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	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: Hilcorp Energy	OGRID: 372171
Contact Name: Lindsay Dumas	Contact Telephone: 832-839-4585
Contact email: Ldumas@hilcorp.com	Incident # *(assigned by OCD):* NCS1901155075
Contact mailing address: 1111 Travis St. Houston, TX 77002	

Location of Release Source

Latitude 36.61179 Longitude -107.29706
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: San Juan 28-4 Unit 18	Site Type: Gas
Date Release Discovered: 1/11/19	API# *(if applicable)* 30-039-07225

Unit Letter	Section	Township	Range	County
M	31	28N	04W	Rio Arriba

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

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) 12 bbls	Volume Recovered (bbls) 12 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☐ Yes ☐ No
☒ Condensate	Volume Released (bbls) 38 bbls	Volume Recovered (bbls) 38 bbls
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

The release was a result of a piping freeze near the production tank, which allowed some of the contents of the tank to run out on to the frozen ground inside of the bermed area.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Per 19.15.29.7 (A) (1) an unauthorized release of a volume, excluding gas, 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)? Yes, by Clayton Hamilton (HEC Area 13 Foreman); to Cory Smith (NMOCD), Vanessa Fields (NMOCD), Whitney Thomas (BLM), Emmanuel Adeloya (BLM) and J.J. Miller (USFS) by email on 1/11/19 at 2:56pm MST. Email is attached.	

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:
All above actions have been completed.

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: Lindsay Dumas Title: Environmental Specialist

Signature: Lindsay Dumas Date: 1/15/19

email: Ldumas@hilcorp.com Telephone: 832-839-4585

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	>51 (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 9.15.29.12 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	
District RP	
Facility ID	
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: _Lindsay Dumas_____ Title: _Environmental Specialist_____

Signature: _____ Date: __6/10/19_____

email: _Ldumas@hilcorp.com_____ Telephone: _832-839-4585_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	
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: Lindsay Dumas Title: Environmental Specialist

Signature: Lindsay Dumas Date: 6/10/19

email: Ldumas@hilcorp.com Telephone: 832-839-4585

OCD Only

Received by: Date:

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

Signature: Date:

Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	
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: Lindsay Dumas Title: Environmental Specialist

Signature: Lindsay Dumas Date: 3-3-20

email: Ldumas@hilcorp.com Telephone: 832-839-4585

OCD Only

Received by: Date:

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

Closure Approved by: Date: 6/15/2020

Printed Name: Cory Smith Title: Environmental Specialist

*

691 CR233, Ste. B-4
Durango, CO 81301
979.324.2139
www.teamtimberwolf.com

June 25, 2019

Mr. Cory Smith
New Mexico Oil Conservation Division
1000 Rio Brazos Rd
Aztec, New Mexico 87410

Re: Closure Report
San Juan 28-4 No. 18 Release (SW ¼, SW ¼, Sec. 31, T28N, R4W)
Rio Arriba County, New Mexico
OCD Incident No.: NCS1901155075

Dear Mr. Smith,

At the request of Hilcorp Energy Company (Hilcorp), Timberwolf Environmental, LLC (Timberwolf) prepared this closure report for the San Juan 28-4 No. 18 ("Site"). The Site is located approximately 27.5 miles southwest of Dulce, Rio Arriba County, New Mexico (Figures 1 – 3).

Site History

On 1/11/19, Hilcorp personnel discovered a produced water and condensate release from the Site. Frozen piping at the production tank resulted in a release of an estimated 12 barrels (bbls) of produced water and 38 bbls of condensate. Released fluids were contained within the facility berm and recovered via vacuum truck. Immediate notification was provided to New Mexico Oil Conservation Division (NMOCD) staff. Additionally, a C-141 Release Notification was filed with the District office on or about 1/15/19.

Timberwolf conducted a site characterization and soil investigation to determine the nature and extent of impact to Site soil. Following the soil investigation, Hilcorp excavated impacted soil from the Site. Confirmation samples revealed that the initial excavation successfully remediated the northern portion of the impacted area (i.e., Initial Excavation (N ½).

Site characterization, findings of the soil investigation, remedial actions and confirmation samples, and a remedial action plan were presented in Timberwolf's report, entitled: *Site Characterization Report and Remedial Action Plan*, dated May 23, 2019. Major findings of that report are summarized below.

Conclusion of Site Characterization

- Field observations and the review of the NRCS soil survey revealed that the soil horizon is approximately 1.3 feet (ft) to 2.5 ft thick and is underlain by bedrock (i.e., consolidated sandstone)
- Concentrations of chloride were below NMOCD criteria
- Concentrations of petroleum hydrocarbon (i.e., total BTEX (i.e., benzene, toluene, ethylbenzene, and xylenes); GRO+DRO; and TPH) exceeded the NMOCD cleanup criteria in seven soil samples (i.e., SB1 0-1', SB1 1-1.5', SB2 0-1', SB2 2-2.5', SB3 0-1', SB4 0-0.5', and SB6 0-1'):
  - Constituents were not vertically delineated due to auger refusal (i.e., bedrock)
  - Constituents were horizontally delineated
  - The main body of the spill area encompasses approximately 0.01 acres and is within the tank battery

Conclusions of Remedial Action and Confirmation Sampling

- In March 2019, Hilcorp excavated approximately 20 yd^3 of impacted soil from the Site
- On 04/02/19, two composite soil confirmation samples were collected from the excavation (i.e., "N ½ Base & Walls" and "S ½ Base & Walls"). Laboratory analysis revealed the following:
  - The composite sample collected from the north half (N ½) of the excavation base and sidewalls met all remedial targets
  - The composite sample collected from the south half (S ½) of the excavation base and sidewalls exceeded remedial targets for total BTEX and GRO + DRO
- During the confirmation sampling event, a composite sample was collected from the excavated soil ("Soil Pile"). Laboratory analysis revealed that the composite sample met all remedial targets and is suitable for reuse as backfill

Remedial Actions

On 5/13/19, Hilcorp conducted additional excavation efforts on the south half ("S ½") of the excavation. Construction crews removed the below grade tank (BGT) to facilitate additional excavation. Following tank removal, the southern portion of the excavation was deepened to approximately 5 ft below ground surface (bgs) along the west side of the battery and 8 ft bgs beneath the BGT area. A total of approximately 61 cubic yards of soil was excavated; excavated soil was trucked to Industrial Ecosystems, Inc. (IEI) in Aztec, New Mexico. Excavation extents and volume of soil removed for disposed are shown in the table below.

Table 1. Additional Excavation Dimension

Excavation Area	Average Length (ft)	Average Width (ft)	Average Depth (ft)	Volume (yds3)
S ½ – 5' Deep	14	11	3.5	20
S ½ – 8' Deep (BGT Area)	20	8.3	6.5	40

ft – feet
yds^3 – cubic yards
BGT – below grade tank

Confirmation Sampling

On 06/11/19, Hilcorp personnel Kurt Hoekstra collected six composite confirmation samples from the excavation base and side walls. In accordance with 19.15.29 NMAC, NMOCD staff was provided two-day advance notice prior to confirmation sampling and each composite sample consisted of a 5-point sample representing an area less than 200 square ft. The excavation and confirmation sample locations are depicted on Figure 4. Remedial actions and locations of composite confirmation samples are documented in the attached Photographic Log.

Soil samples were submitted to Pace Analytical for chemical analysis of BTEX, TPH (i.e., GRO, DRO, MRO), and chloride. Laboratory methods are documented on the attached report. Analytical results are summarized in Table 2 below and presented on Figure 6; remedial targets for Site soil established during site characterization are included at the bottom of each table.

Table 2. Analytical Results of Confirmation Samples – Additional Excavation (S ½)

Sample ID	Volatile Organic Compounds (mg/kg)				Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
	B	T	E	X							
Base 5'	< 0.00050	< 0.0050	< 0.00050	< 0.0015	0.012	0.198[B]	8.52	< 4.00	8.718	12.718	14.2
Base 8'	< 0.00050	< 0.0050	< 0.00050	< 0.00298	0.00898	0.230[B]	6.21	< 4.00	6.440	10.440	< 10.0
North Wall	< 0.00050	< 0.0050	< 0.00050	0.00292	0.00892	0.807	30.7	4.95	31.507	36.457	< 10.0
East Wall	< 0.00050	< 0.0050	0.000767	0.00783	0.0141	0.596	14.4	4.27	14.996	19.266	< 10.0
South Wall	< 0.00050	< 0.0050	0.00447	0.0765	0.08647	1.52	22.0	< 4.0	23.520	27.520	14.9
West Wall	0.000701	0.0159	0.00413	0.222	0.2427	2.43	31.0	9.96	33.430	43.390	< 10.0
Remedial Target[1]	**10**	**--**	**--**	**--**	**50**	**--**	**--**	**--**	**1,000**	**2,500**	**10,000**

mg/kg – milligrams per kilogram
BTEX – benzene, toluene, ethylbenzene, and total xylenes
-- – no applicable regulatory criteria
[B] –constituent found in laboratory blank
TPH = GRO + DRO + MRO
GRO – gasoline range organics
DRO – diesel range organics
MRO – motor oil range organics
[1] – Remedial targets established in Timberwolf's report entitled: Site Characterization Report and Remedial Action Plan

Summary and Conclusions

On 1/11/19, a release of an estimated 12 bbl of produced water and 38 bbls of condensate occurred at the Site. Released fluids were contained by the Site's secondary containment and recovered via vacuum truck. Site remedial activities are summarized below:

- A total of approximately 80 cubic yards (yds^3) of impacted soil were excavated from the Site
  - Initial remedial efforts conducted during March 2019 removed 20 yds^3 of impacted soil
  - Additional remediation conducted during May 2019 removed 60 yds^3 of impacted soil
- Composite confirmation samples, collected by Hilcorp personnel on 04/02/19 and 06/11/19, revealed that soil from the N ½ and S ½ of the excavation were in compliance with remedial targets
- The excavation will be backfilled, BGT refitted, and the well will be placed back into service

Site soil is in compliance with remedial targets established under 19.15.29 NMAC, no further remedial action is required.

If you have any questions regarding this report, please do not hesitate to contact us.

Sincerely,
Timberwolf Environmental, LLC

Kevin Cole
Project Manager

Jim Foster
President

Attachments: Figures
Photographic Log
Laboratory Report and Chain-of-Custody Documents

cc: Lindsay Dumas, Hilcorp Energy Company

FIGURES

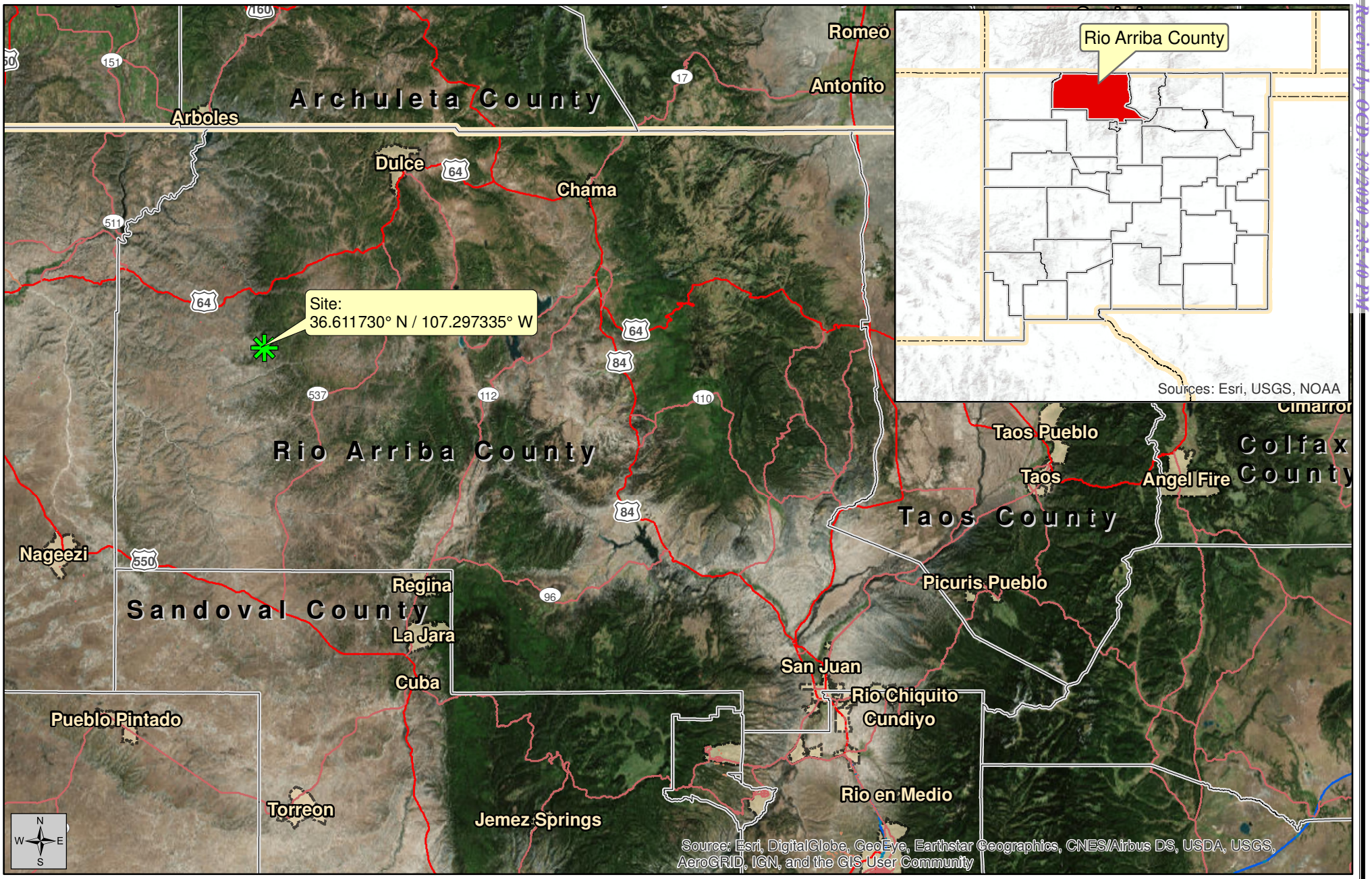


Figure 1 **Site Location Map**	**Closure Report**	**June 19, 2019**
TIMBERWOLF ENVIRONMENTAL	1:1,250,000 0 20 40 60 80 100 120 Miles **San Juan 28-4 No. 18 Release - OCD Incident No. NCS1901155075** **Hilcorp Energy Company** **Rio Arriba County, New Mexico**	* Site
Created By: Kevin Cole TE Project No.: HEC-190004	Datum: NAD83 Imagery Source: ESRI Vector Source: ESRI and TE	

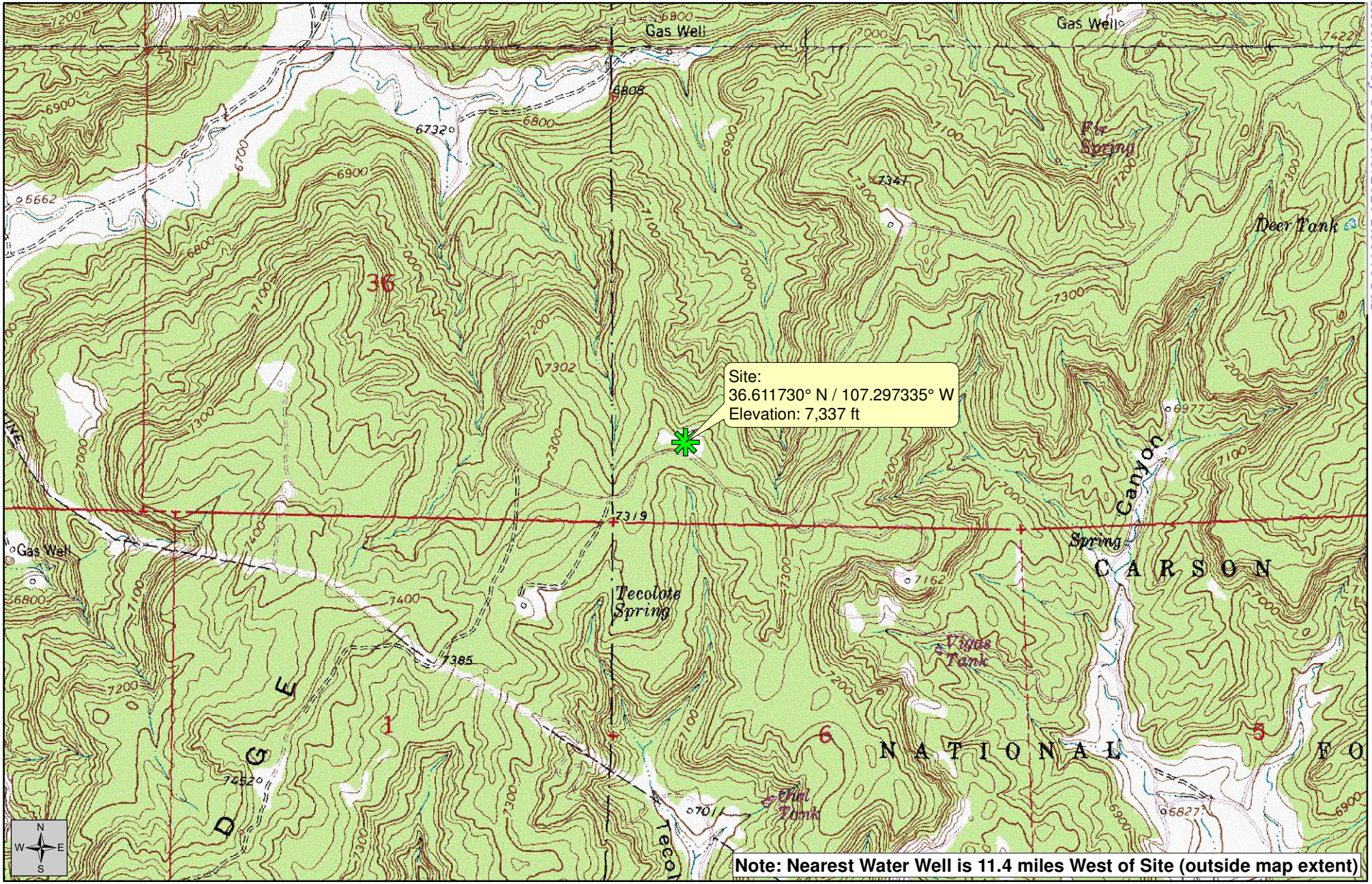


Figure 2
Topographic Map

Closure Report

June 19, 2019

1:24,000

0 0.5 1 1.5 2 2.5 Miles

TIMBERWOLF ENVIRONMENTAL

San Juan 28-4 No. 18 Release - OCD Incident No. NCS1901155075
Hilcorp Energy Company
Rio Arriba County, New Mexico

Created By:
Kevin Cole
TE Project No.: HEC-190004

Datum: NAD83
Imagery Source: USGS
Quads: Gobernador and Vigas Canyon
Vector Source: TE

Site

Figure 3
Aerial Map

Closure Report

June 19, 2019

1:10,000

0 1,000 2,000 3,000 4,000 5,000 Feet

San Juan 28-4 No. 18 Release - OCD Incident No. NCS1901155075
Hilcorp Energy Company
Rio Arriba County, New Mexico

TIMBERWOLF ENVIRONMENTAL

Created By:
Kevin Cole
TE Project No.: HEC-190004

Datum: NAD83
Imagery Source: ESRI
Vector Source: TE

Site

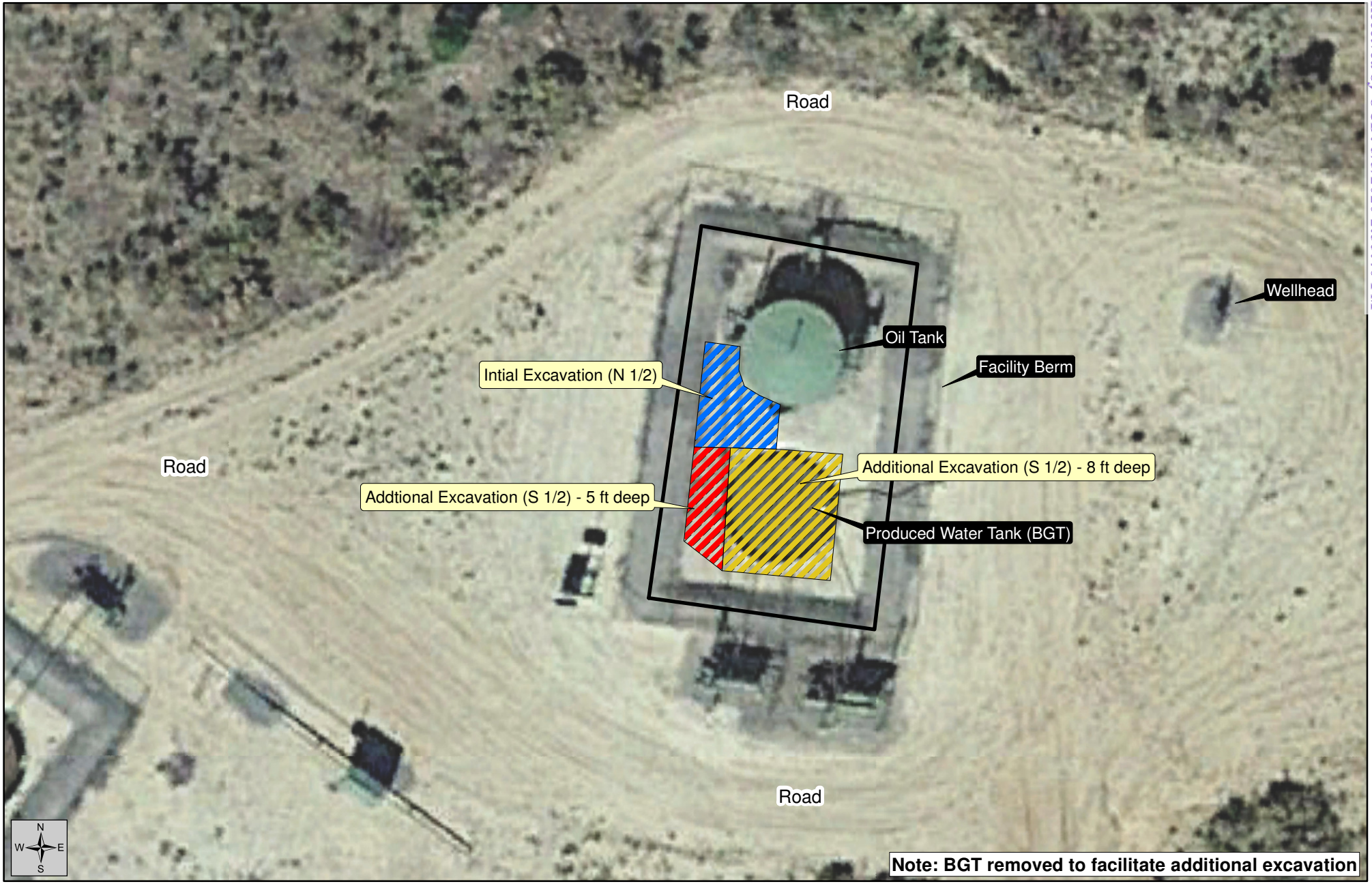


Figure 4
Excavation Map

Closure Report

June 19, 2019

TIMBERWOLF ENVIRONMENTAL

1:300

0 50 100 150 Feet

San Juan 28-4 No. 18 Release - OCD Incident No. NCS1901155075
Hilcorp Energy Company
Rio Arriba County, New Mexico

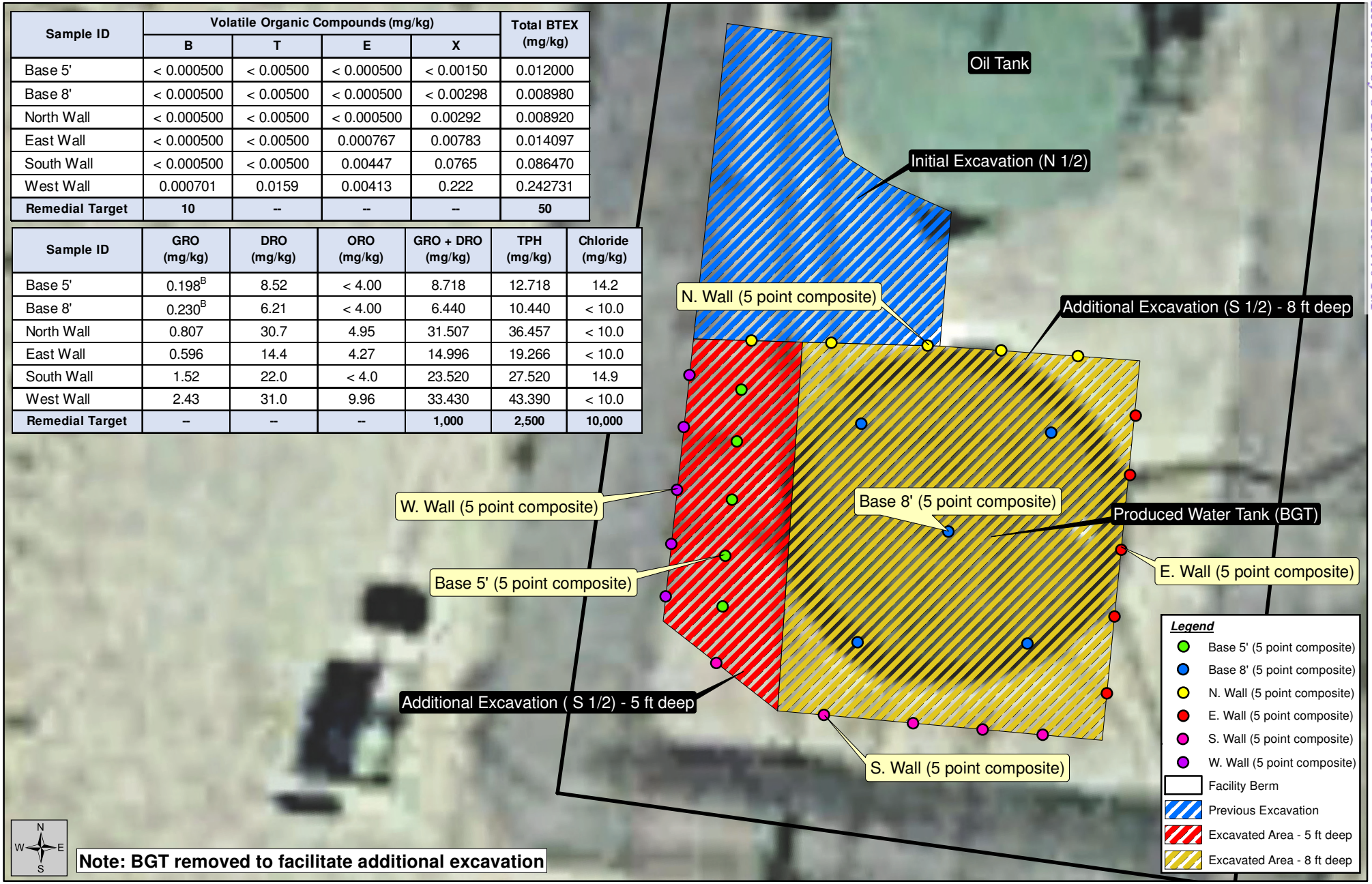
Created By:
Kevin Cole
TE Project No.: HEC-190004

Datum: NAD83
Imagery Source: Google Earth
Vector Source: TE

- Facility Berm
- Previous Excavation
- Excavated Area - 5 ft deep
- Excavated Area - 8 ft deep

Sample ID	Volatile Organic Compounds (mg/kg)				Total BTEX (mg/kg)
	B	T	E	X	
Base 5'	< 0.000500	< 0.00500	< 0.000500	< 0.00150	0.012000
Base 8'	< 0.000500	< 0.00500	< 0.000500	< 0.00298	0.008980
North Wall	< 0.000500	< 0.00500	< 0.000500	0.00292	0.008920
East Wall	< 0.000500	< 0.00500	0.000767	0.00783	0.014097
South Wall	< 0.000500	< 0.00500	0.00447	0.0765	0.086470
West Wall	0.000701	0.0159	0.00413	0.222	0.242731
Remedial Target	**10**	**--**	**--**	**--**	**50**

Sample ID	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	GRO + DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
Base 5'	0.198[B]	8.52	< 4.00	8.718	12.718	14.2
Base 8'	0.230[B]	6.21	< 4.00	6.440	10.440	< 10.0
North Wall	0.807	30.7	4.95	31.507	36.457	< 10.0
East Wall	0.596	14.4	4.27	14.996	19.266	< 10.0
South Wall	1.52	22.0	< 4.0	23.520	27.520	14.9
West Wall	2.43	31.0	9.96	33.430	43.390	< 10.0
Remedial Target	**--**	**--**	**--**	**1,000**	**2,500**	**10,000**



Note: BGT removed to facilitate additional excavation

Figure 5
Confirmation Sample Location Map

Closure Report

Sample Date:
June 11, 2019

1:100
0 15 30 45 Feet

San Juan 28-4 No. 18 Release - OCD Incident No. NCS1901155075
Hilcorp Energy Company
Rio Arriba County, New Mexico

TIMBERWOLF ENVIRONMENTAL

Created By:
Kevin Cole
TE Project No.: HEC-190004

Datum: NAD83
Imagery Source: Google Earth
Vector Source: TE

PHOTOGRAPHIC LOG

TIMBERWOLF ENVIRONMENTAL

691 CR 233, Suite B-4
Durango, CO 81301
(979) 324-2139
www.teamtimberwolf.com

PHOTOGRAPHIC LOG

Project No.:	HEC-190004	**Client:**	Hilcorp Energy Company
Project Name:	San Juan 18-4 #18	**Site Location:**	Rio Arriba County, New Mexico
Task Description:	Confirmation Samples	**Date:**	June 11, 2018

Photo No.: 1

Direction: South

Comments: View of 8 ft excavation a the former BGT location.

Note: production equipment in background and oil storage tank ring in left foreground.

Photo No.: 2

Direction: North

Comments: View of north wall of S ½ Excavation and composite points.

TIMBERWOLF ENVIRONMENTAL

691 CR 233, Suite B-4
Durango, CO 81301
(979) 324-2139
www.teamtimberwolf.com

PHOTOGRAPHIC LOG

Project No.:	HEC-190016	**Client:**	Hilcorp Energy Company
Project Name:	San Juan 18-4 #18	**Site Location:**	Rio Arriba County, New Mexico
Task Description:	Confirmation Sampling	**Date:**	June 11, 2018

Photo No.: 3

Direction: East

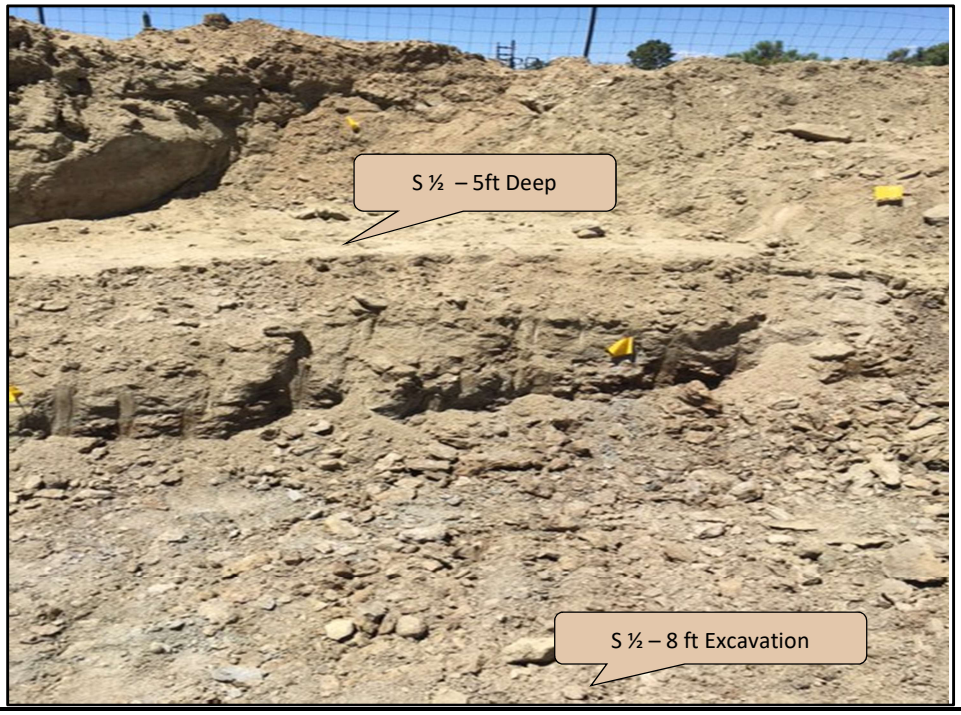
Comments: View of east wall of S ½ Excavation and composite points.

.

Photo No.: 4

Direction: West

Comments: View of 5 ft and 8 ft excavations and composite sample points



TIMBERWOLF ENVIRONMENTAL

691 CR 233, Suite B-4
Durango, CO 81301
(979) 324-2139
www.teamtimberwolf.com

PHOTOGRAPHIC LOG

Project No.:	HEC-190004	**Client:**	Hilcorp Energy Company
Project Name:	San Juan 18-4 #18	**Site Location:**	Rio Arriba County, New Mexico
Task Description:	Site Characterization	**Date:**	June 11, 2018

Photo No.: 5

Direction: N/A

Comments: View composite sample point from base of S ½ Excavation – 8 ft

.

Photo No.: 6

Direction: South

Comments: View of 5 ft and 8 ft excavations

LABORATORY REPORT AND CHAIN OF CUSTODY DOCUMENTS

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

June 17, 2019

HilCorp-Farmington, NM

Sample Delivery Group:	L1109385
Samples Received:	06/13/2019
Project Number:	S.J. 28-4#18
Description:	S.J. 28-4#18
Site:	S.J. 28-4#18
Report To:	Lindsay Dumas 382 Road 3100 Aztec, NM 87401

Entire Report Reviewed By: Daphne R Richards

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.

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BASE 5' L1109385-01 Solid

Collected by: Kurt | Collected date/time: 06/11/19 12:42 | Received date/time: 06/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1296636	1	06/15/19 14:05	06/15/19 16:28	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1296904	1	06/15/19 09:45	06/16/19 19:03	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296561	1	06/15/19 07:14	06/15/19 20:50	KME	Mt. Juliet, TN

BASE 8' L1109385-02 Solid

Collected by: Kurt | Collected date/time: 06/11/19 12:47 | Received date/time: 06/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1296636	1	06/15/19 14:05	06/15/19 16:45	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1296904	1	06/15/19 09:45	06/16/19 19:26	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296561	1	06/15/19 07:14	06/15/19 20:23	KME	Mt. Juliet, TN

N. WALL L1109385-03 Solid

Collected by: Kurt | Collected date/time: 06/11/19 12:50 | Received date/time: 06/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1296636	1	06/15/19 14:05	06/15/19 16:54	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1297166	1	06/15/19 09:45	06/17/19 15:02	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296561	1	06/15/19 07:14	06/15/19 21:03	KME	Mt. Juliet, TN

E. WALL L1109385-04 Solid

Collected by: Kurt | Collected date/time: 06/11/19 12:53 | Received date/time: 06/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1296636	1	06/15/19 14:05	06/15/19 17:02	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1296904	1	06/15/19 09:45	06/16/19 19:48	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296561	1	06/15/19 07:14	06/15/19 21:16	KME	Mt. Juliet, TN

S. WALL L1109385-05 Solid

Collected by: Kurt | Collected date/time: 06/11/19 12:58 | Received date/time: 06/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1296636	1	06/15/19 14:05	06/15/19 17:11	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1297166	1	06/15/19 09:45	06/17/19 15:24	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296561	1	06/15/19 07:14	06/15/19 21:29	KME	Mt. Juliet, TN

W. WALL L1109385-06 Solid

Collected by: Kurt | Collected date/time: 06/11/19 13:02 | Received date/time: 06/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1296636	1	06/15/19 14:05	06/15/19 17:37	ST	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1296904	1	06/15/19 09:45	06/16/19 20:11	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1296561	1	06/15/19 07:14	06/15/19 20:36	KME	Mt. Juliet, TN

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

Daphne R Richards

Daphne Richards
Project Manager

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	14.2		10.0	1	06/15/2019 16:28	WG1296636

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	06/16/2019 19:03	WG1296904
Toluene	ND		0.00500	1	06/16/2019 19:03	WG1296904
Ethylbenzene	ND		0.000500	1	06/16/2019 19:03	WG1296904
Total Xylene	ND		0.00150	1	06/16/2019 19:03	WG1296904
TPH (GC/FID) Low Fraction	0.198	B	0.100	1	06/16/2019 19:03	WG1296904
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*06/16/2019 19:03*	WG1296904
(S) a,a,a-Trifluorotoluene(PID)	*98.6*		*72.0-128*		*06/16/2019 19:03*	WG1296904

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	8.52		4.00	1	06/15/2019 20:50	WG1296561
C28-C40 Oil Range	ND		4.00	1	06/15/2019 20:50	WG1296561
(S) o-Terphenyl	*61.8*		*18.0-148*		*06/15/2019 20:50*	WG1296561

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 mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	06/15/2019 16:45	WG1296636

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	06/16/2019 19:26	WG1296904
Toluene	ND		0.00500	1	06/16/2019 19:26	WG1296904
Ethylbenzene	ND		0.000500	1	06/16/2019 19:26	WG1296904
Total Xylene	0.00298		0.00150	1	06/16/2019 19:26	WG1296904
TPH (GC/FID) Low Fraction	0.230	B	0.100	1	06/16/2019 19:26	WG1296904
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*06/16/2019 19:26*	WG1296904
(S) a,a,a-Trifluorotoluene(PID)	*98.2*		*72.0-128*		*06/16/2019 19:26*	WG1296904

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	6.21		4.00	1	06/15/2019 20:23	WG1296561
C28-C40 Oil Range	ND		4.00	1	06/15/2019 20:23	WG1296561
(S) o-Terphenyl	*57.1*		*18.0-148*		*06/15/2019 20:23*	WG1296561

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 mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	06/15/2019 16:54	WG1296636

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	06/17/2019 15:02	WG1297166
Toluene	ND		0.00500	1	06/17/2019 15:02	WG1297166
Ethylbenzene	ND		0.000500	1	06/17/2019 15:02	WG1297166
Total Xylene	0.00292		0.00150	1	06/17/2019 15:02	WG1297166
TPH (GC/FID) Low Fraction	0.807		0.100	1	06/17/2019 15:02	WG1297166
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*06/17/2019 15:02*	WG1297166
(S) a,a,a-Trifluorotoluene(PID)	*97.5*		*72.0-128*		*06/17/2019 15:02*	WG1297166

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	30.7		4.00	1	06/15/2019 21:03	WG1296561
C28-C40 Oil Range	4.95		4.00	1	06/15/2019 21:03	WG1296561
(S) o-Terphenyl	*73.0*		*18.0-148*		*06/15/2019 21:03*	WG1296561

Wet Chemistry by Method 9056A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	06/15/2019 17:02	WG1296636

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	06/16/2019 19:48	WG1296904
Toluene	ND		0.00500	1	06/16/2019 19:48	WG1296904
Ethylbenzene	0.000767		0.000500	1	06/16/2019 19:48	WG1296904
Total Xylene	0.00783		0.00150	1	06/16/2019 19:48	WG1296904
TPH (GC/FID) Low Fraction	0.596		0.100	1	06/16/2019 19:48	WG1296904
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*06/16/2019 19:48*	WG1296904
(S) a,a,a-Trifluorotoluene(PID)	*97.7*		*72.0-128*		*06/16/2019 19:48*	WG1296904

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	14.4		4.00	1	06/15/2019 21:16	WG1296561
C28-C40 Oil Range	4.27		4.00	1	06/15/2019 21:16	WG1296561
(S) o-Terphenyl	*67.0*		*18.0-148*		*06/15/2019 21:16*	WG1296561

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 mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	14.9		10.0	1	06/15/2019 17:11	WG1296636

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	06/17/2019 15:24	WG1297166
Toluene	ND		0.00500	1	06/17/2019 15:24	WG1297166
Ethylbenzene	0.00447		0.000500	1	06/17/2019 15:24	WG1297166
Total Xylene	0.0765		0.00150	1	06/17/2019 15:24	WG1297166
TPH (GC/FID) Low Fraction	1.52		0.100	1	06/17/2019 15:24	WG1297166
(S) a,a,a-Trifluorotoluene(FID)	*101*		*77.0-120*		*06/17/2019 15:24*	WG1297166
(S) a,a,a-Trifluorotoluene(PID)	*95.7*		*72.0-128*		*06/17/2019 15:24*	WG1297166

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	22.0		4.00	1	06/15/2019 21:29	WG1296561
C28-C40 Oil Range	ND		4.00	1	06/15/2019 21:29	WG1296561
(S) o-Terphenyl	*57.0*		*18.0-148*		*06/15/2019 21:29*	WG1296561

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 mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Chloride	ND		10.0	1	06/15/2019 17:37	WG1296636

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Benzene	0.000701		0.000500	1	06/16/2019 20:11	WG1296904
Toluene	0.0159		0.00500	1	06/16/2019 20:11	WG1296904
Ethylbenzene	0.00413		0.000500	1	06/16/2019 20:11	WG1296904
Total Xylene	0.222		0.00150	1	06/16/2019 20:11	WG1296904
TPH (GC/FID) Low Fraction	2.43		0.100	1	06/16/2019 20:11	WG1296904
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*06/16/2019 20:11*	WG1296904
(S) a,a,a-Trifluorotoluene(PID)	*97.7*		*72.0-128*		*06/16/2019 20:11*	WG1296904

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	31.0		4.00	1	06/15/2019 20:36	WG1296561
C28-C40 Oil Range	9.96		4.00	1	06/15/2019 20:36	WG1296561
(S) o-Terphenyl	*61.5*		*18.0-148*		*06/15/2019 20:36*	WG1296561

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

Method Blank (MB)

(MB) R3421428-1 06/15/19 15:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	1.02	J	0.795	10.0

L1109385-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1109385-01 06/15/19 16:28 • (DUP) R3421428-3 06/15/19 16:37

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	14.2	15.8	1	10.5		15

Laboratory Control Sample (LCS)

(LCS) R3421428-2 06/15/19 15:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	200	190	94.9	80.0-120	

L1109397-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1109397-01 06/15/19 17:45 • (MS) R3421428-4 06/15/19 17:54 • (MSD) R3421428-5 06/15/19 18:02

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	129	655	593	105	92.7	1	80.0-120			10.1	15

Method Blank (MB)

(MB) R3421630-5 06/16/19 14:06

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	0.0554	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*100*			*72.0-128*

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

(LCS) R3421630-1 06/16/19 12:15 • (LCSD) R3421630-2 06/16/19 12:37

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	0.0531	0.0516	106	103	76.0-121			2.92	20
Toluene	0.0500	0.0548	0.0536	110	107	80.0-120			2.08	20
Ethylbenzene	0.0500	0.0524	0.0507	105	101	80.0-124			3.27	20
Total Xylene	0.150	0.154	0.149	103	99.2	37.0-160			3.50	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*106*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*101*	*103*	*72.0-128*				

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

(LCS) R3421630-3 06/16/19 12:59 • (LCSD) R3421630-4 06/16/19 13:21

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	5.44	5.92	99.0	108	72.0-127			8.40	20
(S) a,a,a-Trifluorotoluene(FID)				*102*	*104*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*104*	*106*	*72.0-128*				

Method Blank (MB)

(MB) R3421752-2 06/17/19 12:14

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	0.0621	J	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*105*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*101*			*72.0-128*

Laboratory Control Sample (LCS)

(LCS) R3421752-1 06/17/19 11:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	4.06	73.8	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			*100*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*103*	*72.0-128*	

Laboratory Control Sample (LCS)

(LCS) R3421752-3 06/17/19 12:59

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0494	98.8	76.0-121	
Toluene	0.0500	0.0509	102	80.0-120	
Ethylbenzene	0.0500	0.0500	100	80.0-124	
Total Xylene	0.150	0.144	95.7	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			*105*	*77.0-120*	
(S) a,a,a-Trifluorotoluene(PID)			*105*	*72.0-128*	

Method Blank (MB)

(MB) R3421441-1 06/15/19 19:57

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	*60.1*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3421441-2 06/15/19 20:10

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	35.6	71.2	50.0-150	
(S) o-Terphenyl			*64.7*	*18.0-148*	

Guide to Reading and Understanding Your Laboratory Report

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

Abbreviations and Definitions

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.

ACCREDITATIONS & LOCATIONS

ONE LAB. NATIONWIDE.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

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

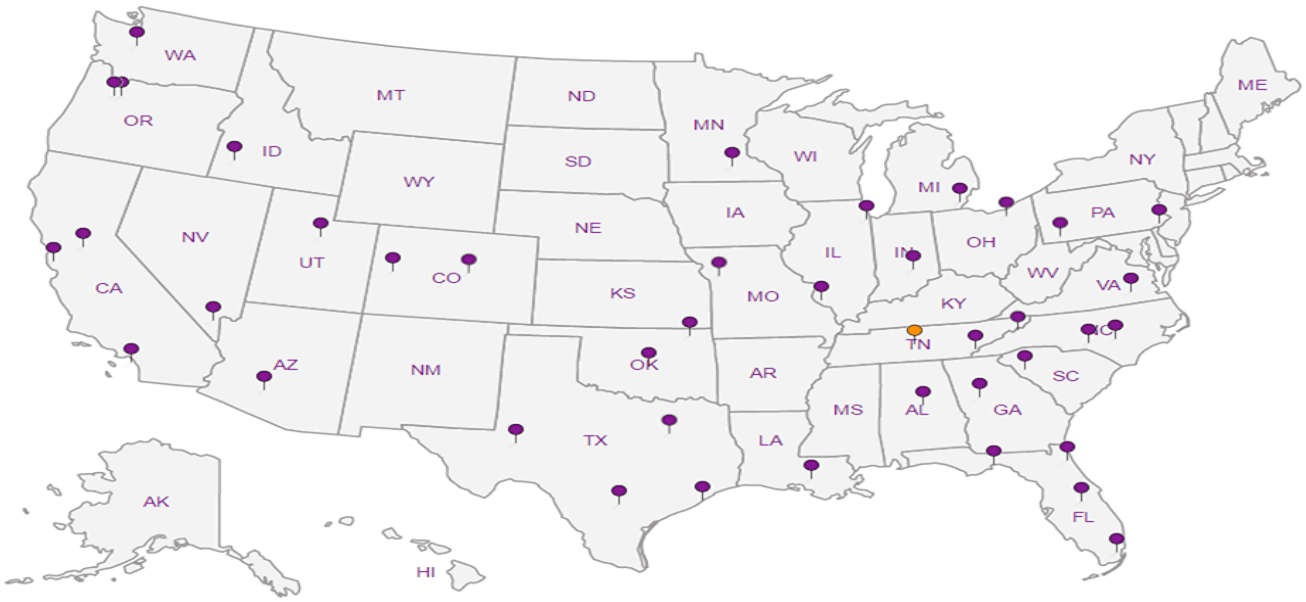
Third Party Federal Accreditations

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

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

Our Locations

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



HilCorp-Farmington, NM

382 Road 3100
Aztec, NM 87401

Billing Information:

PO Box 61529
Houston, TX 77208

khoekstra@hilcorp.com

Report to: LINDSAY DUMAS

Email To: ldumas@hilcorp.com

Project Description:

City/State Collected:

Phone: 505-486-9543
Fax:

Client Project #

Lab Project #

Collected by (print): KURT

Site/Facility ID # S.J. 28-4 # 18

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

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH 8015 - DRO, GRO, MRO	BTEX 8021	CHLORIDE							Remarks	Sample # (lab only)
BASE 5'	Comp	SS		6-11	12:42	1	X	X	X								-01
BASE 8'	"	"		"	12:47	1	X	X	X								02
N. WALL	"	"		"	12:50	1	X	X	X								03
E. WALL	"	"		"	12:53	1	X	X	X								04
S. WALL	"	"		"	12:58	1	X	X	X								05
W. WALL	"	"		"	1:02	1	X	X	X								06

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 # L1169385
1001

Acctnum: HILCORANM
Template:
Prelogin:
TSR: Daphne Richards
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 # 4882 8626 3537

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	6-12-19	7:45			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: A3BF °C 12.4+.2=12.6 Bottles Received: 6	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 6/13/19 Time: 8:45	Hold: Condition: (NCF) / OK

Pace Analytical®
National Center for Testing & Innovation

Login #: L1109385	Client: HILCORANM	Date: 6/13/19	Evaluated by: Jeremy

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time		Login Clarification Needed		**If Broken Container:**
x	Temperature not in range		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	pH not in range.		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: Received at 12.6 Deg C. All ice Melted.

Client informed by:		Call		Email	X	Voice Mail		Date: 6/14	Time: 954
TSR Initials: DR	Client Contact:KH								

Login Instructions:

Qualify for temperature and proceed with analysis