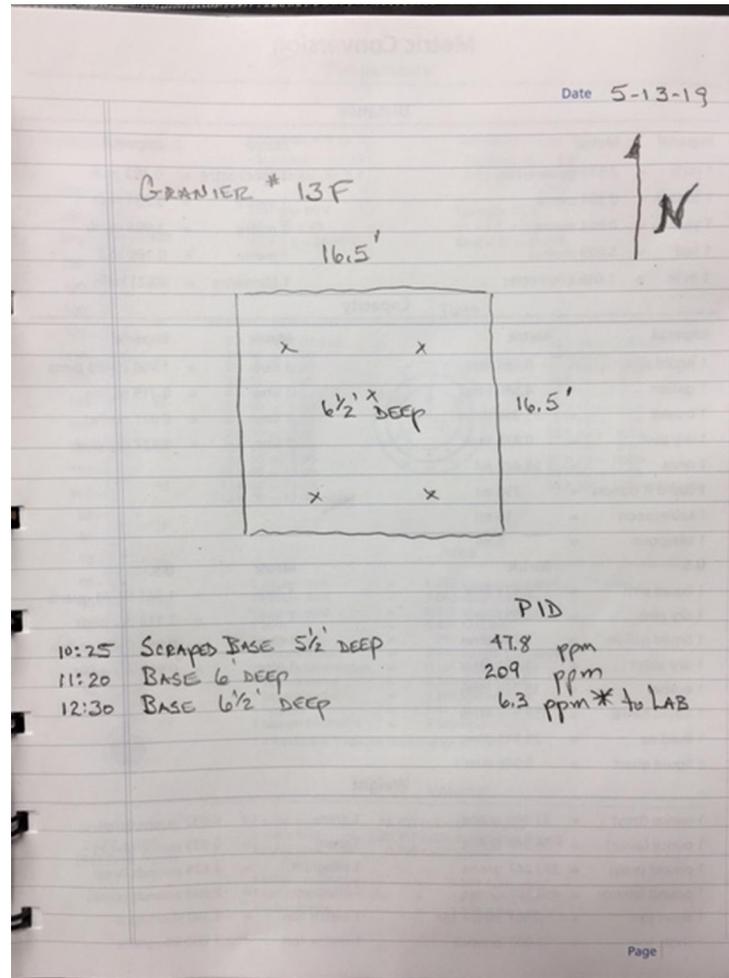
Photographs – 4/18/19 – Release event



Grenier 13F Release

- Removed the pit on 5/13/19 @ 9am and continued remediation. Since NMOCD was on site for the removal of the pit, confirmation sampling was approved by Cory Smith verbally for the same day
- Removed a total of 10 yds/3 of contaminated soil on 5/13/19

Field Data



Data table of soil contaminant concentration data

TABLE 1

SOIL ANALYTICAL RESULTS

GRENIER 13F

HILCORP ENERGY - L48 WEST

Soil Sample Identification	Sample Date	Field Headspace	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes	Total BTEX	Chlorides (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
Base BGT Cellar 6 1/2'	5/13/2019		0.000622	<0.005	<0.0005	<0.0015	0.000622	303	<0.1	<4.0	<4.0	<4.0
NMOCD Standards		NE	10	NE	NE	NE	50	600	NE	NE	NE	100

Depth to water determination



New Mexico Office of the State Engineer Water Column/Average Depth to Water

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

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

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

(NAD83 UTM in meters)

(In feet)

POD Number	Code	POD Sub-basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	DepthWell	DepthWater	Water Column
SJ 03458		SJ	SJ	4	3	3	19	31N	11W	229277	4085688*	140		
SJ 03858	POD1	SJ	SJ	3	2	4	18	31N	11W	230326	4087706	295	85	210

Average Depth to Water: **85 feet**
 Minimum Depth: **85 feet**
 Maximum Depth: **85 feet**

Record Count: 2

PLSS Search:

Section(s): 17-20

Township: 31N

Range: 11W

*UTM location was derived from PLSS - see Help

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

4/22/19 3:29 PM

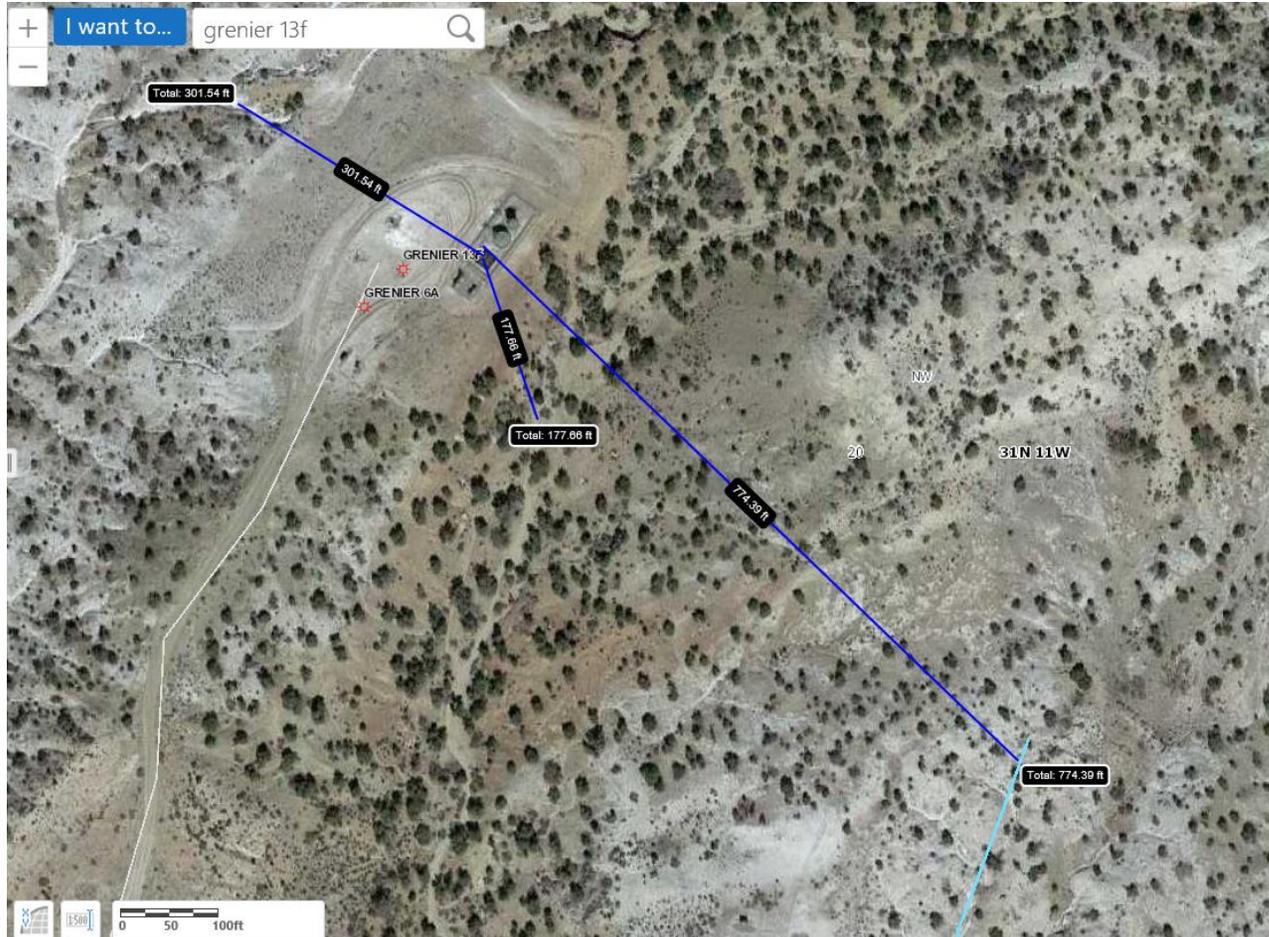
WATER COLUMN/ AVERAGE DEPTH
TO WATER

Ground Water Depth

- Pod Waters: 03858 POD1
 - Elevation = 6123 with a depth of 85ft
 - Well location elevation = 6126
 - GW depth ~ 82ft

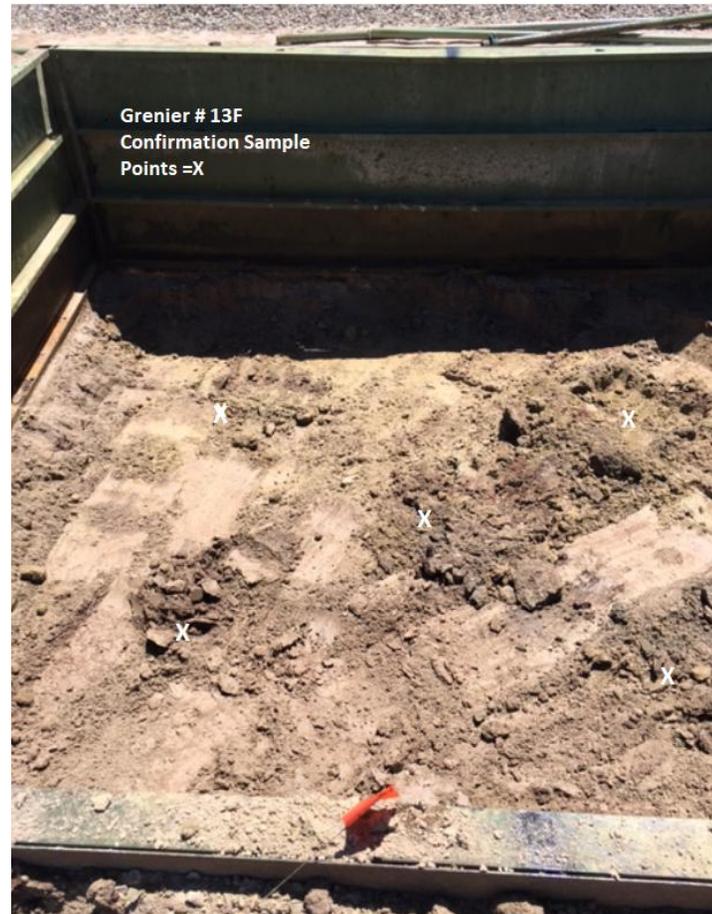
Determination of water sources and significant watercourses within ½ mile of the lateral extent of the release

N
↑



Photographs – 5/13/19 Sampling Event

Confirmation Sample Base



Photographs – After Cleanup



Topographic/Aerial Maps



Jennifer Deal

From: Mandi Walker
Sent: Thursday, May 9, 2019 8:00 AM
To: Smith, Cory, EMNRD
Cc: Jennifer Deal; Mike Murphy; Ramon Florez; Frank Anstead; Kurt Hoekstra
Subject: Grenier 13F - NCS1911540069

Importance: High

The subject well has a below-grade tank that will begin remediation of contaminated soil between 72 hours and one week from this notification. Please contact me at any time if you have any questions or concerns.

Well Name: Grenier 13F

API#: 30-045-33901

Location: D 20-31N-11W

Footages: 950' FNL & 1200' FWL

Operator: Hilcorp Energy

Surface Owner: Federal

Scheduled Date & Time of Start: **Monday May 13th @ 9:00 am.**

Reference Number: NCS1911540069

Please note that the BGT will be placed back in the same location following remediation

Mandi Walker

San Juan North Regulatory Technician

Hilcorp Energy

505.324.5122

mwalker@hilcorp.com

HilCorp-Farmington, NM

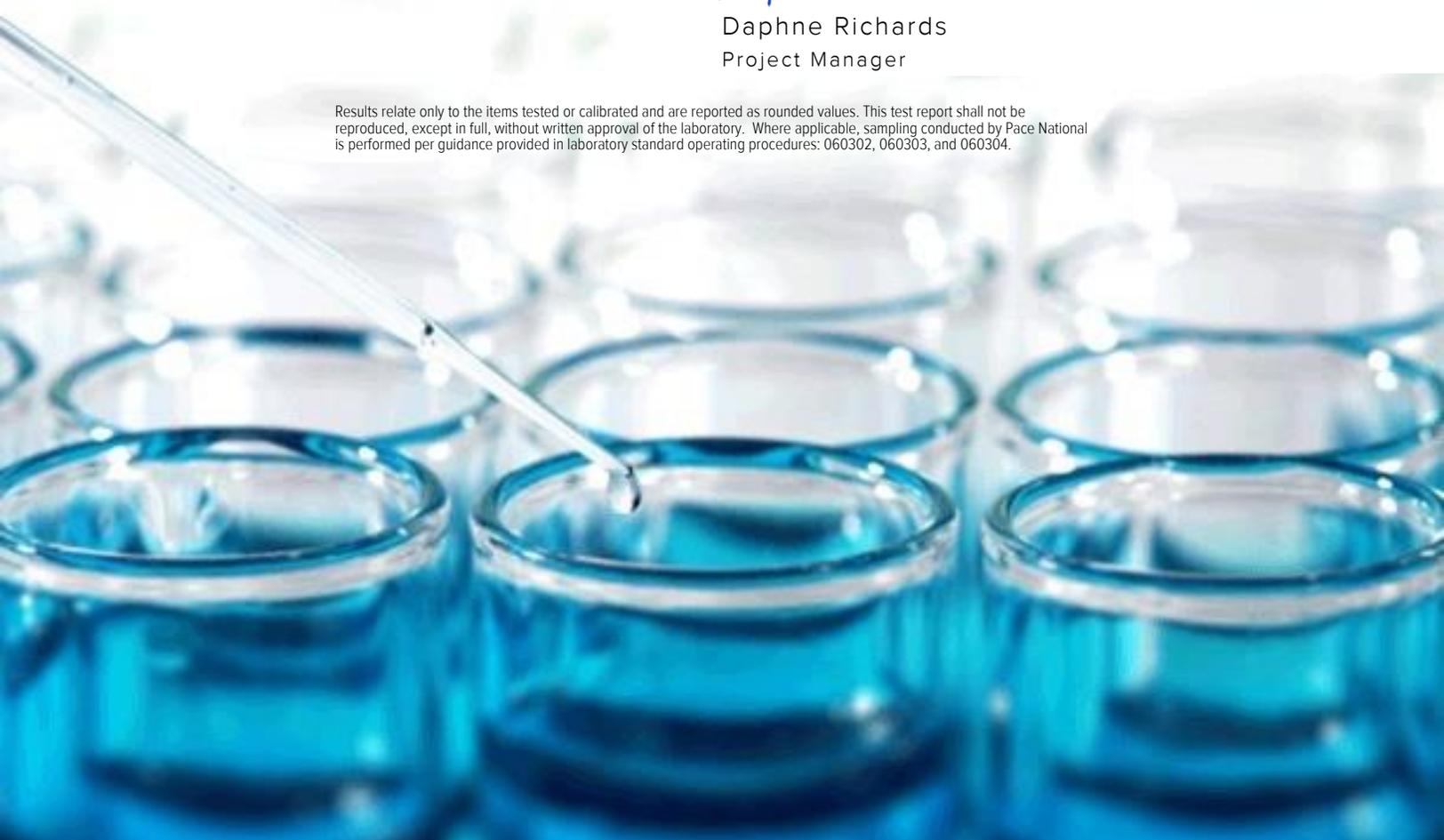
Sample Delivery Group: L1099039
Samples Received: 05/15/2019
Project Number: GRANIER #13F
Description: GRANIER #13F
Site: GRANIER #13F
Report To: Jennifer Deal
382 Road 3100
Aztec, NM 87401

Entire Report Reviewed By:



Daphne Richards
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 National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





Cp: Cover Page	1	¹Cp
Tc: Table of Contents	2	²Tc
Ss: Sample Summary	3	³Ss
Cn: Case Narrative	4	⁴Cn
Sr: Sample Results	5	⁵Sr
BASE BGT CELLAR 6 1/2' L1099039-01	5	⁶Qc
Qc: Quality Control Summary	6	⁷Gl
Wet Chemistry by Method 9056A	6	⁸Al
Volatile Organic Compounds (GC) by Method 8015/8021	7	⁹Sc
Semi-Volatile Organic Compounds (GC) by Method 8015	9	
Gl: Glossary of Terms	10	
Al: Accreditations & Locations	11	
Sc: Sample Chain of Custody	12	

SAMPLE SUMMARY



BASE BGT CELLAR 6 1/2' L1099039-01 Solid

Collected by: Kurt
 Collected date/time: 05/13/19 12:30
 Received date/time: 05/15/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1281967	1	05/16/19 15:50	05/16/19 20:01	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1282178	1	05/15/19 19:27	05/16/19 15:47	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1281843	1	05/15/19 22:45	05/16/19 11:19	DMW	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.

Daphne Richards
Project Manager

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



Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	303		10.0	1	05/16/2019 20:01	WG1281967

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.000622	B	0.000500	1	05/16/2019 15:47	WG1282178
Toluene	ND		0.00500	1	05/16/2019 15:47	WG1282178
Ethylbenzene	ND		0.000500	1	05/16/2019 15:47	WG1282178
Total Xylene	ND		0.00150	1	05/16/2019 15:47	WG1282178
TPH (GC/FID) Low Fraction	ND		0.100	1	05/16/2019 15:47	WG1282178
(S) a,a,a-Trifluorotoluene(FID)	97.4		77.0-120		05/16/2019 15:47	WG1282178
(S) a,a,a-Trifluorotoluene(PID)	101		72.0-128		05/16/2019 15:47	WG1282178

3 Ss

4 Cn

5 Sr

6 Qc

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	ND		4.00	1	05/16/2019 11:19	WG1281843
C28-C40 Oil Range	ND		4.00	1	05/16/2019 11:19	WG1281843
(S) o-Terphenyl	44.0		18.0-148		05/16/2019 11:19	WG1281843

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3412071-1 05/16/19 16:49

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Chloride	0.797	↓	0.795	10.0

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1097777-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1097777-03 05/16/19 17:51 • (DUP) R3412071-4 05/16/19 18:04

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ND	1.65	1	0.000		15

L1099142-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1099142-01 05/16/19 21:18 • (DUP) R3412071-7 05/16/19 21:31

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Chloride	ND	0.000	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3412071-3 05/16/19 17:25

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Chloride	200	211	105	80.0-120	

L1097777-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1097777-04 05/16/19 18:17 • (MS) R3412071-5 05/16/19 18:30 • (MSD) R3412071-6 05/16/19 18:43

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Chloride	500	ND	512	518	102	103	1	80.0-120			1.07	15



Method Blank (MB)

(MB) R3412124-5 05/16/19 11:48

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000189	↓	0.000120	0.000500
Toluene	0.000400	↓	0.000150	0.00500
Ethylbenzene	0.000205	↓	0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
^(S) a,a,a-Trifluorotoluene(FID)	99.3			77.0-120
^(S) a,a,a-Trifluorotoluene(PID)	103			72.0-128

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

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

(LCS) R3412124-1 05/16/19 09:48 • (LCSD) R3412124-2 05/16/19 10:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0425	0.0416	85.0	83.3	76.0-121			2.02	20
Toluene	0.0500	0.0435	0.0426	87.0	85.2	80.0-120			2.05	20
Ethylbenzene	0.0500	0.0444	0.0433	88.8	86.7	80.0-124			2.39	20
Total Xylene	0.150	0.131	0.128	87.1	85.4	37.0-160			1.93	20
^(S) a,a,a-Trifluorotoluene(FID)				99.1	98.6	77.0-120				
^(S) a,a,a-Trifluorotoluene(PID)				103	102	72.0-128				

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

(LCS) R3412124-3 05/16/19 10:36 • (LCSD) R3412124-4 05/16/19 11:00

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	5.08	4.95	92.3	89.9	72.0-127			2.60	20
^(S) a,a,a-Trifluorotoluene(FID)				104	103	77.0-120				
^(S) a,a,a-Trifluorotoluene(PID)				108	108	72.0-128				



L1098004-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1098004-09 05/16/19 18:34 • (MS) R3412124-6 05/16/19 21:21 • (MSD) R3412124-7 05/16/19 21:45

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	0.0500	ND	0.493	0.541	39.5	43.3	25	10.0-155			9.27	32
Toluene	0.0500	ND	0.541	0.594	43.3	47.5	25	10.0-160			9.33	34
Ethylbenzene	0.0500	ND	0.622	0.685	49.8	54.8	25	10.0-160			9.63	32
Total Xylene	0.150	ND	1.85	2.03	49.2	54.2	25	10.0-160	J6	J6	9.74	32
(S) a,a,a-Trifluorotoluene(FID)					99.5	99.0		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					102	102		72.0-128				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

L1098004-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1098004-09 05/16/19 18:34 • (MS) R3412124-8 05/16/19 22:09 • (MSD) R3412124-9 05/16/19 22:33

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	ND	30.2	26.4	21.9	19.2	25	10.0-151			13.4	28
(S) a,a,a-Trifluorotoluene(FID)					103	103		77.0-120				
(S) a,a,a-Trifluorotoluene(PID)					105	105		72.0-128				

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3411902-1 05/16/19 09:57

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	64.3			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3411902-2 05/16/19 10:11

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	35.7	71.4	50.0-150	
(S) o-Terphenyl			59.2	18.0-148	

L1098577-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1098577-03 05/16/19 11:33 • (MS) R3411902-3 05/16/19 11:47 • (MSD) R3411902-4 05/16/19 12:01

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	U	34.8	31.2	69.6	62.4	1	50.0-150			10.9	20
(S) o-Terphenyl					52.6	45.9		18.0-148				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



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	LA000356
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

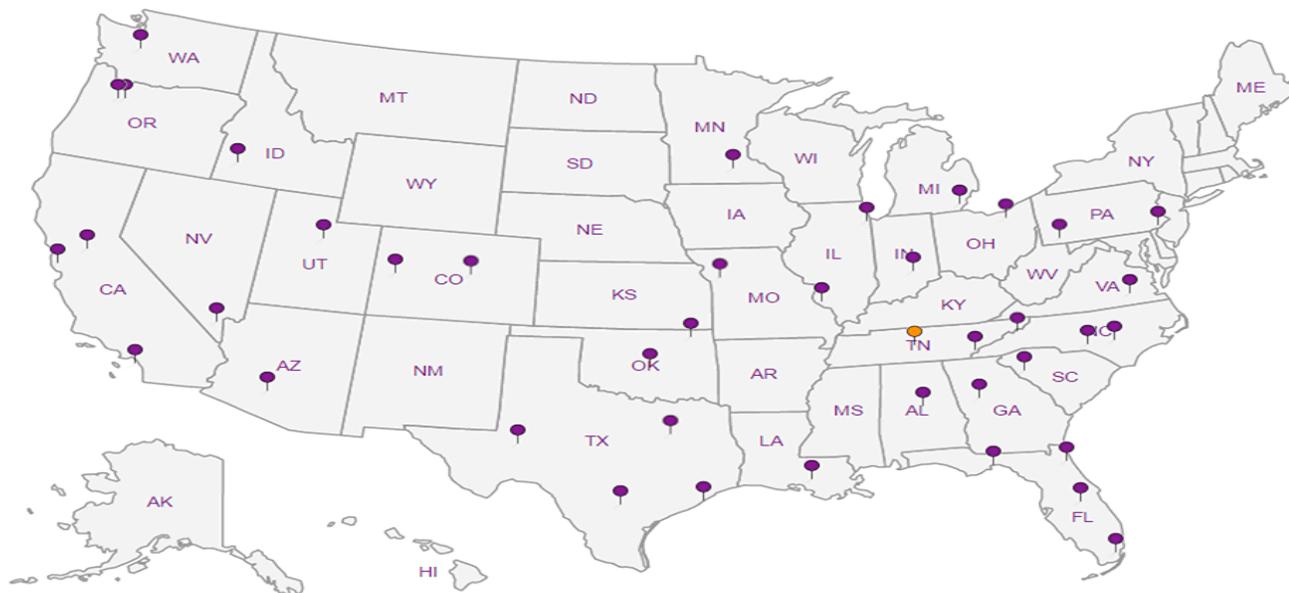
Third Party Federal Accreditations

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.



1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

