

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)NCS1911233278
Contact mailing address 382 CR 3100, Aztec NM 87410	

Location of Release Source

Latitude 36.4179382 Longitude -107.8262787
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Huerfano #142	Site Type Gas Well
Date Release Discovered 4/16/2019	API# (if applicable) 30-045-05501

Unit Letter	Section	Township	Range	County
G	07	25N	09W	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 checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 5	Volume Recovered (bbls) 0
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 20	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input checked="" 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

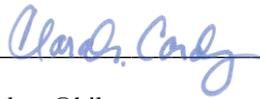
Release due to corrosion at the bottom of the tank.

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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>5/6/2019</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> </u> >100 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.

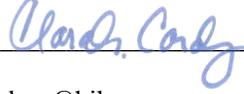
<p><u>Characterization Report Checklist:</u> <i>Each of the following items must be included in the report.</i></p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells. <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 checked="" 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: 7/16/2019

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.*

- 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: 7/16/2019
 email: ccardoza@hilcorp.com Telephone: 505.564.0733

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: 7/24/19
 Printed Name: Cory Title: Environmental Specialist

Executive Summary

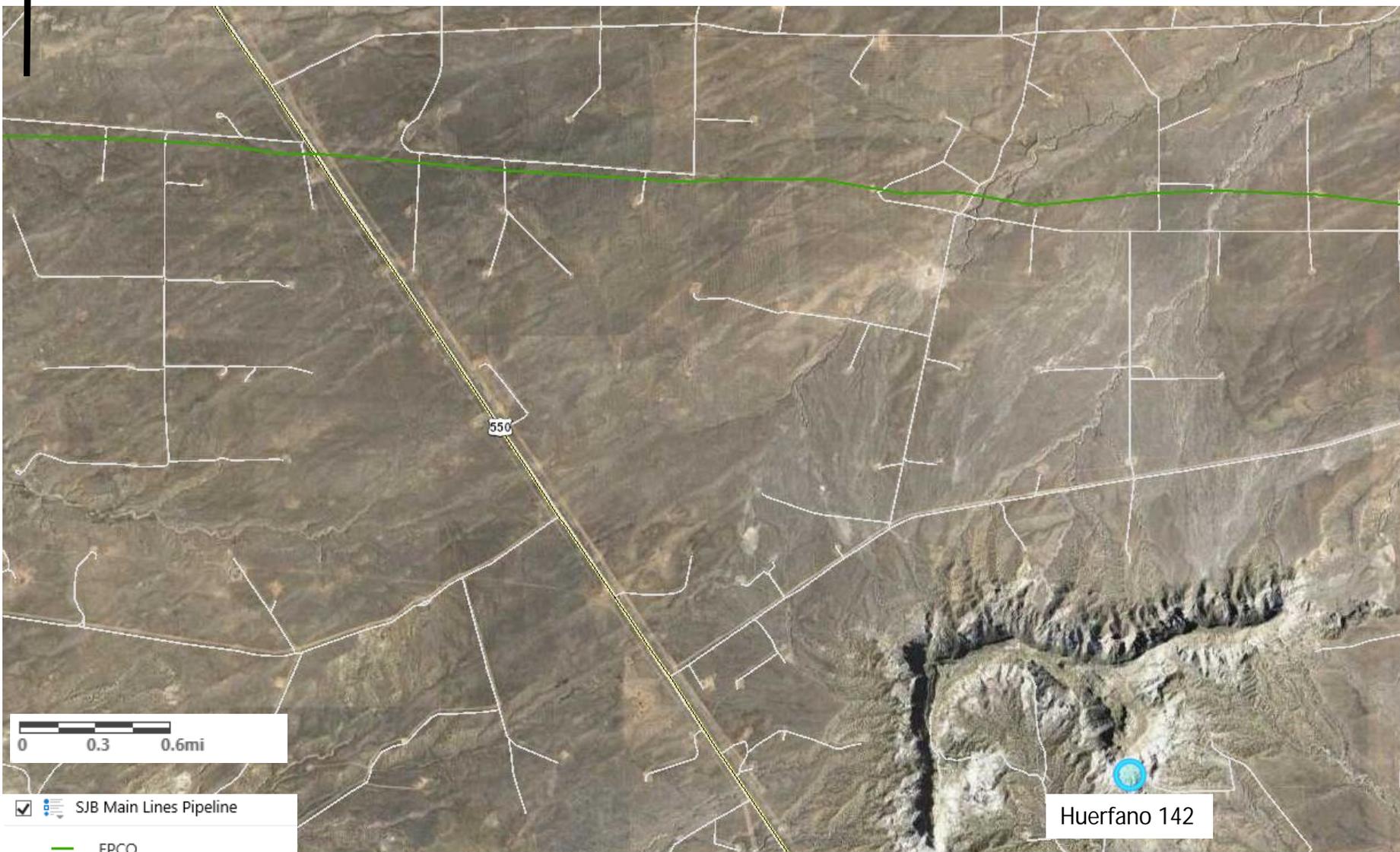
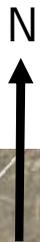
On April 16, 2019 Hilcorp Energy had a release of 20 bbls of produced water and 5 bbl of oil at the Huerfano 142. The release was due to corrosion at the bottom of the tank. The liquids were contained in the berm and impacted soil below the tank. Impacted soil was removed and taken to landfarm.

Confirmation sampling was conducted on April 25th with Cory Smith of NMOCD and Emmanuel Adeloje of BLM-FFO in accordance with NMAC 19.15.29.12.D. This site is ranked >100 ft per NMAC 19.15.29.12.E. Two of the three samples came back above NMOCD clean up standards (wall composite and base). Additional impacted soil was removed and samples were retaken on May 7, 2019 with Emmanuel present. Samples all came back in compliance with clean up action levels.



0 15 30ft

Remediation Area

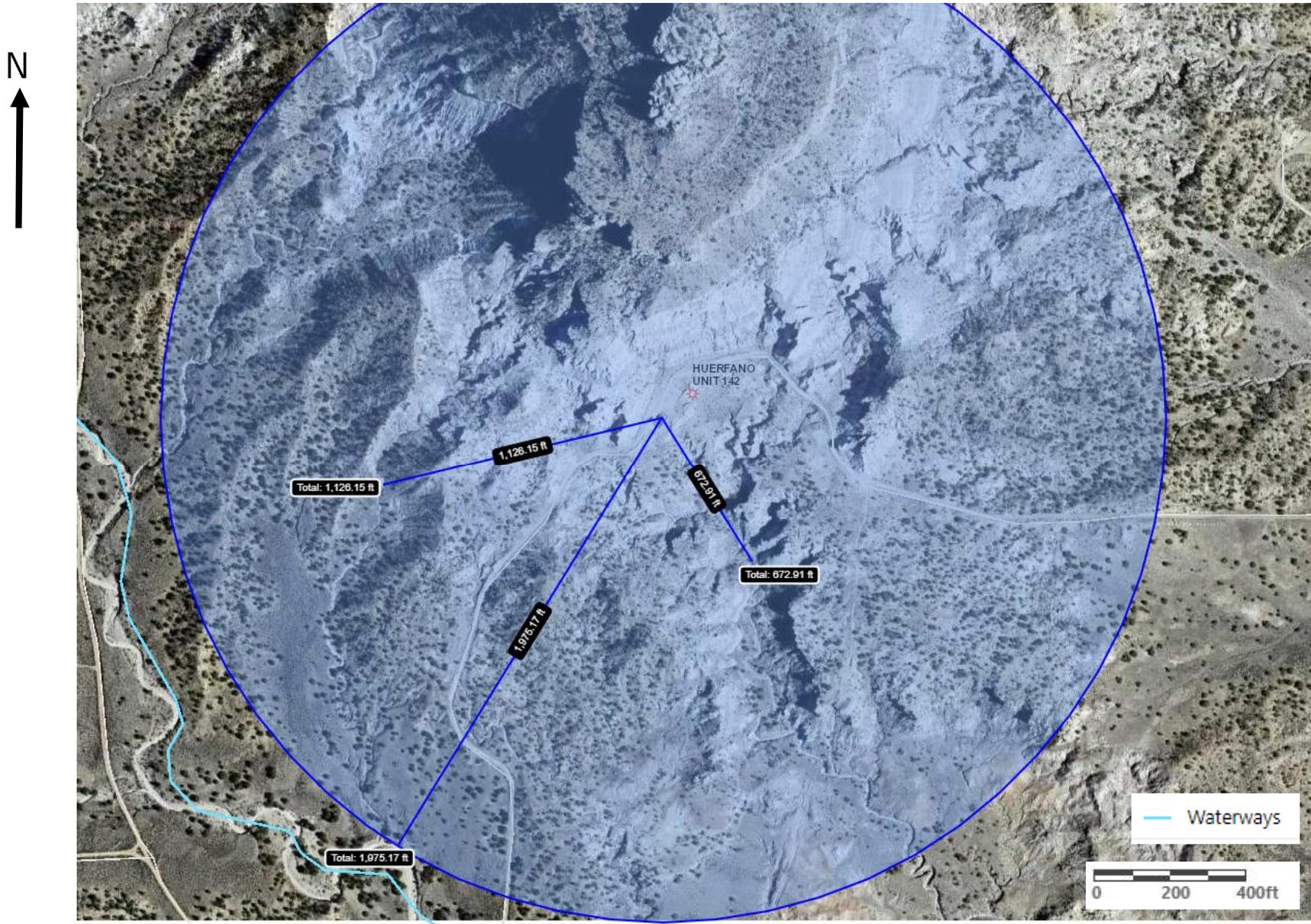


SJB Main Lines Pipeline

-  EPCO
-  Val Verde
-  Williams

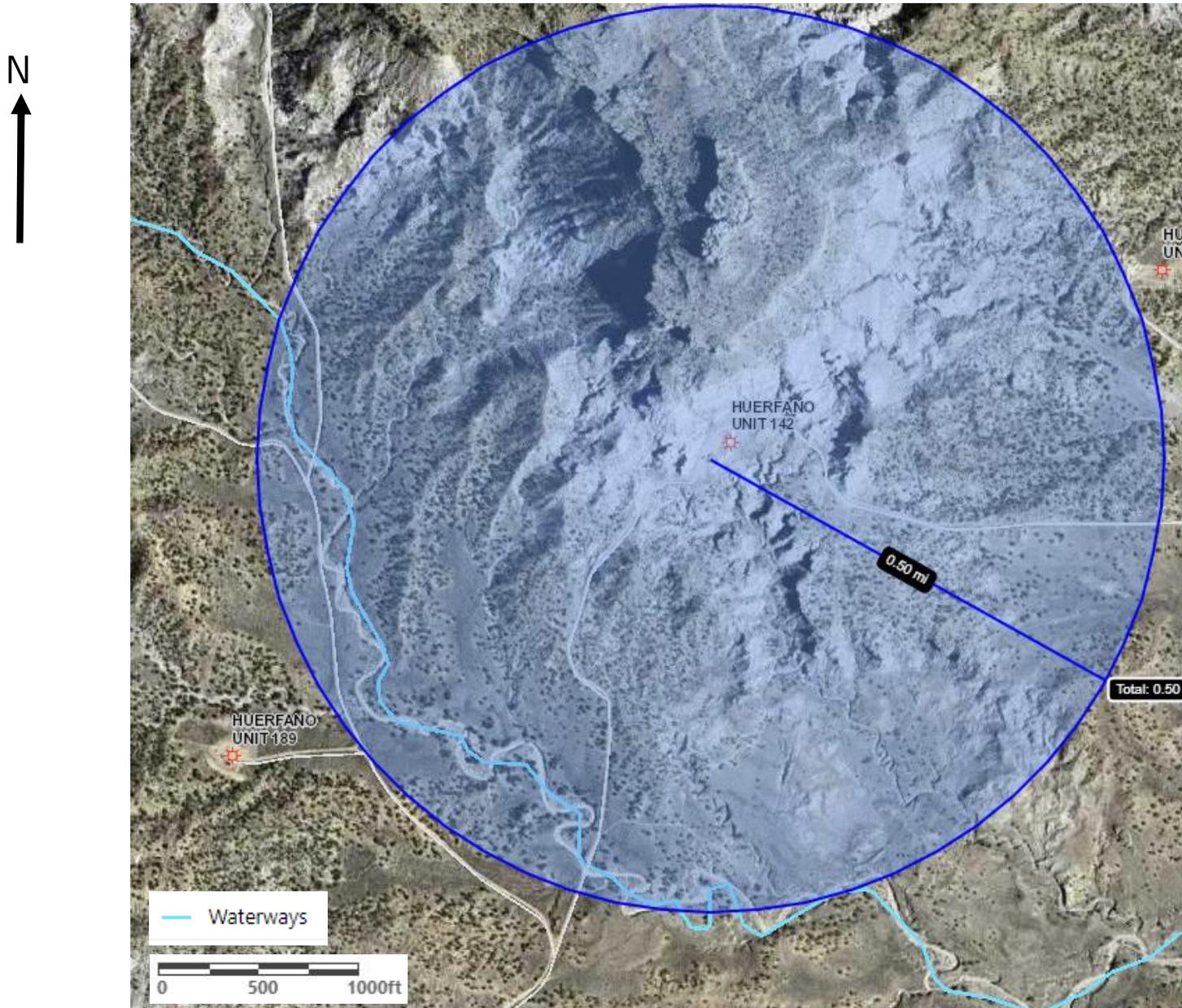
Huerfano 142

Distance to watercourse



Distance to watercourse 1,975 ft and 673 ft /1,128 ft to nearby washes

Water sources or courses within ½ mile



Depth to groundwater

30-045-05501

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. 7 Twp 25 Rng 9

Name of Well/Wells or Pipeline Serviced HUERFANO UNIT #142

cps 898w

Elevation 6910' Completion Date 6/25/75 Total Depth 350' Land Type* N/A

Casing, Sizes, Types & Depths 8' OF 8 5/8 surface casing

If Casing is cemented, show amounts & types used N/A

If Cement or Bentonite Plugs have been placed, show depths & amounts used

N/A

Depths & thickness of water zones with description of water when possible:

Fresh, Clear, Salty, Sulphur, Etc. 138'

RECORDED
MAY 21 1991

Depths gas encountered: N/A

OIL CON. DIV.
DIST. 3

Type & amount of coke breeze used: 3500 lbs.

Depths anodes placed: 285', 275', 265', 225', 215', 205', 195', 185', 175', 165'

Depths vent pipes placed: N/A

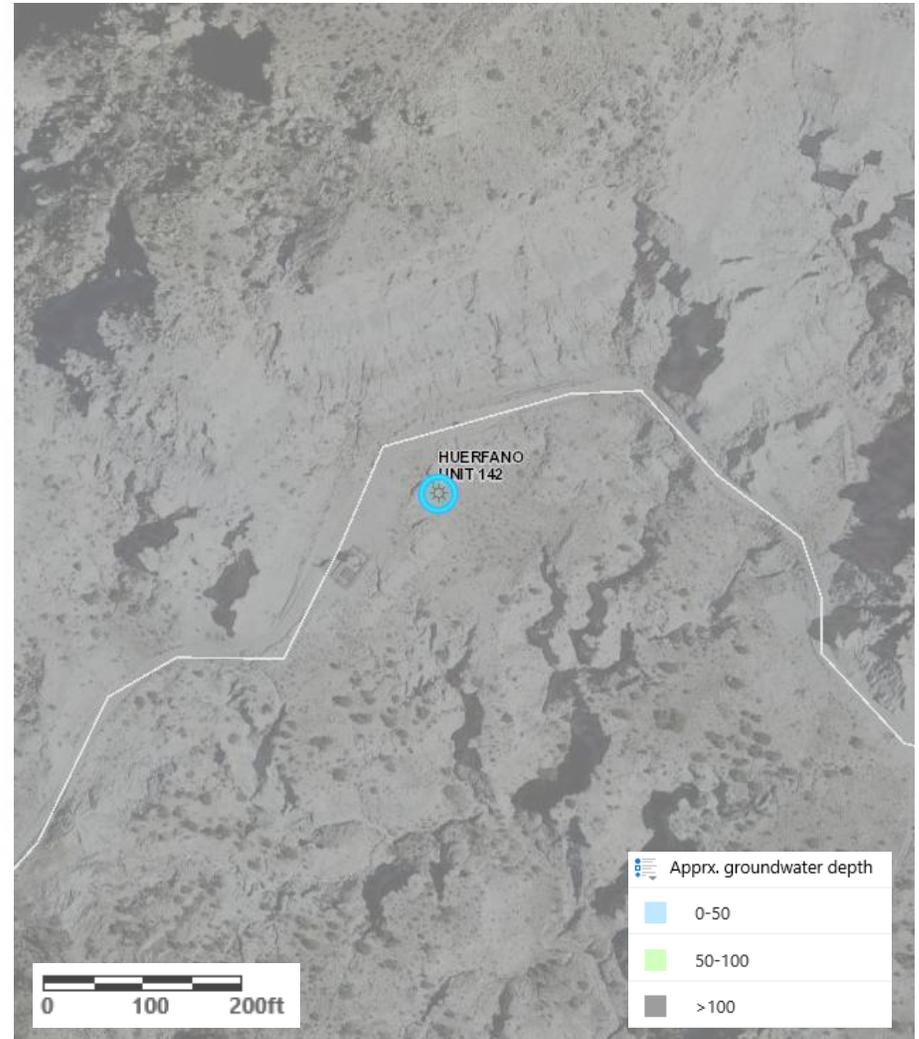
Vent pipe perforations: N/A

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.

Cathodic information shows groundwater at 138' for Huerfano 142



Hilcorp mapping supports groundwater depth > 100 ft

Depth to groundwater



New Mexico Office of the State Engineer
Wells with Well Log Information

No wells found.

PLSS Search:

Section(s): 5, 6, 7, 8, 17, 18 **Township:** 25N **Range:** 09W

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.

7/11/19 3:27 PM

WELLS WITH WELL LOG INFORMATION



New Mexico Office of the State Engineer
Wells with Well Log Information

No wells found.

PLSS Search:

Section(s): 1, 12, 13 **Township:** 25N **Range:** 10W

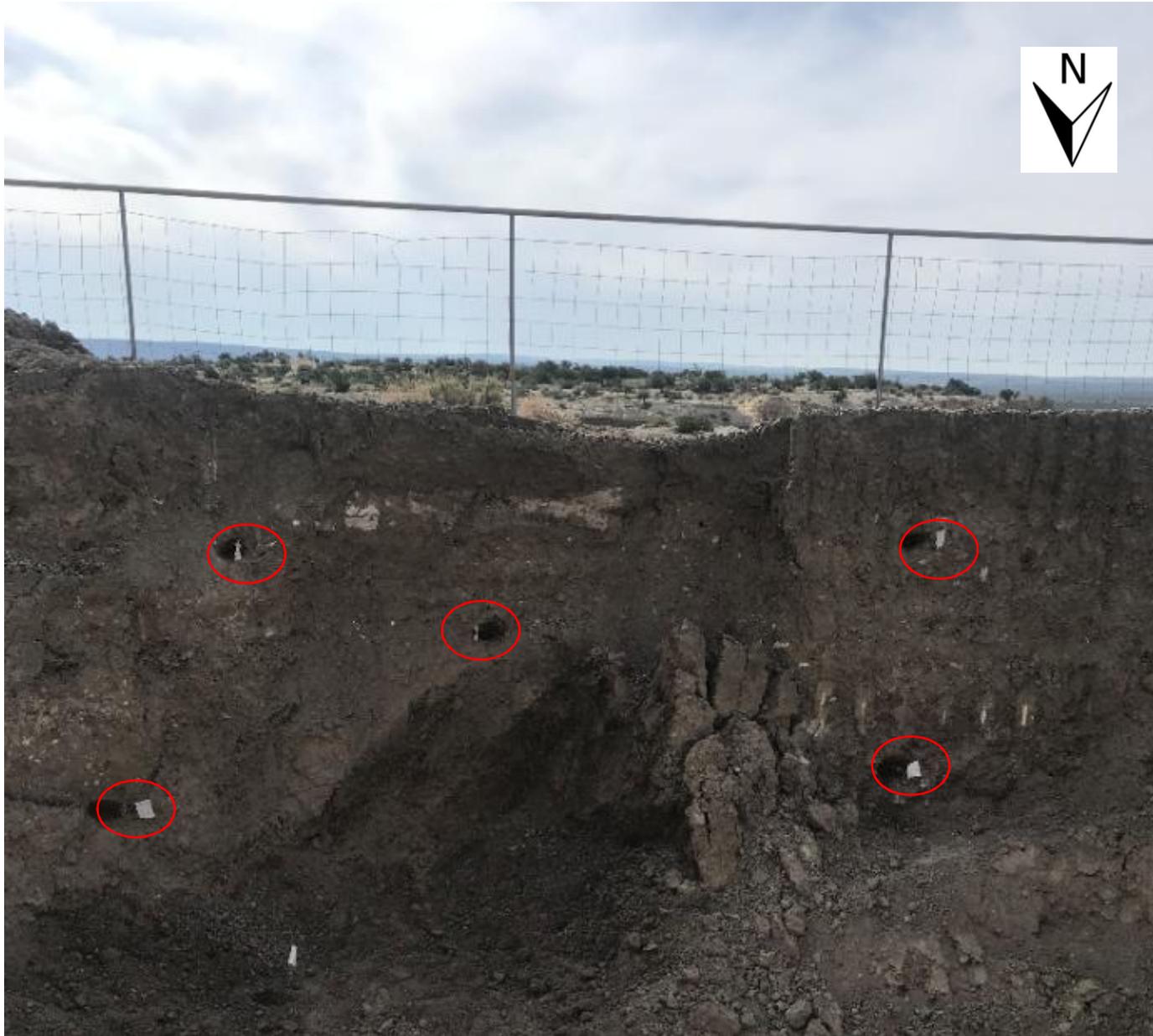
The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

7/11/19 3:28 PM

WELLS WITH WELL LOG INFORMATION

There are no water wells in the 9 section area around the Huerfano 142

Sample locations/field notes



South wall excavation sample locations

Sample locations/field notes



West wall excavation sample locations

Sample locations/field notes



North wall excavation sample locations

Sample locations/field notes



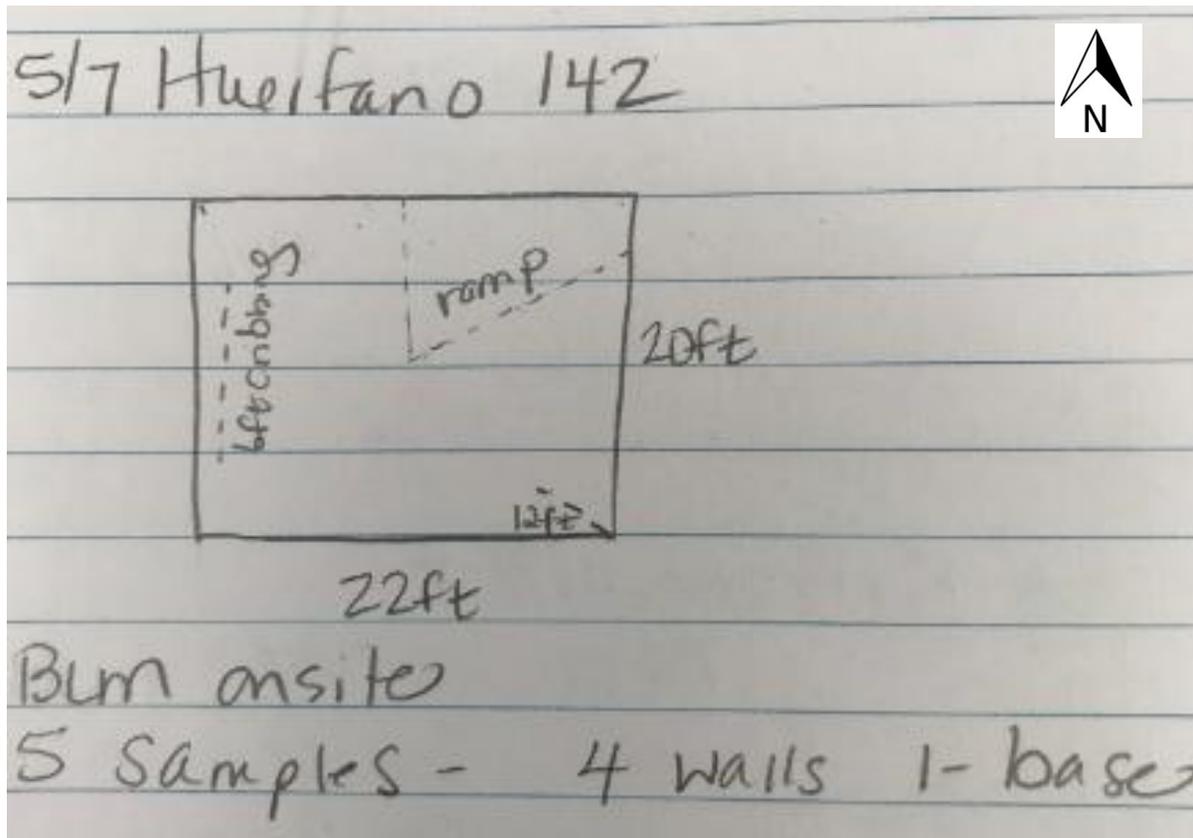
East wall excavation sample locations

Sample locations/field notes



Base of excavation sample locations

Sample locations/field notes



Data table of soil contaminant concentration data

Sample Name	Date	Sample Location	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				20,000	-	-	-	2,500	1,000	10	-	-	-	50
S Wall	4/25/19	South Wall	n/a	ND	110	270	ND	380	380	ND	2.7	0.98	11	14.68
Wall Comp	4/25/19	Remaining walls	n/a	ND	1300	3200	ND	4500	4500	ND	72	19	180	271
Base	4/25/19	Base	n/a	ND	270	1600	ND	1870	1870	ND	38	10	99	147
North Wall	5/7/19	North Wall	n/a	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
West Wall	5/7/19	West Wall	n/a	ND	ND	5	ND	5	5	ND	ND	ND	ND	ND
South Wall	5/7/19	South Wall	n/a	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
East Wall	5/7/19	East Wall	n/a	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Base	5/7/19	Base	n/a	ND	70	140	ND	210	210	0.097	2.1	0.53	5.3	8.027

Initial confirmation samples taken on 4/25/2019 and witnessed by Cory Smith, NMOCD and Emmanuel Adeloje, BLM. Two of the samples did not pass on TPH and BTEX (highlighted in yellow) in accordance with Table 1 of NMAC 19.15.29.12 and were resampled on 5/7/2019. This sampling event was witnessed by Emmanuel Adeloje, BLM and resample came back below action levels.

Clara Cardoza

From: Clara Cardoza
Sent: Tuesday, April 23, 2019 12:20 PM
To: Smith, Cory, EMNRD; Nation EPA Navajo (NNEPA) (nnepawq@frontiernet.net)
Cc: Abiodun Adeloje
Subject: RE: [EXTERNAL] RE: [EXT] Hilcorp Release: Huerfano 142

Due to the rain today can we reschedule this for Thursday April 25th at 9 a.m.?

Thank you,
Clara

From: Clara Cardoza
Sent: Monday, April 22, 2019 1:44 PM
To: Smith, Cory, EMNRD <cory.smith@state.nm.us>; Nation EPA Navajo (NNEPA) (nnepawq@frontiernet.net) <nnepawq@frontiernet.net>
Cc: Abiodun Adeloje <aadeloje@blm.gov>
Subject: Re: [EXTERNAL] RE: [EXT] Hilcorp Release: Huerfano 142

Please let this serve as 48 hour notice for confirmation sampling at the Huerfano 142 NCS1911233278 for Wednesday April 24th at 2 pm. Please let me know if you have any questions or concerns.

Thank you,
Clara

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On Mon, Apr 22, 2019 at 9:18 AM -0600, "Smith, Cory, EMNRD" <Cory.Smith@state.nm.us> wrote:

Clara,

Thank you for the notification please respond to the release per 19.15.29.8 NMAC.

Below is the highlighted incident# for your records and future submitalls.

NCS1911233278 HUERFANO UNIT #142 @ 30

General Incident Information

Site Name: HUERFANO UNIT #142
Well: [30-045-05501] HUERFANO UNIT #142
Facility:
Operator: [372171] HILCORP ENERGY COMPANY
Status: Closure Not Approved
Type: Oil Release
District: Aztec

Incident Location: G-07-25N-09W Lot: 0 FNL 0 FEL
Lat/Long: 36.4179382,-107.8262787 NAD83

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

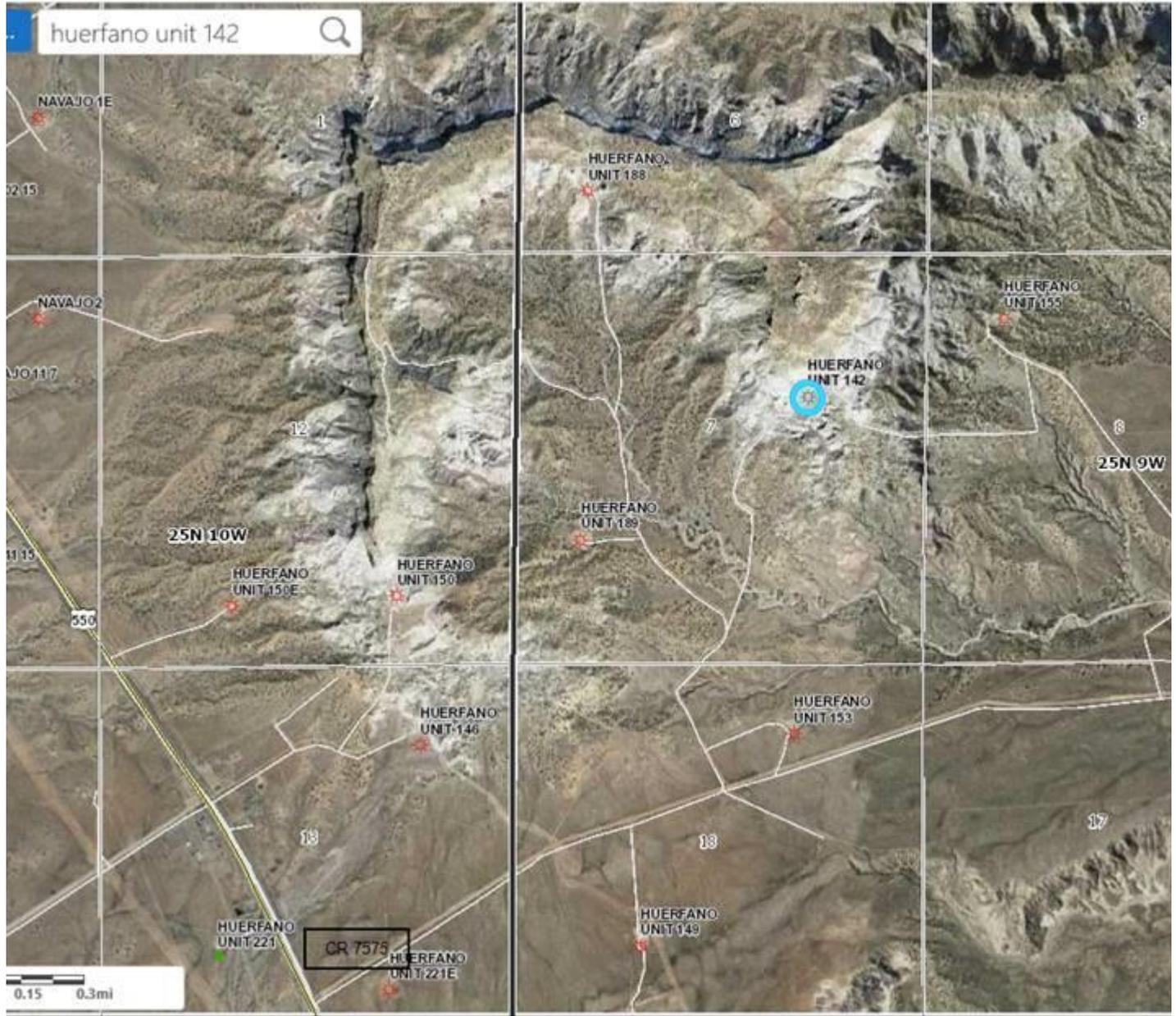
From: Clara Cardoza <ccardoza@hilcorp.com>
Sent: Wednesday, April 17, 2019 4:07 PM
To: Nation EPA Navajo (NNEPA) (nnepawq@frontiernet.net) <nnepawq@frontiernet.net>
Cc: Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Abiodun Adeloye <aadeloye@blm.gov>
Subject: [EXT] Hilcorp Release: Huerfano 142

Please let this serve as a follow-up for the release on the Hilcorp Energy Huerfano 142. Approximately 5 bbls of oil and 20 bbls of produced water was discovered on April 16th at 7:45 a.m. The release remained in the containment and was due to corrosion at the bottom of the tank. None of the 25 bbls was recovered but 55 bbls that remained in the tank was removed. API# 30-045-05501. Lat 36.4179382, Long -107.8262787. A one call has been placed and Hilcorp intends to remove the impacted soil on Monday. This report will be followed by a C-141. Below as requested is a map of the location which is NE of Hwy 550 (approx. mile marker 127) and down CR 7575. Please let me know if you have any questions.

Thank you,

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

 Please consider the environment before printing this e-mail



Clara Cardoza

From: Adeloje, Abiodun <aadeloje@blm.gov>
Sent: Friday, May 3, 2019 1:47 PM
To: Clara Cardoza
Cc: Smith, Cory, EMNRD; whitney thomas (l1thomas@blm.gov); Nation EPA Navajo (NNEPA) (nnepawq@frontiernet.net)
Subject: Re: [EXT] Re: [EXTERNAL] NCS1910830387 Confirmation Sampling SJ 29-7 583

The time will work for me.
Thank you.

On Fri, May 3, 2019 at 12:01 PM Clara Cardoza <ccardoza@hilcorp.com> wrote:

At the Huerfano of the 3 samples only the south wall passed. At the 583 the base failed (2 samples), north wall of west half and east wall of east half.

Get Outlook for iOS<<https://aka.ms/o0ukef>>

On Fri, May 3, 2019 at 11:44 AM -0600, "Smith, Cory, EMNRD"
<Cory.Smith@state.nm.us<mailto:Cory.Smith@state.nm.us>>> wrote:

Clara,

Which ones failed?

Cory Smith
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 115
cory.smith@state.nm.us

-----Original Message-----

From: Clara Cardoza
Sent: Friday, May 3, 2019 10:38 AM
To: Adeloje, Abiodun
Cc: Smith, Cory, EMNRD ; whitney thomas (l1thomas@blm.gov) ; Nation EPA Navajo (NNEPA) (nnepawq@frontiernet.net)
Subject: Re: [EXT] Re: [EXTERNAL] NCS1910830387 Confirmation Sampling SJ 29-7 583

Good morning. Not all of our samples came back clean so we had to do more work on both the Huerfano 142 and SJ 29-7 583. Can we do confirmation samples on Tuesday morning May 7th like we did last time?? Start at Huerfano at 830 and then go to the 583. Let me know if this will work.

Thank you,

Clara

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On Wed, Apr 24, 2019 at 10:46 AM -0600, "Adeloye, Abiodun" > wrote:

Thank you Clara. This will work out well for me.
I really appreciate your flexibility.

On Wed, Apr 24, 2019 at 10:41 AM Clara Cardoza > wrote:

Huerfano 142 @ 830

SJ 29-7 583 @ 130 – we could just drive directly over to the 583 when we are done at the Huerfano if you have BP sampling at 1. We are flexible.

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]

Sent: Wednesday, April 24, 2019 8:27 AM

To: Adeloye, Abiodun >; Clara Cardoza >

Cc: whitney thomas (11thomas@blm.gov) >; Nation EPA Navajo (NNEPA) (nnepawq@frontiernet.net) >

Subject: RE: [EXT] Re: [EXTERNAL] NCS1910830387 Confirmation Sampling SJ 29-7 583

Just so I got this right.

Sample at

Huerfano 142 @ 8:30 instead of 9;AM

SJ-29-7 #583 at what time?

BP Hardies LS 1A @ 1:30PM

Cory Smith

Environmental Specialist

Oil Conservation Division

Energy, Minerals, & Natural Resources

1000 Rio Brazos, Aztec, NM 87410

(505)334-6178 ext 115

cory.smith@state.nm.us

From: Adeloye, Abiodun >

Sent: Wednesday, April 24, 2019 7:22 AM

To: Clara Cardoza >

Cc: Smith, Cory, EMNRD >; whitney thomas (11thomas@blm.gov) >; Nation EPA Navajo (NNEPA) (nnepawq@frontiernet.net) >

Subject: [EXT] Re: [EXTERNAL] NCS1910830387 Confirmation Sampling SJ 29-7 583

Okay, I will wait for their response.
Thanks

On Wed, Apr 24, 2019 at 7:13 AM Clara Cardoza > wrote:
We can do whatever you would like if Cory and Steve are okay with the time change.

From: Adeloye, Abiodun [mailto:aadeloye@blm.gov]
Sent: Wednesday, April 24, 2019 6:41 AM
To: Clara Cardoza >
Cc: cory.smith@state.nm.us; whitney thomas (l1thomas@blm.gov) >
Subject: Re: [EXTERNAL] NCS1910830387 Confirmation Sampling SJ 29-7 583

Can we sample Huerfano around 8:30 AM? if that will work for you. I know it will be tight for me. I don't mind working through the lunch if you don't mind. In fact, the San Juan 29-7 #583 and the BP location are very close to each other.
Thank you

On Tue, Apr 23, 2019 at 2:51 PM Clara Cardoza > wrote:
I am also trying to sample at the Huerfano that same morning. If you would like I can push up the Huerfano to earlier but we might have to work through lunch based on the distance those are apart.

From: Adeloye, Abiodun [mailto:aadeloye@blm.gov]
Sent: Tuesday, April 23, 2019 2:22 PM
To: Clara Cardoza >
Cc: cory.smith@state.nm.us; whitney thomas (l1thomas@blm.gov) >
Subject: Re: [EXTERNAL] NCS1910830387 Confirmation Sampling SJ 29-7 583

I got sampling around 1:00 PM with BP is it possible to sample earlier than 1:30 PM?
Thank you.

On Tue, Apr 23, 2019 at 12:27 PM Clara Cardoza > wrote:
Please let this serve as notification for confirmation sampling at the Hilcorp Energy San Juan 29-7 583 for Thursday April 25th at 1:30 p.m. 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)
[consider]

--

Abiodun Adeloye (Emmanuel)
Natural Resource Specialist



Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

May 10, 2019

Clara Cardoza
Hilcorp Energy
PO Box PO Box 4700
Farmington, NM 84701
TEL:
FAX

RE: Huerfano 142

OrderNo.: 1905366

Dear Clara Cardoza:

Hall Environmental Analysis Laboratory received 5 sample(s) on 5/8/2019 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905366

Date Reported: 5/10/2019

CLIENT: Hilcorp Energy

Client Sample ID: North Wall

Project: Huerfano 142

Collection Date: 5/7/2019 8:40:00 AM

Lab ID: 1905366-001

Matrix: SOIL

Received Date: 5/8/2019 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/8/2019 9:43:30 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/8/2019 9:43:30 AM
Surr: DNOP	97.1	70-130		%Rec	1	5/8/2019 9:43:30 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	5/8/2019 11:19:39 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: RAA
Benzene	ND	0.019		mg/Kg	1	5/8/2019 12:27:25 PM
Toluene	ND	0.039		mg/Kg	1	5/8/2019 12:27:25 PM
Ethylbenzene	ND	0.039		mg/Kg	1	5/8/2019 12:27:25 PM
Xylenes, Total	ND	0.078		mg/Kg	1	5/8/2019 12:27:25 PM
Surr: 1,2-Dichloroethane-d4	89.5	70-130		%Rec	1	5/8/2019 12:27:25 PM
Surr: 4-Bromofluorobenzene	96.5	70-130		%Rec	1	5/8/2019 12:27:25 PM
Surr: Dibromofluoromethane	104	70-130		%Rec	1	5/8/2019 12:27:25 PM
Surr: Toluene-d8	91.5	70-130		%Rec	1	5/8/2019 12:27:25 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	5/8/2019 12:27:25 PM
Surr: BFB	111	70-130		%Rec	1	5/8/2019 12:27:25 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905366

Date Reported: 5/10/2019

CLIENT: Hilcorp Energy

Client Sample ID: West Wall

Project: Huerfano 142

Collection Date: 5/7/2019 8:44:00 AM

Lab ID: 1905366-002

Matrix: SOIL

Received Date: 5/8/2019 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	5/8/2019 10:07:53 AM
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	5/8/2019 10:07:53 AM
Surr: DNOP	98.2	70-130		%Rec	1	5/8/2019 10:07:53 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	5/8/2019 11:32:04 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: RAA
Benzene	ND	0.021		mg/Kg	1	5/8/2019 12:56:02 PM
Toluene	ND	0.043		mg/Kg	1	5/8/2019 12:56:02 PM
Ethylbenzene	ND	0.043		mg/Kg	1	5/8/2019 12:56:02 PM
Xylenes, Total	ND	0.085		mg/Kg	1	5/8/2019 12:56:02 PM
Surr: 1,2-Dichloroethane-d4	91.5	70-130		%Rec	1	5/8/2019 12:56:02 PM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	5/8/2019 12:56:02 PM
Surr: Dibromofluoromethane	105	70-130		%Rec	1	5/8/2019 12:56:02 PM
Surr: Toluene-d8	89.9	70-130		%Rec	1	5/8/2019 12:56:02 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	5.0	4.3		mg/Kg	1	5/8/2019 12:56:02 PM
Surr: BFB	108	70-130		%Rec	1	5/8/2019 12:56:02 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905366

Date Reported: 5/10/2019

CLIENT: Hilcorp Energy

Client Sample ID: South Wall

Project: Huerfano 142

Collection Date: 5/7/2019 8:31:00 AM

Lab ID: 1905366-003

Matrix: SOIL

Received Date: 5/8/2019 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	5/8/2019 10:32:13 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/8/2019 10:32:13 AM
Surr: DNOP	101	70-130		%Rec	1	5/8/2019 10:32:13 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	5/8/2019 11:44:28 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: RAA
Benzene	ND	0.020		mg/Kg	1	5/8/2019 1:24:37 PM
Toluene	ND	0.039		mg/Kg	1	5/8/2019 1:24:37 PM
Ethylbenzene	ND	0.039		mg/Kg	1	5/8/2019 1:24:37 PM
Xylenes, Total	ND	0.079		mg/Kg	1	5/8/2019 1:24:37 PM
Surr: 1,2-Dichloroethane-d4	90.3	70-130		%Rec	1	5/8/2019 1:24:37 PM
Surr: 4-Bromofluorobenzene	95.9	70-130		%Rec	1	5/8/2019 1:24:37 PM
Surr: Dibromofluoromethane	108	70-130		%Rec	1	5/8/2019 1:24:37 PM
Surr: Toluene-d8	89.6	70-130		%Rec	1	5/8/2019 1:24:37 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	3.9		mg/Kg	1	5/8/2019 1:24:37 PM
Surr: BFB	108	70-130		%Rec	1	5/8/2019 1:24:37 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905366

Date Reported: 5/10/2019

CLIENT: Hilcorp Energy

Client Sample ID: East Wall

Project: Huerfano 142

Collection Date: 5/7/2019 8:36:00 AM

Lab ID: 1905366-004

Matrix: SOIL

Received Date: 5/8/2019 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	ND	9.7		mg/Kg	1	5/8/2019 10:56:31 AM
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	5/8/2019 10:56:31 AM
Surr: DNOP	104	70-130		%Rec	1	5/8/2019 10:56:31 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	5/8/2019 11:56:52 AM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: RAA
Benzene	ND	0.021		mg/Kg	1	5/8/2019 1:53:16 PM
Toluene	ND	0.042		mg/Kg	1	5/8/2019 1:53:16 PM
Ethylbenzene	ND	0.042		mg/Kg	1	5/8/2019 1:53:16 PM
Xylenes, Total	ND	0.084		mg/Kg	1	5/8/2019 1:53:16 PM
Surr: 1,2-Dichloroethane-d4	90.8	70-130		%Rec	1	5/8/2019 1:53:16 PM
Surr: 4-Bromofluorobenzene	92.1	70-130		%Rec	1	5/8/2019 1:53:16 PM
Surr: Dibromofluoromethane	106	70-130		%Rec	1	5/8/2019 1:53:16 PM
Surr: Toluene-d8	89.7	70-130		%Rec	1	5/8/2019 1:53:16 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	ND	4.2		mg/Kg	1	5/8/2019 1:53:16 PM
Surr: BFB	109	70-130		%Rec	1	5/8/2019 1:53:16 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order 1905366

Date Reported: 5/10/2019

CLIENT: Hilcorp Energy

Client Sample ID: Base

Project: Huerfano 142

Collection Date: 5/7/2019 8:48:00 AM

Lab ID: 1905366-005

Matrix: SOIL

Received Date: 5/8/2019 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: TOM
Diesel Range Organics (DRO)	70	10		mg/Kg	1	5/8/2019 11:20:57 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	5/8/2019 11:20:57 AM
Surr: DNOP	101	70-130		%Rec	1	5/8/2019 11:20:57 AM
EPA METHOD 300.0: ANIONS						Analyst: MRA
Chloride	ND	60		mg/Kg	20	5/8/2019 12:09:17 PM
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: RAA
Benzene	0.097	0.041		mg/Kg	2	5/8/2019 2:21:56 PM
Toluene	2.1	0.081		mg/Kg	2	5/8/2019 2:21:56 PM
Ethylbenzene	0.53	0.081		mg/Kg	2	5/8/2019 2:21:56 PM
Xylenes, Total	5.3	0.16		mg/Kg	2	5/8/2019 2:21:56 PM
Surr: 1,2-Dichloroethane-d4	95.5	70-130		%Rec	2	5/8/2019 2:21:56 PM
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	2	5/8/2019 2:21:56 PM
Surr: Dibromofluoromethane	120	70-130		%Rec	2	5/8/2019 2:21:56 PM
Surr: Toluene-d8	88.3	70-130		%Rec	2	5/8/2019 2:21:56 PM
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: RAA
Gasoline Range Organics (GRO)	140	8.1		mg/Kg	2	5/8/2019 2:21:56 PM
Surr: BFB	109	70-130		%Rec	2	5/8/2019 2:21:56 PM

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905366

10-May-19

Client: Hilcorp Energy
Project: Huerfano 142

Sample ID: MB-44781	SampType: MBLK	TestCode: EPA Method 300.0: Anions								
Client ID: PBS	Batch ID: 44781	RunNo: 59715								
Prep Date: 5/8/2019	Analysis Date: 5/8/2019	SeqNo: 2014637	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: LCS-44781	SampType: LCS	TestCode: EPA Method 300.0: Anions								
Client ID: LCSS	Batch ID: 44781	RunNo: 59715								
Prep Date: 5/8/2019	Analysis Date: 5/8/2019	SeqNo: 2014638	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.4	90	110			

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905366

10-May-19

Client: Hilcorp Energy

Project: Huerfano 142

Sample ID: LCS-44778	SampType: LCS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: LCSS	Batch ID: 44778	RunNo: 59708								
Prep Date: 5/8/2019	Analysis Date: 5/8/2019	SeqNo: 2013264	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	46	10	50.00	0	92.5	63.9	124			
Surr: DNOP	4.2		5.000		84.4	70	130			

Sample ID: MB-44778	SampType: MBLK	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: PBS	Batch ID: 44778	RunNo: 59708								
Prep Date: 5/8/2019	Analysis Date: 5/8/2019	SeqNo: 2013265	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		100	70	130			

Sample ID: 1905366-001AMS	SampType: MS	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: North Wall	Batch ID: 44778	RunNo: 59708								
Prep Date: 5/8/2019	Analysis Date: 5/8/2019	SeqNo: 2013582	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47	9.7	48.73	4.359	88.4	53.5	126			
Surr: DNOP	4.2		4.873		85.2	70	130			

Sample ID: 1905366-001AMSD	SampType: MSD	TestCode: EPA Method 8015M/D: Diesel Range Organics								
Client ID: North Wall	Batch ID: 44778	RunNo: 59708								
Prep Date: 5/8/2019	Analysis Date: 5/8/2019	SeqNo: 2013583	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	50	9.9	49.46	4.359	92.3	53.5	126	5.28	21.7	
Surr: DNOP	4.6		4.946		93.7	70	130	0	0	

Qualifiers:

* Value exceeds Maximum Contaminant Level.
D Sample Diluted Due to Matrix
H Holding times for preparation or analysis exceeded
ND Not Detected at the Reporting Limit
PQL Practical Quantitative Limit
S % Recovery outside of range due to dilution or matrix

B Analyte detected in the associated Method Blank
E Value above quantitation range
J Analyte detected below quantitation limits
P Sample pH Not In Range
RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905366

10-May-19

Client: Hilcorp Energy

Project: Huerfano 142

Sample ID: 100ng lcs	SampType: LCS	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: LCSS	Batch ID: SL59722	RunNo: 59722								
Prep Date:	Analysis Date: 5/8/2019	SeqNo: 2014007	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.025	1.000	0	99.7	70	130			
Toluene	0.98	0.050	1.000	0	98.2	70	130			
Surr: 1,2-Dichloroethane-d4	0.44		0.5000		87.5	70	130			
Surr: 4-Bromofluorobenzene	0.47		0.5000		93.5	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		101	70	130			
Surr: Toluene-d8	0.45		0.5000		89.2	70	130			

Sample ID: rb	SampType: MBLK	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: PBS	Batch ID: SL59722	RunNo: 59722								
Prep Date:	Analysis Date: 5/8/2019	SeqNo: 2014014	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 1,2-Dichloroethane-d4	0.43		0.5000		86.5	70	130			
Surr: 4-Bromofluorobenzene	0.48		0.5000		96.4	70	130			
Surr: Dibromofluoromethane	0.51		0.5000		103	70	130			
Surr: Toluene-d8	0.45		0.5000		89.6	70	130			

Sample ID: 1905366-002a ms	SampType: MS	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: West Wall	Batch ID: SL59722	RunNo: 59722								
Prep Date:	Analysis Date: 5/8/2019	SeqNo: 2015154	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.86	0.021	0.8518	0	101	68.9	131			
Toluene	0.81	0.043	0.8518	0	94.7	64.3	137			
Surr: 1,2-Dichloroethane-d4	0.39		0.4259		91.4	70	130			
Surr: 4-Bromofluorobenzene	0.41		0.4259		96.8	70	130			
Surr: Dibromofluoromethane	0.45		0.4259		105	70	130			
Surr: Toluene-d8	0.37		0.4259		86.6	70	130			

Sample ID: 1905366-002a msd	SampType: MSD	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: West Wall	Batch ID: SL59722	RunNo: 59722								
Prep Date:	Analysis Date: 5/8/2019	SeqNo: 2015155	Units: mg/Kg							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.83	0.021	0.8518	0	97.2	68.9	131	3.92	20	
Toluene	0.75	0.043	0.8518	0	88.1	64.3	137	7.15	20	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905366

10-May-19

Client: Hilcorp Energy
Project: Huerfano 142

Sample ID: 1905366-002a msd	SampType: MSD	TestCode: EPA Method 8260B: Volatiles Short List								
Client ID: West Wall	Batch ID: SL59722	RunNo: 59722								
Prep Date:	Analysis Date: 5/8/2019	SeqNo: 2015155 Units: mg/Kg								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	0.40		0.4259		93.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.40		0.4259		93.7	70	130	0	0	
Surr: Dibromofluoromethane	0.47		0.4259		109	70	130	0	0	
Surr: Toluene-d8	0.37		0.4259		87.8	70	130	0	0	

Qualifiers:

- | | |
|---|---|
| * Value exceeds Maximum Contaminant Level. | B Analyte detected in the associated Method Blank |
| D Sample Diluted Due to Matrix | E Value above quantitation range |
| H Holding times for preparation or analysis exceeded | J Analyte detected below quantitation limits |
| ND Not Detected at the Reporting Limit | P Sample pH Not In Range |
| PQL Practical Quantitative Limit | RL Reporting Limit |
| S % Recovery outside of range due to dilution or matrix | |

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: 1905366

10-May-19

Client: Hilcorp Energy
Project: Huerfano 142

Sample ID: 2.5ug gro lcs	SampType: LCS		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: LCSS	Batch ID: GS59722		RunNo: 59722							
Prep Date:	Analysis Date: 5/8/2019		SeqNo: 2014027		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	24	5.0	25.00	0	94.6	70	130			
Surr: BFB	540		500.0		109	70	130			

Sample ID: rb	SampType: MBLK		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: PBS	Batch ID: GS59722		RunNo: 59722							
Prep Date:	Analysis Date: 5/8/2019		SeqNo: 2014028		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	530		500.0		107	70	130			

Sample ID: 1905366-001a ms	SampType: MS		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: North Wall	Batch ID: GS59722		RunNo: 59722							
Prep Date:	Analysis Date: 5/8/2019		SeqNo: 2015182		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	3.9	19.47	0	88.2	68.2	135			
Surr: BFB	430		389.4		111	70	130			

Sample ID: 1905366-001a msd	SampType: MSD		TestCode: EPA Method 8015D Mod: Gasoline Range							
Client ID: North Wall	Batch ID: GS59722		RunNo: 59722							
Prep Date:	Analysis Date: 5/8/2019		SeqNo: 2015183		Units: mg/Kg					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	17	3.9	19.47	0	87.7	68.2	135	0.546	20	
Surr: BFB	440		389.4		114	70	130	0	0	

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quantitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Sample Log-In Check List

Client Name: HILCORP ENERGY

Work Order Number: 1905366

RcptNo: 1

Received By: Yazmine Garduno 5/8/2019 7:40:00 AM

Yazmine Garduno

Completed By: Anne Thorne 5/8/2019 8:14:43 AM

Anne Thorne

Reviewed By: DAD 5/8/19
 Labeled by: AT 5/8/19

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present

2. How was the sample delivered?

Log In

3. Was an attempt made to cool the samples? Yes No NA

4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA

5. Sample(s) in proper container(s)? Yes No

6. Sufficient sample volume for indicated test(s)? Yes No

7. Are samples (except VOA and ONG) properly preserved? Yes No

8. Was preservative added to bottles? Yes No NA

9. VOA vials have zero headspace? Yes No No VOA Vials

10. Were any sample containers received broken? Yes No

11. Does paperwork match bottle labels? Yes No
 (Note discrepancies on chain of custody)

12. Are matrices correctly identified on Chain of Custody? Yes No

13. Is it clear what analyses were requested? Yes No

14. Were all holding times able to be met? Yes No
 (If no, notify customer for authorization.)

of preserved bottles checked for pH: _____ (<2 or >12 unless noted) Adjusted? _____ Checked by: _____
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Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes No NA

Person Notified: _____	Date: _____
By Whom: _____	Via: <input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding: _____	
Client Instructions: _____	

16. Additional remarks:

17. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.4	Good	Yes			

