

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	NCS1916928446
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party Hilcorp Energy	OGRID 372171
Contact Name Clara Cardoza	Contact Telephone 505.564.0733
Contact email ccardoza@hilcorp.com	Incident # (assigned by OCD) NCS1916928446
Contact mailing address 382 CR 3100, Aztec NM 87410	

Location of Release Source

Latitude 36.73502 Longitude -107.92714
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Hubbell Federal 1	Site Type Gas Well
Date Release Discovered June 14, 2019	API# (if applicable) 30-045-08441

Unit Letter	Section	Township	Range	County
N	07	29N	10W	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) 37	Volume Recovered (bbls) 0
	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)
<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 Corrosion in the pit tank caused the release.

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Oil Conservation Division


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Was this a major release as defined by 19.15.29.7(A) NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Per 19.15.29.7.A(1) Major release means an authorized release of a volume, excluding gases, of 25 barrels or more
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? An email was sent on Friday June 16 th at 8:49 p.m. to Cory Smith and Jim Griswold with NMOCD and Emanuel Adeloye and Whitney Thomas with BLM FFO in accordance with NMAC 19.15.29.10.A(1).	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> 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: <u>Clara Cardoza</u>	Title: <u>Environmental Specialist</u>
Signature: <u></u>	Date: <u>06/25/2019</u>
email: <u>ccardoza@hilcorp.com</u>	Telephone: <u>505.564.0733</u>
<u>OCD Only</u> Received by: _____ Date: _____	

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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?	~86 ft (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>Characterization Report Checklist: <i>Each of the following items must be included in the report.</i></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
--

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.

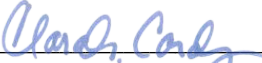
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform 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: Clara Cardoza Title: Environmental SpecialistSignature:  Date: 11/14/19email: ccardoza@hilcorp.com Telephone: 505.564.0733**OCD Only**

Received by: _____ Date: _____

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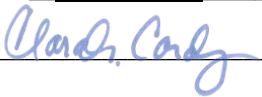
Closure

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: Clara Cardoza Title: Environmental Specialist
Signature:  Date: 11/14/19
email: ccardoza@hilcorp.com Telephone: 505.564.0733

OCD Only

Received by: OCD Date: 11/14/19

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: 2/17/2020
Printed Name: Cory Title: Environmental Specialist

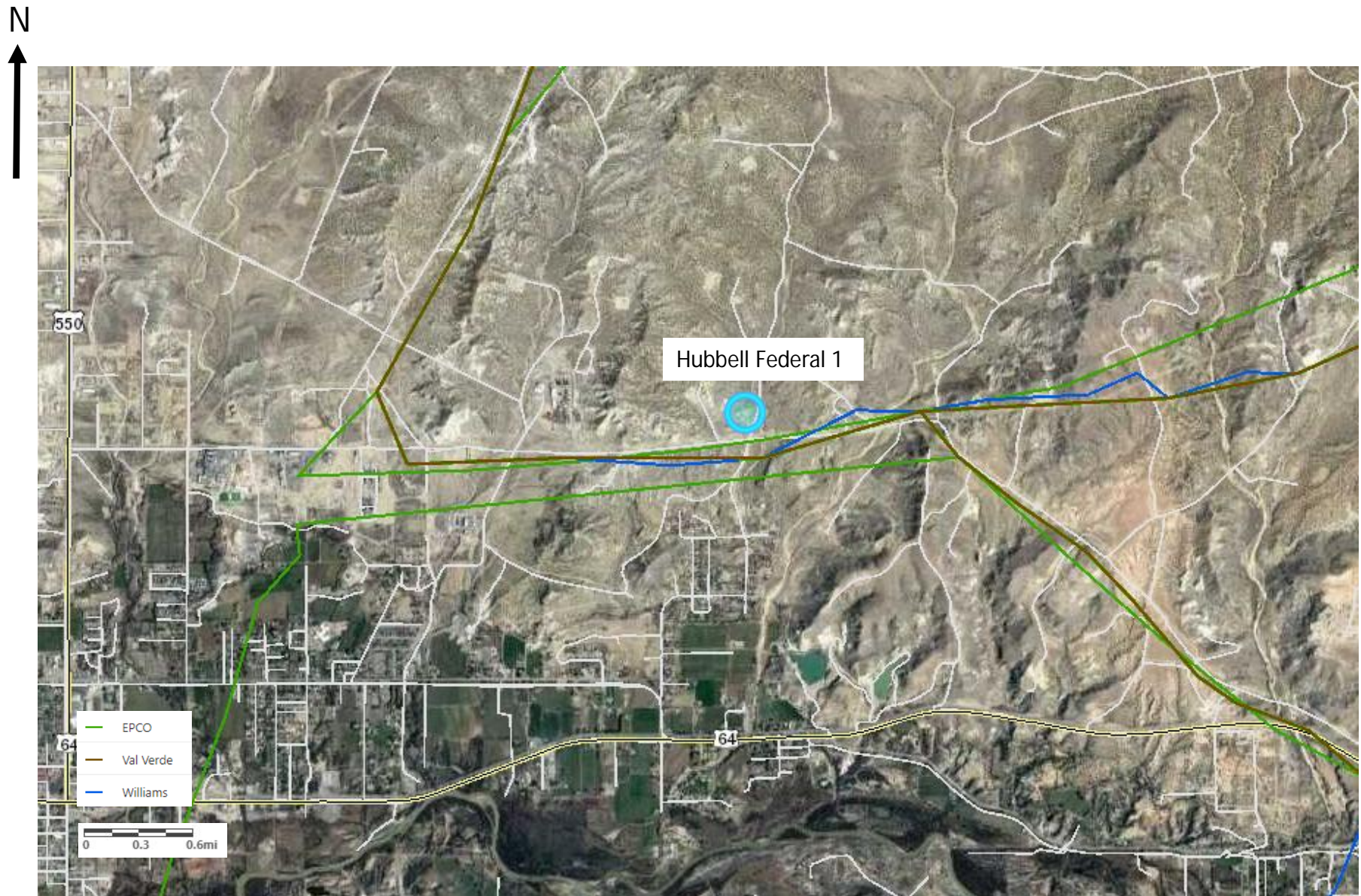
Executive Summary

On June 14, 2019 Hilcorp Energy had a release of 37 bbls of produced water at the Hubbell Federal 1. The source of the release was due to corrosion on the southwest corner of the BGT. The BGT was repaired with a polyuria coating.

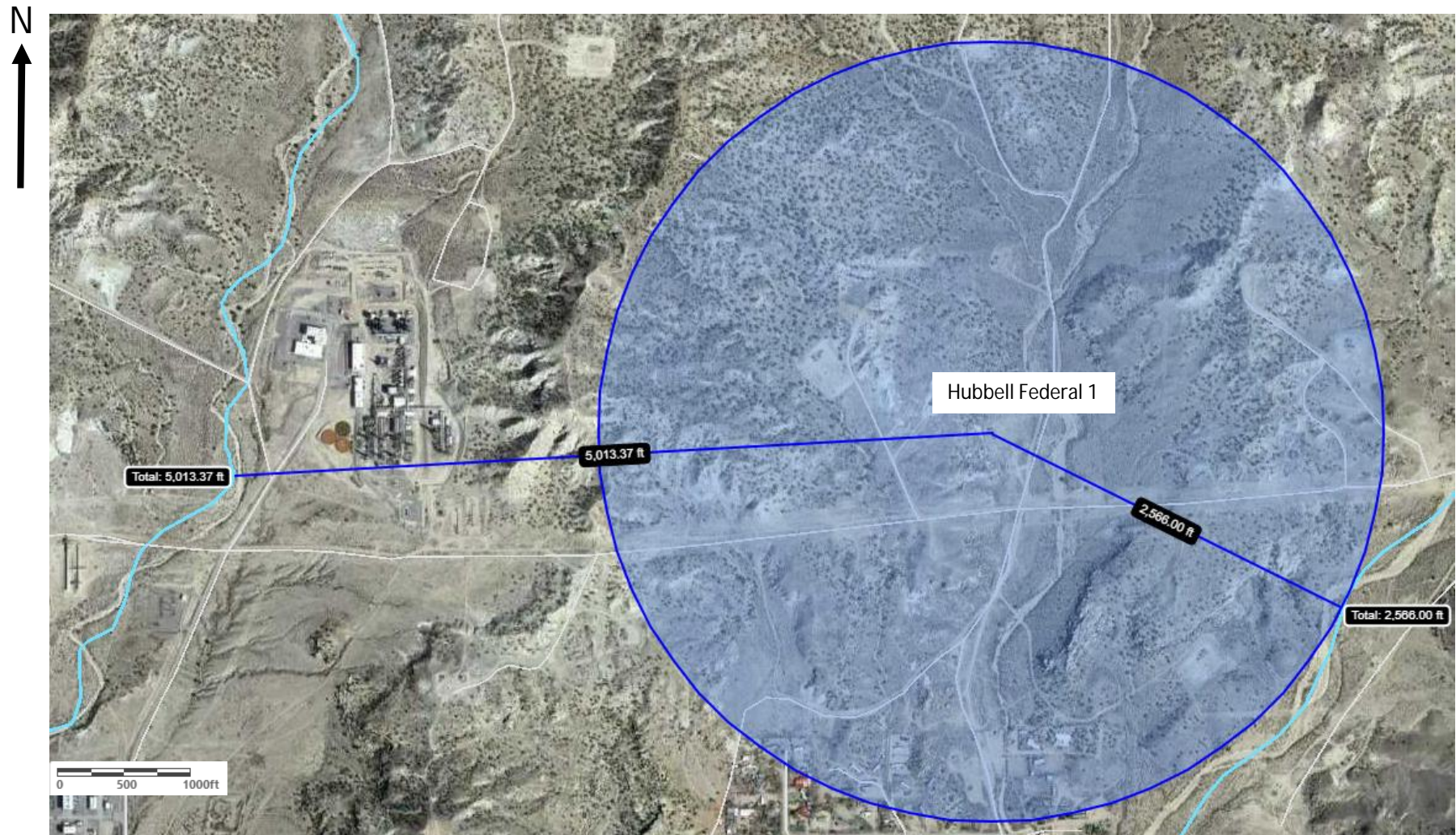
Confirmation sampling were taken on October 17th in accordance with NMAC 19.15.29.12.D. NMOCD was present for sampling. One sample was taken and came back in compliance with clean up action levels.



 Release Area

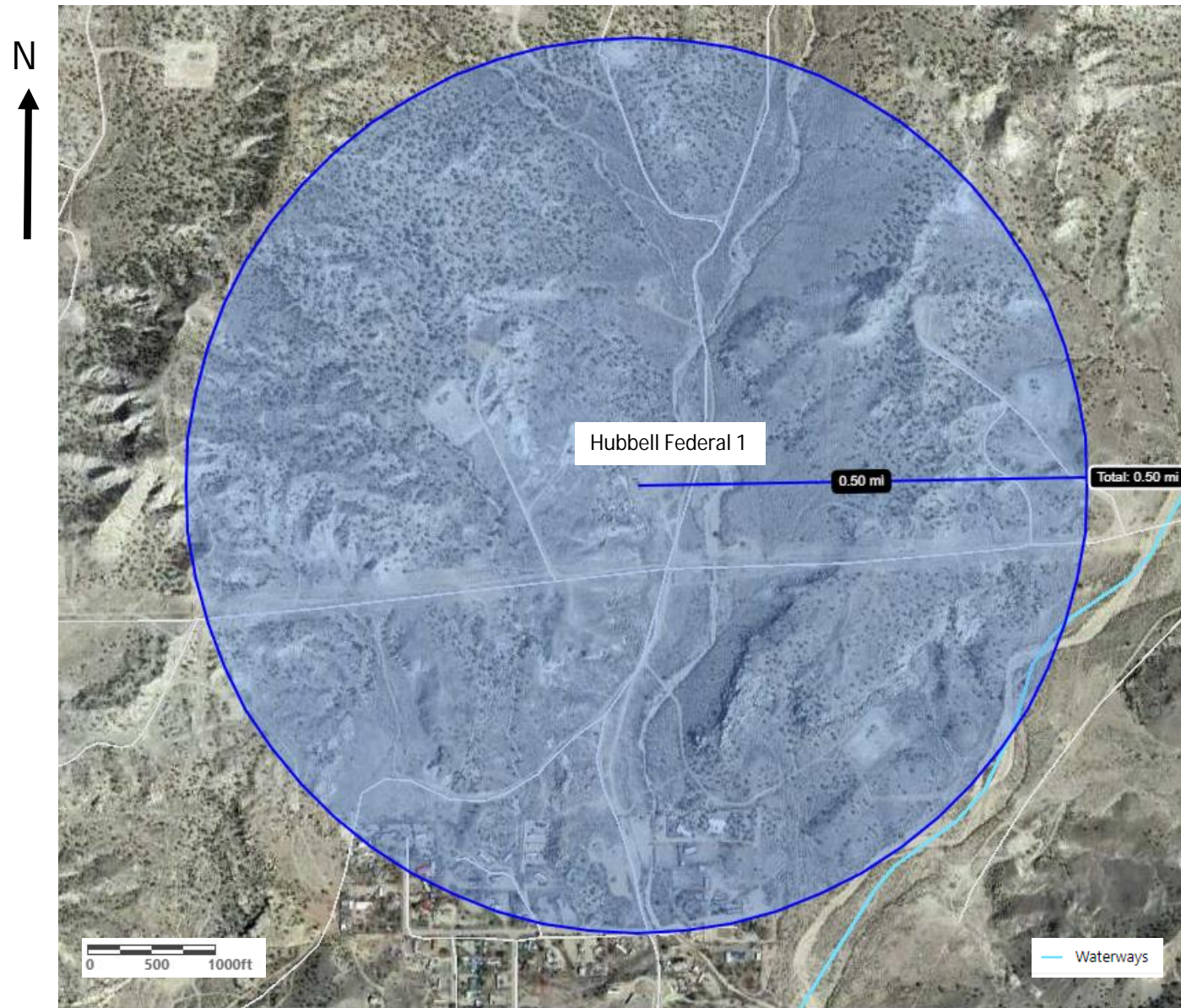


Distance to watercourse




Distance to watercourse approximately 2566 ft

Water sources or courses within ½ mile



Depth to groundwater



New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	<small>(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)</small> Q64 Q16 Q4 Sec Tws Rng	<small>(NAD83 UTM in meters)</small> X Y
SJ 03023		1 3 1 18 29N 10W	238077 4068756*


Driller License: 527	Driller Company: THOMPSON WELL DRILLING	
Driller Name: SHORTY THOMPSON		
Drill Start Date: 08/08/2000	Drill Finish Date: 08/11/2000	Plug Date:
Log File Date: 08/22/2000	PCW Rcv Date:	Source: Shallow
Pump Type:	Pipe Discharge Size:	Estimated Yield: 10 GPM
Casing Size: 6.00	Depth Well: 90 feet	Depth Water: 65 feet

Casing Perforations:	Top Bottom	
	85 90	

*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.

11/12/19 1:40 PM POINT OF DIVERSION SUMMARY



New Mexico Office of the State Engineer

Point of Diversion Summary

Well Tag	POD Number	<small>(quarters are 1=NW 2=NE 3=SW 4=SE) (quarters are smallest to largest)</small> Q64 Q16 Q4 Sec Tws Rng	<small>(NAD83 UTM in meters)</small> X Y
		4 13 29N 11W	237549 4068086*

Driller License: 527	Driller Company: THOMPSON WELL DRILLING	
Driller Name: THOMPSON, LEON		
Drill Start Date: 06/25/1980	Drill Finish Date: 07/28/1980	Plug Date:
Log File Date: 06/13/1979	PCW Rcv Date:	Source: Shallow
Pump Type:	Pipe Discharge Size:	Estimated Yield: 2 GPM
Casing Size: 5.50	Depth Well: 415 feet	Depth Water: 300 feet

Water Bearing Stratifications:	Top Bottom Description	
	410 415 Sandstone/Gravel/Conglomerate	

*UTM location was derived from PLSS - see Help

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

11/12/19 1:49 PM POINT OF DIVERSION SUMMARY

Elevation of SJ 03023 POD is 5644 ft, elevation at the Hubbell Federal 1 is 5665 ft making an approximate groundwater depth of 86 ft

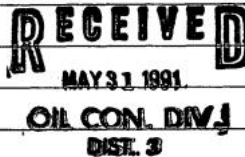
Elevation of SJ 00987 POD is 5562 ft, elevation at the Hubbell Federal 1 is 5665 ft making an approximate groundwater depth of 403 ft

Depth to groundwater

1200
 3E- 30-045-23881
 8 - 30-045-20842
 14 - 30-045-21453

DATA SHEET FOR DEEP GROUND BED CATHODIC PROTECTION WELLS
 NORTHWESTERN NEW MEXICO
 (Submit 3 copies to OCD Aztec Office)

Operator MERIDIAN OIL Location: Unit NE Sec. 18 Twp 29 Rng 10
 Name of Well/Wells or Pipeline Served HUBBELL #3E, #8, #14
 cps 156lw
 Elevation 5604' Completion Date 9/8/81 Total Depth 400' Land Type* N/A
 Casing, Sizes, Types & Depths N/A
 If Casing is cemented, show amounts & types used N/A
 If Cement or Bentonite Plugs have been placed, show depths & amounts used
N/o
 Depths & thickness of water zones with description of water when possible:
 Fresh, Clear, Salty, Sulphur, Etc. 120' - 140' SAMPLE TAKEN
 Depths gas encountered: N/A
 Type & amount of coke breeze used: N/A
 Depths anodes placed: 380', 355', 340', 320', 280', 265', 245', 220', 195', 180'
 Depths vent pipes placed: 400'
 Vent pipe perforations: 300'
 Remarks: gb #1



If any of the above data is unavailable, please indicate so. Copies of all logs, including Drillers Log, Water Analyses & Well Bore Schematics should be submitted when available. Unplugged abandoned wells are to be included.

*Land Type may be shown: F-Federal; I-Indian; S-State; P-Fee.
 If Federal or Indian, add Lease Number.

Elevation at the Hubbell 8 and Hubbell 3E averages to 5624 ft. Hubbell Federal 1 elevation is 5665 ft making an approximate groundwater depth of 161 ft (using a conservative 120' water depth)

Depth to groundwater



**No groundwater depth data available on the NM Office of the State Engineer website

Sample locations from each corner of the BGT



Northwest
Corner



Northeast
Corner



Southwest
Corner



Southeast
Corner



Data table of soil contaminant concentration data

Sample Name	Date	Field VOCs by PID (ppm)	Laboratory Results										
			Chloride (mg/kg)	TPH as DRO (mg/kg)	TPH as GRO (mg/kg)	TPH as MRO (mg/kg)	Total TPH (mg/kg)	TPH as GRO + DRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylene (mg/kg)	Total BTEX (mg/kg)
NMOCD Action Level		-	10,000	-	-	-	2,500	1,000	10	-	-	-	50
BGT Cellar	10/17/19	n/a	824	17.50	ND	7.38	24.88	17.50	0.000593	ND	ND	ND	0.000593

Confirmation samples taken on 10/17/19 in accordance with NMAC 19.15.29.12.D and witnessed by Cory Smith with NMOCD. Because there was no groundwater data for this site, nearby water well information was used from the NM Office of the State Engineer. Estimated groundwater varied greatly between 86 ft and 403 ft, so for this sampling event clean up standards for GW at 51 ft -100 ft was utilized. For any future reporting and/or closures this will be revisited or approved BGT permit applications will be followed.



ANALYTICAL REPORT

October 22, 2019

HilCorp-Farmington, NM

Sample Delivery Group: L1151537
Samples Received: 10/18/2019
Project Number:
Description: Hubbell Federal 1
Site: HUBBELL FEDERAL 1
Report To: Clara Cardoza
382 Road 3100
Aztec, NM 87401

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

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.

Cp: Cover Page	1	<div><div>1</div>Cp</div>
Tc: Table of Contents	2	
Ss: Sample Summary	3	<div><div>2</div>Tc</div>
Cn: Case Narrative	4	
Sr: Sample Results	5	<div><div>3</div>Ss</div>
BGT CELLAR L1151537-01	5	
Qc: Quality Control Summary	6	<div><div>4</div>Cn</div>
Wet Chemistry by Method 300.0	6	<div><div>5</div>Sr</div>
Volatile Organic Compounds (GC) by Method 8015/8021	7	
Semi-Volatile Organic Compounds (GC) by Method 8015	8	<div><div>6</div>Qc</div>
Gl: Glossary of Terms	9	<div><div>7</div>Gl</div>
Al: Accreditations & Locations	10	
Sc: Sample Chain of Custody	11	<div><div>8</div>Al</div>
		<div><div>9</div>Sc</div>

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



BGT CELLAR L1151537-01 Solid

Collected by
K Hoekstra
Collected date/time
10/17/19 08:35
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	WG1365616	1	10/20/19 15:10	10/20/19 22:25	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1365978	1	10/19/19 08:00	10/20/19 12:59	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1365852	1	10/19/19 15:15	10/20/19 00:36	KME	Mt. Juliet, TN

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

CASE NARRATIVE



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

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

BGT CELLAR

SAMPLE RESULTS - 01

ONE LAB. NATIONWIDE.



Collected date/time: 10/17/19 08:35

L1151537

Wet Chemistry by Method 300.0

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	824		10.0	1	10/20/2019 22:25	WG1365616

1
Cp2
Tc

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000593	<u>B</u>	0.000500	1	10/20/2019 12:59	WG1365978
Toluene	ND		0.00500	1	10/20/2019 12:59	WG1365978
Ethylbenzene	ND		0.000500	1	10/20/2019 12:59	WG1365978
Total Xylene	ND		0.00150	1	10/20/2019 12:59	WG1365978
TPH (GC/FID) Low Fraction	ND		0.100	1	10/20/2019 12:59	WG1365978
(S) a,a,a-Trifluorotoluene(FID)	91.8		77.0-120		10/20/2019 12:59	WG1365978
(S) a,a,a-Trifluorotoluene(PID)	94.2		72.0-128		10/20/2019 12:59	WG1365978

3
Ss4
Cn5
Sr6
Qc7
Gl

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	17.5		4.00	1	10/20/2019 00:36	WG1365852
C28-C40 Oil Range	7.38		4.00	1	10/20/2019 00:36	WG1365852
(S) o-Terphenyl	55.3		18.0-148		10/20/2019 00:36	WG1365852

8
Al9
Sc

WG1365616

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.



Wet Chemistry by Method 300.0

[L1151537-01](#)

Method Blank (MB)

(MB) R3463039-1 10/20/19 16:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	3.42	J	0.795	10.0

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

L1150393-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1150393-01 10/20/19 19:44 • (DUP) R3463039-3 10/20/19 19:53

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1030	1060	5	2.83		20

L1151537-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1151537-01 10/20/19 22:25 • (DUP) R3463039-6 10/20/19 22:35

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	824	913	1	10.2		20

Laboratory Control Sample (LCS)

(LCS) R3463039-2 10/20/19 17:00

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	207	104	90.0-110	

L1150393-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1150393-05 10/20/19 20:03 • (MS) R3463039-4 10/20/19 20:12 • (MSD) R3463039-5 10/20/19 20:22

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	5340	5340	5580	0.000	47.9	1	80.0-120	E V	E V	4.51	20

WG1365978

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.



Volatile Organic Compounds (GC) by Method 8015/8021

[L1151537-01](#)

Method Blank (MB)

(MB) R3463260-3 10/20/19 10:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	0.000148	U	0.000120	0.000500
Toluene	0.000152	U	0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	0.0244	U	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	95.2			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	97.9			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)

(LCS) R3463260-1 10/20/19 09:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0469	93.8	76.0-121	
Toluene	0.0500	0.0451	90.2	80.0-120	
Ethylbenzene	0.0500	0.0467	93.4	80.0-124	
Total Xylene	0.150	0.145	96.7	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			93.3	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			94.3	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3463260-2 10/20/19 09:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.76	86.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			106	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			104	72.0-128	

WG1365852

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.



Semi-Volatile Organic Compounds (GC) by Method 8015

[L1151537-01](#)

Method Blank (MB)

(MB) R3462878-1 10/19/19 23:46

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	U		0.274	4.00
(S) o-Terphenyl	69.5			18.0-148

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Laboratory Control Sample (LCS)

(LCS) R3462878-2 10/19/19 23:58

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	33.3	66.6	50.0-150	
(S) o-Terphenyl			82.9	18.0-148	

L1150705-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1150705-05 10/20/19 01:53 • (MS) R3462878-3 10/20/19 02:05 • (MSD) R3462878-4 10/20/19 02:18

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	50.0	5.86	36.8	37.9	61.9	64.1	1	50.0-150			2.95	20
(S) o-Terphenyl					73.6	79.3		18.0-148				

GLOSSARY OF TERMS



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.
(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.
V	The sample concentration is too high to evaluate accurate spike recoveries.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 GI

8 AI

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	LA000356
Kentucky ¹⁶	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ¹⁴	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

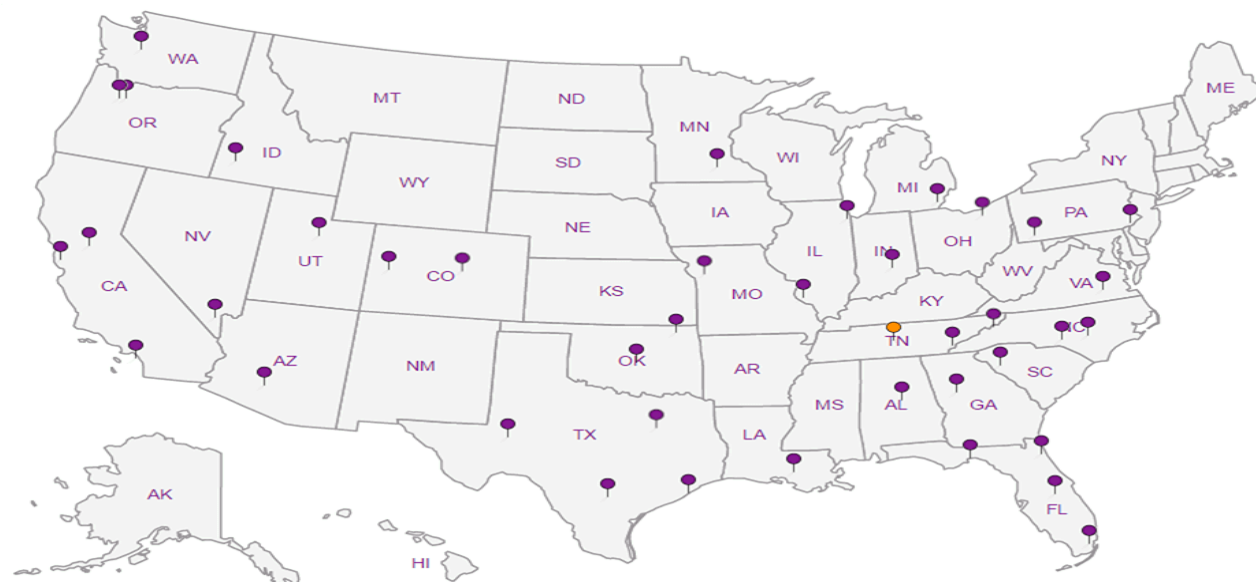
Third Party Federal Accreditations

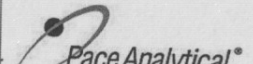

A2LA – ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA-Crypto	TN00003		

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:	Analysis / Container / Preservative								Chain of Custody Page ____ of ____
		ATTN: Clara Cardoza	Pres Chk								
Report to: Clara Cardoza		Email To: ccardoza@hilcorp.com; khoekstra@hilc									
Project Description: Hubbell Federal # 1		City/State Collected: Aztec, NM	MRO								
Phone: 5055640733	Client Project #	Lab Project #									
 <p>Pace Analytical® National Center for Testing & Innovation</p> <p>12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859</p> <div style="float: right;">  L# L1151537 </div>											

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