

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 Clara Cardoza	Contact Telephone 505.564.0733
Contact email ccardoza@hilcorp.com	Incident # (assigned by OCD) NCS1916851647
Contact mailing address 382 CR 3100, Aztec NM 87410	

Location of Release Source

Latitude 36.57334 Longitude -107.98837
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Fullerton Federal 5F	Site Type Well
Date Release Discovered 5/15/2019	API# (if applicable) 30-045-34124

Unit Letter	Section	Township	Range	County
J	15	27N	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 type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> Condensate	Volume Released (bbls) 0.238	Volume Recovered (bbls) 0
<input checked="" type="checkbox"/> Natural Gas	Volume Released (Mcf) 50	Volume Recovered (Mcf) 0
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units) 0 gallons

Cause of Release

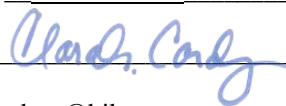
The well head lubricator cap was knocked off when the plunger came up during normal operation. When the lubricator cap came off approximately 10 gallons of condensate sprayed around the well head.

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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>06/03/2019</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?	<u>101</u> (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 Specialist

Signature:  Date: 10/11/2019

email: ccardoza@hilcorp.com Telephone: 505.564.0733

OCD Only

Received by: _____ Date: _____

Incident ID	
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Facility ID	
Application ID	

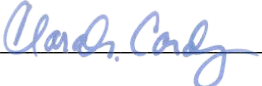
Closure

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. N/A for gas release*

- ☒ 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

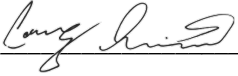
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public 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: 10/11/2019
 email: ccardoza@hilcorp.com Telephone: 505.564.0733

OCD Only

Received by: OCD Date: 10/11/19

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: 12/10/19
 Printed Name: Cory Title: Environmental Specialist

Executive Summary

On May 15, 2019 Hilcorp Energy had a release of 50 Mcf and an accompanying 10 gallons of condensate at the Fullerton Federal 5F. The source of the release was the well head lubricator cap was knocked off when the plunger came up during normal operation. When the lubricator cap came off approximately 10 gallons of condensate sprayed around the well head.

Confirmation sampling were taken on July 16th but the samples arrived to the lab out of temperature so they were re-taken/rescheduled in accordance with NMAC 19.15.29.12.D on August 8th. BLM-FFO was present for sampling. One sample was taken and came back in compliance with clean up action levels.

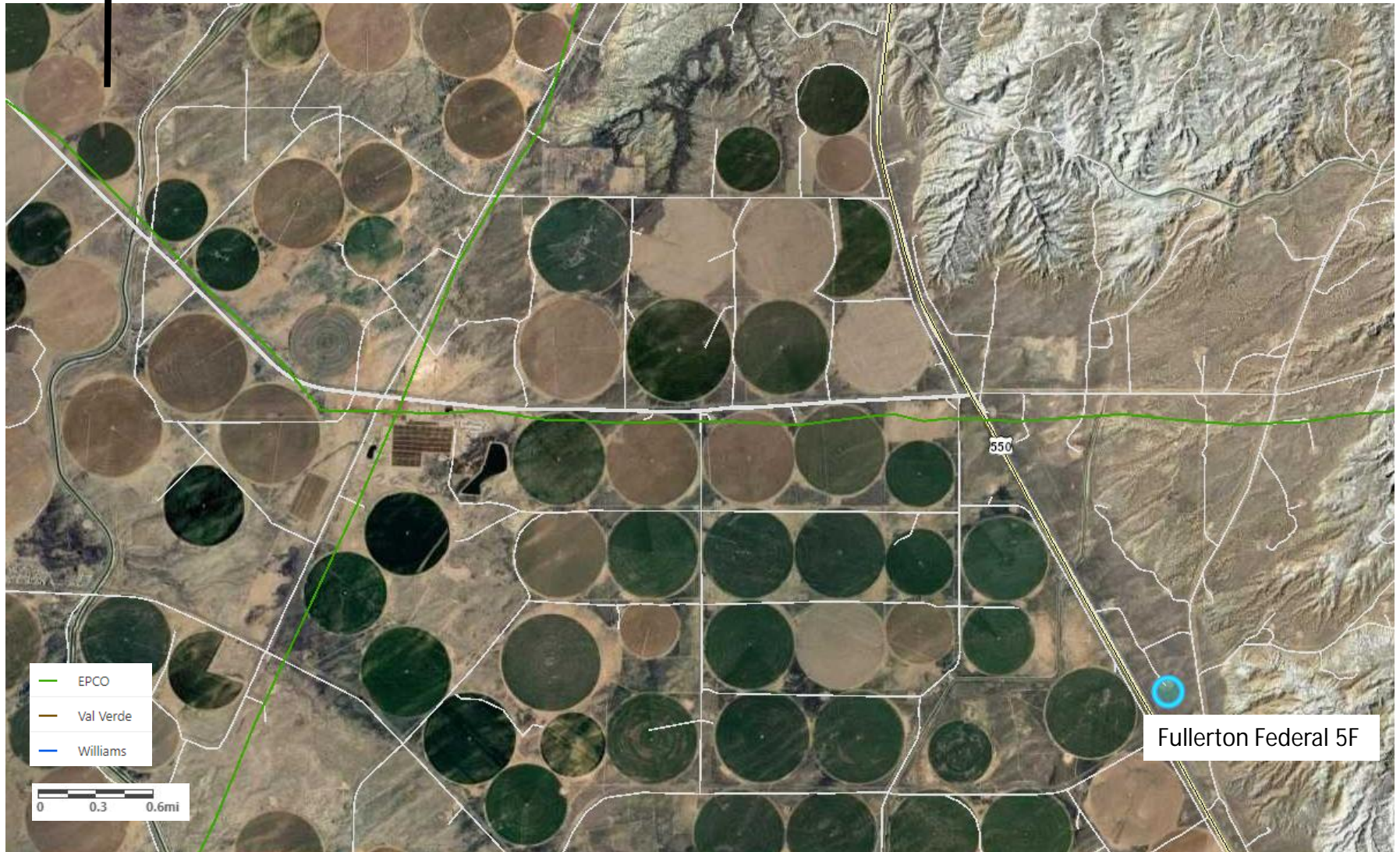


Fullerton Federal 5F

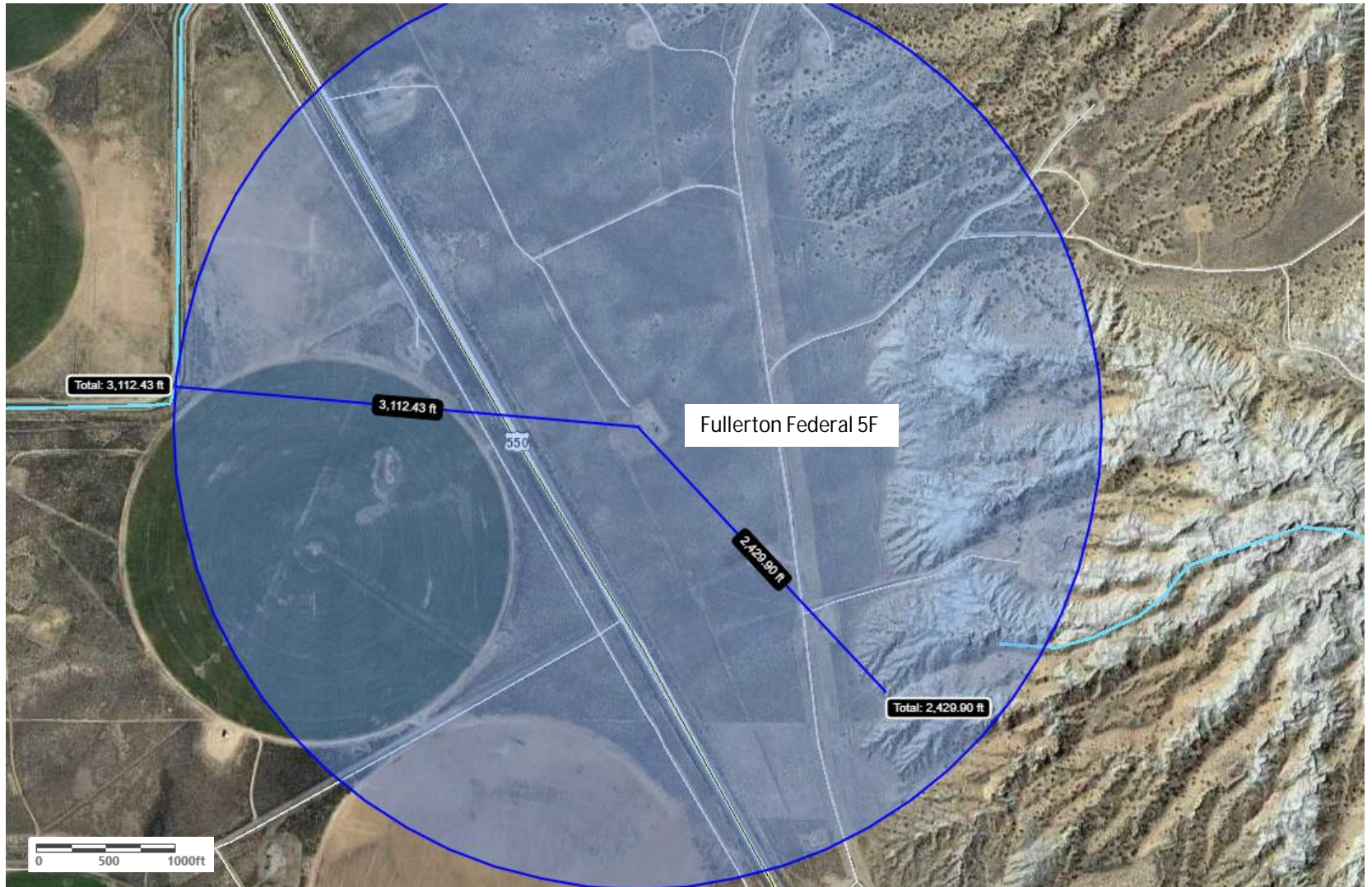


 Release Area

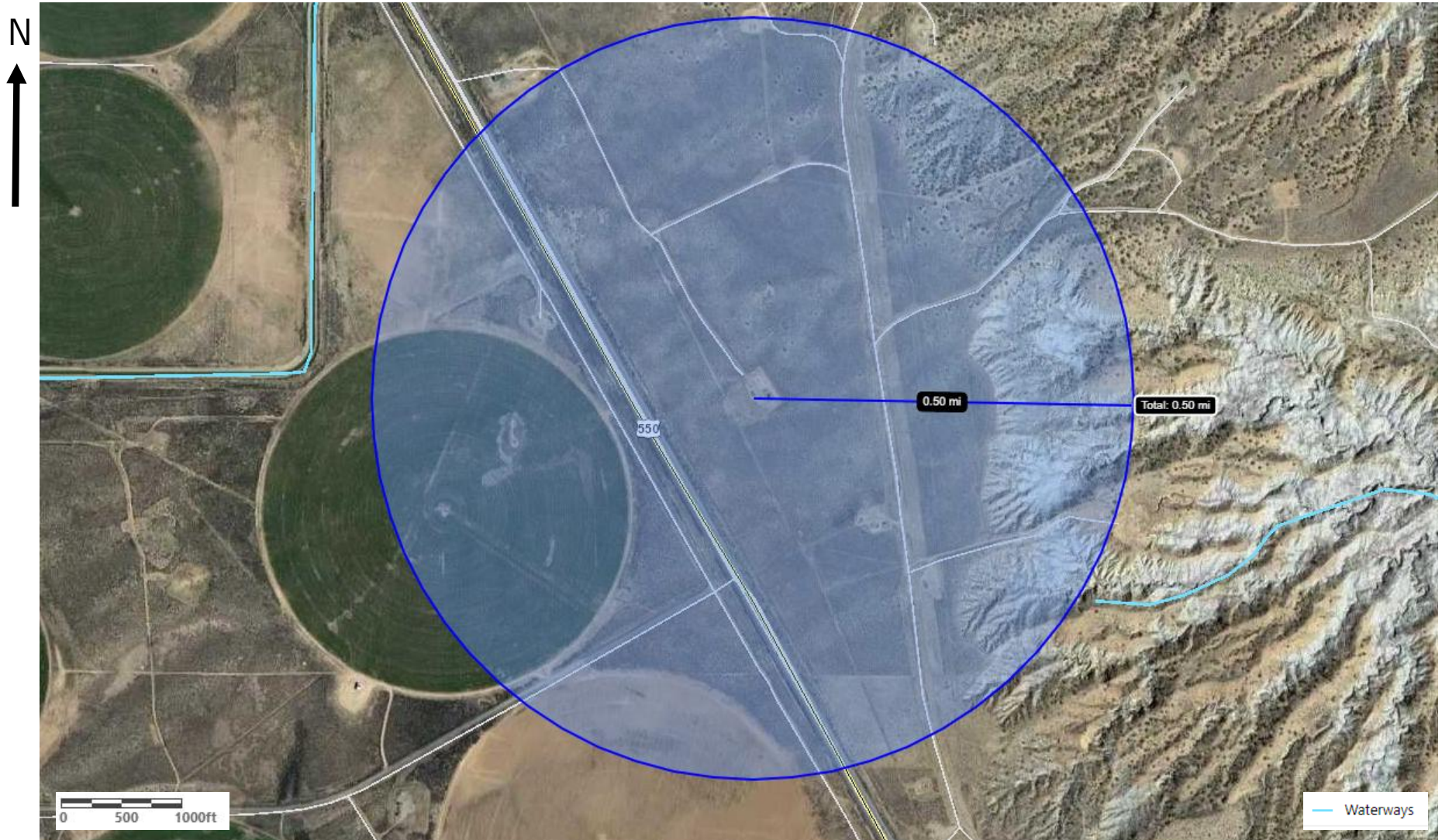
N





Distance to watercourse



Water sources or courses within ½ mile

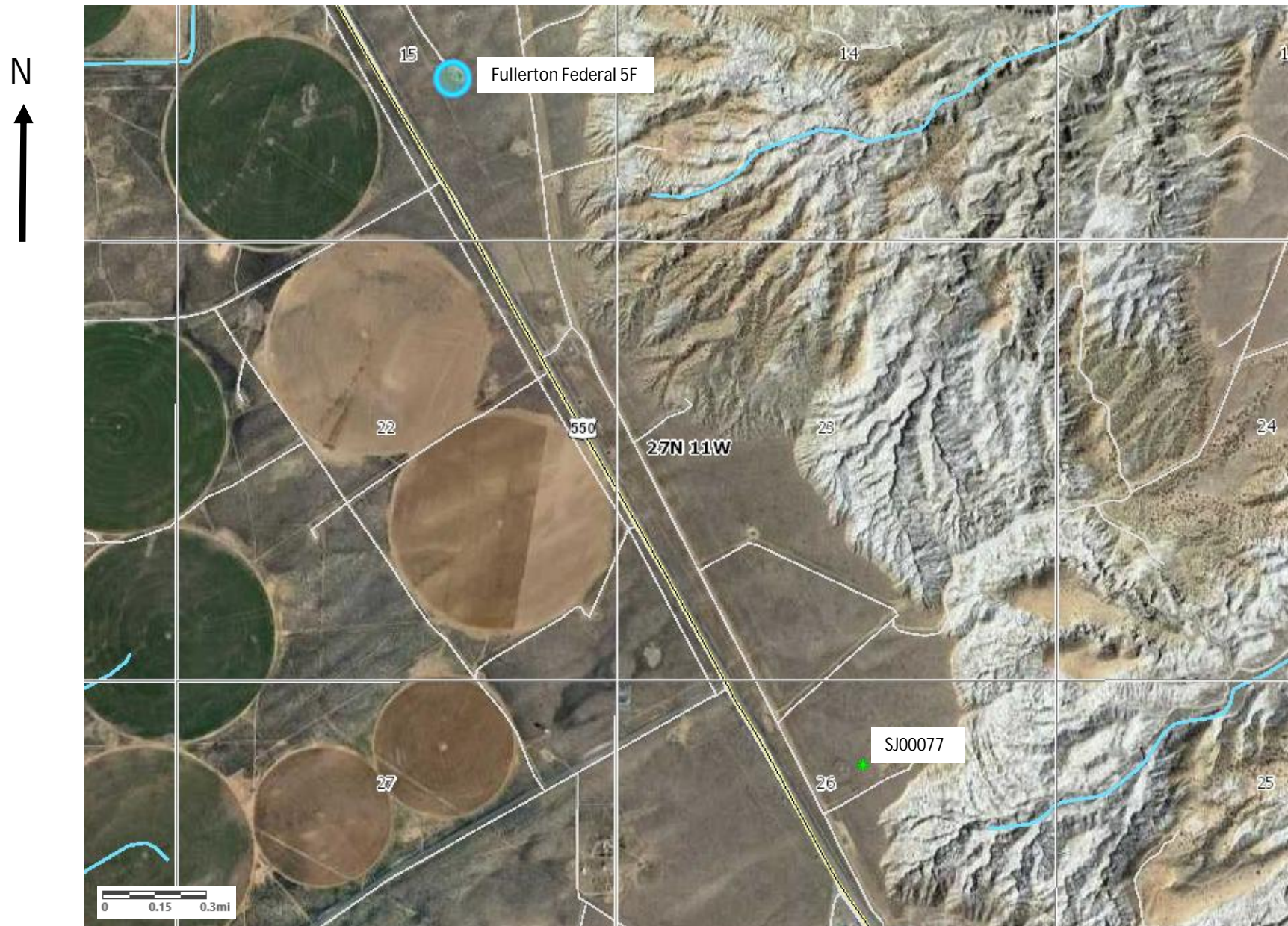


Depth to groundwater

		<i>New Mexico Office of the State Engineer</i>							
		Point of Diversion Summary							
		(quarters are 1=NW 2=NE 3=SW 4=SE)							
		(quarters are smallest to largest)							
		(NAD83 UTM in meters)							
Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
	SJ 00077	3	1	2	26	27N	11W	233964	4049155* 
Driller License:		Driller Company:							
Driller Name: CRANE DRIG. CO.									
Drill Start Date:		Drill Finish Date:		11/22/1969		Plug Date:			
Log File Date:		PCW Rcv Date:				Source: Shallow			
Pump Type: REDA		Pipe Discharge Size:				Estimated Yield: 60 GPM			
Casing Size: 6.63		Depth Well:		1102 feet		Depth Water: 550 feet			
*UTM location was derived from PLSS - see Help									
<small>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.</small>									
10/10/19 1:55 PM					POINT OF DIVERSION SUMMARY				

Elevation of SJ 00077 POD is 6447 ft, elevation at the Fullerton Federal 5F is 5998 ft making an approximate groundwater depth of 101 ft

Depth to groundwater

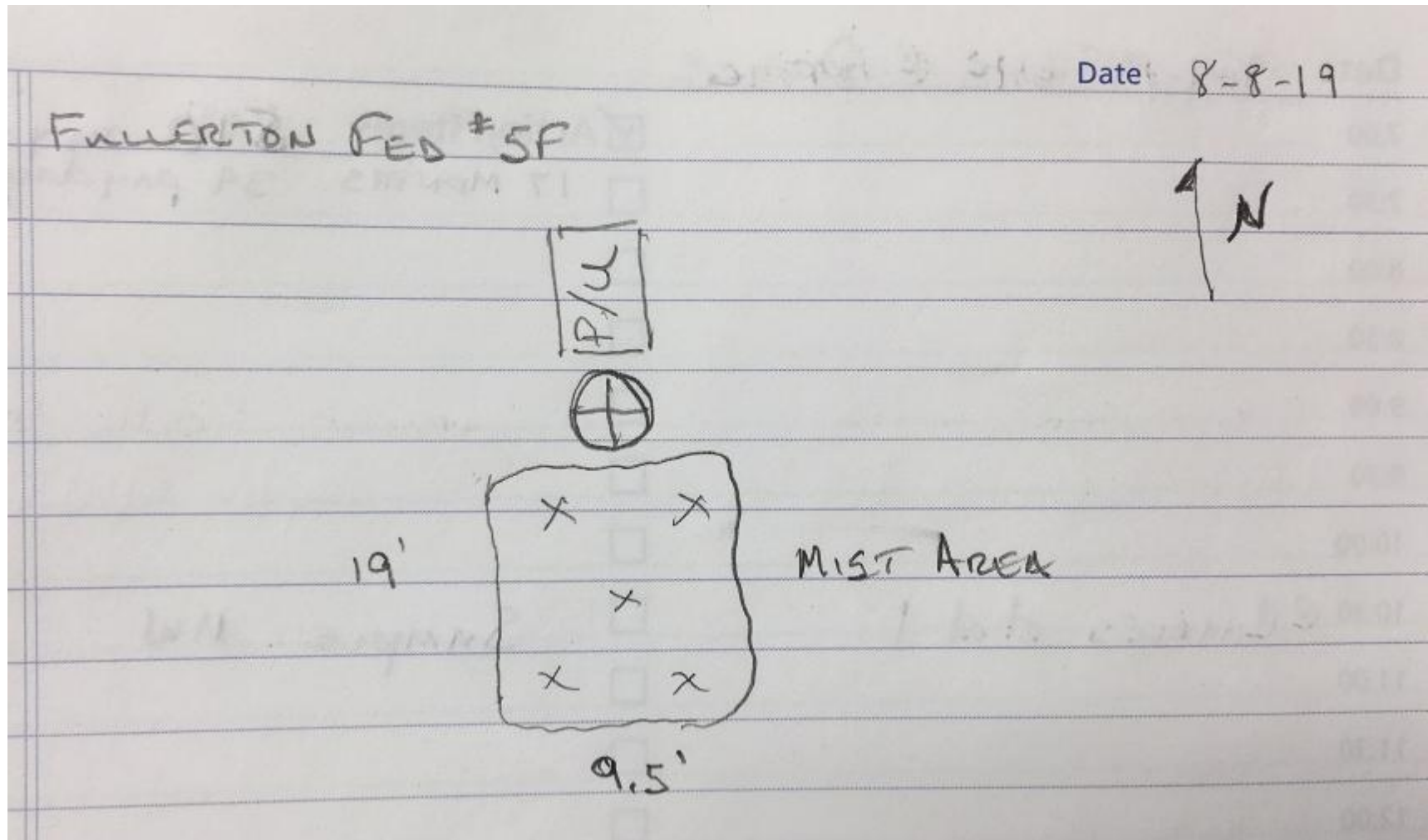


Sample locations/field notes



Sample location

Sample locations/field notes



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
Mist Area	08/08/19	n/a	N/A	96.00	0.12	361.00	457.12	96.12	ND	ND	ND	ND	ND

Initial confirmation samples taken on 7/16/2019 reached the lab out of temperature so they were resampled on 8/8/19 in accordance with NMAC 19.15.29.12.D and witnessed by Emmanuel Adeloye with BLM. Groundwater was calculated to be at 101 ft. 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.

Clara Cardoza

From: Clara Cardoza
Sent: Tuesday, August 6, 2019 10:19 AM
To: cory.smith@state.nm.us; Abiodun Adeloye
Cc: Kurt Hoekstra
Subject: Confirmation Sampling

Please let this serve as notice for sampling at two Hilcorp Energy well sites.

Resample for Fullerton Federal 5F (NCS1916851647) – our previous sample arrived at the lab out of temperature.
Sample Thursday August 8th at 8 a.m.

Sample for first time at the Kutz Federal 11F (API 30-045-32652) on Thursday August 8th at 10 a.m. (or immediately following the Fullerton Federal 5F sampling).

Please let me know if you have any questions or concerns.

Thank you,

Clara M Cardoza
Environmental Specialist
505-564-0733 (O)
505-793-2784 (C)



Please consider the environment before printing this e-mail

August 19, 2019

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

HilCorp-Farmington, NM

Sample Delivery Group: L1127675
Samples Received: 08/10/2019
Project Number:
Description: Fullerton Federal #5F Confirmation Sample
Site: FULLERTON FEDERAL #5
Report To: Clara Cardoza
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 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
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
MIST AREA L1127675-01	5
Qc: Quality Control Summary	6
Wet Chemistry by Method 300.0	6
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Semi-Volatile Organic Compounds (GC) by Method 8015	8
Gl: Glossary of Terms	9
Al: Accreditations & Locations	10
Sc: Sample Chain of Custody	11

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

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MIST AREA L1127675-01 Solid

Collected by
K. HoekstraCollected date/time
08/08/19 08:15Received date/time
08/10/19 09:00

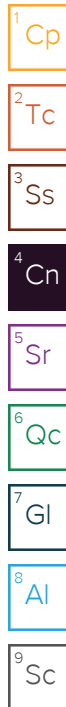
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 300.0	WG1326670	1	08/13/19 09:50	08/13/19 12:43	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015/8021	WG1330392	1	08/14/19 21:07	08/17/19 13:17	ACG	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1329660	1	08/16/19 16:01	08/17/19 01:41	KME	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1329660	5	08/16/19 16:01	08/19/19 01:44	KME	Mt. Juliet, TN

¹Cp²Tc³Ss⁴Cn⁵Sr⁶Qc⁷Gl⁸Al⁹Sc



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





Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	ND		10.0	1	08/13/2019 12:43	WG1326670

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	ND		0.000500	1	08/17/2019 13:17	WG1330392
Toluene	ND		0.00500	1	08/17/2019 13:17	WG1330392
Ethylbenzene	ND		0.000500	1	08/17/2019 13:17	WG1330392
Total Xylene	ND		0.00150	1	08/17/2019 13:17	WG1330392
TPH (GC/FID) Low Fraction	0.115	<u>B</u>	0.100	1	08/17/2019 13:17	WG1330392
(S) a,a,a-Trifluorotoluene(FID)	104		77.0-120		08/17/2019 13:17	WG1330392
(S) a,a,a-Trifluorotoluene(PID)	102		72.0-128		08/17/2019 13:17	WG1330392

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	96.0		4.00	1	08/17/2019 01:41	WG1329660
C28-C40 Oil Range	361		20.0	5	08/19/2019 01:44	WG1329660
(S) o-Terphenyl	143		18.0-148		08/19/2019 01:44	WG1329660
(S) o-Terphenyl	46.6		18.0-148		08/17/2019 01:41	WG1329660

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Method Blank (MB)

(MB) R3440048-1 08/13/19 10:25

	MB Result	MB Qualifier	MB MDL	MB RDL
Analyte	mg/kg		mg/kg	mg/kg
Chloride	1.74	⬇	0.795	10.0

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

L1127438-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1127438-01 08/13/19 11:10 • (DUP) R3440048-3 08/13/19 11:18

	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	ND	6.47	1	0.000		20

L1127706-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1127706-05 08/13/19 14:51 • (DUP) R3440048-6 08/13/19 15:00

	Original Result (dry)	DUP Result (dry)	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
Analyte	mg/kg	mg/kg		%		%
Chloride	2890	2680	20	7.72		20

Laboratory Control Sample (LCS)

(LCS) R3440048-2 08/13/19 10:34

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
Chloride	200	190	95.0	90.0-110	

L1127702-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1127702-01 08/13/19 15:50 • (MS) R3440048-7 08/13/19 15:59 • (MSD) R3440048-8 08/13/19 16:07

	Spike Amount (dry)	Original Result (dry)	MS Result (dry)	MSD Result (dry)	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
Chloride	562	6370	6900	6430	94.4	10.7	1	80.0-120	E	E V	7.05	20

Method Blank (MB)

(MB) R3441610-3 08/17/19 12:10

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	0.0720	⬇	0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	106			77.0-120
(S) a,a,a-Trifluorotoluene(PID)	101			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) R3441610-1 08/17/19 11:03

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.0500	0.0518	104	76.0-121	
Toluene	0.0500	0.0561	112	80.0-120	
Ethylbenzene	0.0500	0.0550	110	80.0-124	
Total Xylene	0.150	0.162	108	37.0-160	
(S) a,a,a-Trifluorotoluene(FID)			106	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			102	72.0-128	

Laboratory Control Sample (LCS)

(LCS) R3441610-2 08/17/19 11:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.92	108	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			109	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			110	72.0-128	



Method Blank (MB)

(MB) R3441376-1 08/16/19 23:22

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	64.0			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3441376-2 08/16/19 23:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
C10-C28 Diesel Range	50.0	27.6	55.2	50.0-150	
(S) o-Terphenyl			67.1	18.0-148	

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Guide to Reading and Understanding Your Laboratory Report

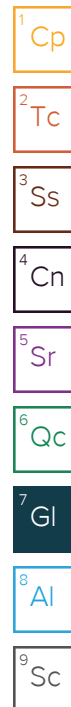
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

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

Abbreviations and Definitions

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

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
V	The sample concentration is too high to evaluate accurate spike recoveries.





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.



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