

Incident ID	NRM2026231125
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?	<u>52</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 checked="" type="checkbox"/> Yes <input 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.

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 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

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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: Christian Combs

Title: EHS & Regulatory Manager

Signature: 

Date: 12/2/2020

email: ccombs@taprk.com

Telephone: (720)360-4028

OCD Only

Received by: Cristina Eads

Date: 12/02/2020

Incident ID	NRM2026231125
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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.

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Printed Name: _____ Title: _____
Signature: _____ Date: _____
email: _____ Telephone: _____

OCD Only

Received by: Cristina Eads Date: 12/02/2020

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

Signature:  Date: 02/05/2021



CDH Consulting, LLC
Thornton, Colorado
720.431.7468
www.CDHConsult.com

Soil Assessment and Remediation Work Plan:

Zeus SWD Line
Incident #NRM2026231125

Prepared For:

Tap Rock Resources, LLC.
Golden, CO

Prepared By:

CDH Consulting
Thornton, CO



CDH Consulting, LLC
Thornton, Colorado
720.431.7468
www.CDHConsult.com

Ms. Christina Eads
NMCOD – Environmental Bureau
1220 S St Francis Dr # 3
Santa Fe, NM 87505

Subject: Soil Assessment and Remediation Workplan
Zeus SWD Line
Incident # NRM2026231125

Dear Ms. Eads,

Tap Rock Resources (Tap Rock) has contracted CDH Consulting (CDH) to perform soil assessment and remediation services at the above referenced location. The results of our soil assessment and proposed remediation activities are described in the following pages.

SITE INFORMATION

The Zeus SWD line routes to the Zeus CTB located approximately 23 miles northwest of Jal, NM. The legal location description is Unit Letter B, Section 16, Township 24 South, Range 33 East, Lea County, New Mexico.

On September 3, 2020, a produced water release of approximately 20bbls was discovered on the Zeus SWD line. The cause of the release was determined to be equipment failure. The location of the release is shown on Figure 1. Upon discovery the line was shut in and the area secured. Earthen berms were constructed to contain the release and a hydrovac truck was utilized to remove all free-standing liquids. Approximately 5 bbls of produced water were recovered and placed back into the production facility.

On September 18, 2020, a form C-141 was submitted to the NMOCD detailing the initial response to the release. The initial C141 is included as Attachment 1. NMOCD has assigned incident #NRM2026231125 to this release.

GROUNDWATER AND SITE RANKING

There are no significant watercourses or other sensitive areas within ½ mile of the release as defined by 19.15.29.12.C.(4).

Tap Rock contracted a 3rd party water well driller to install a monitoring well to 55' below ground surface to determine depth to groundwater. Measured depth to groundwater is 53'2" below ground surface. This new information updates the previously reported depth on the Initial Form C-141. The drilling log is included as Attachment 2 and the location of the monitoring well is shown on Figure 1.



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Based on these criteria, the remedial action levels for the soils in the release are; chlorides 10,000 mg/kg, TPH (GRO+DRO+MRO) 2,500 mg/kg, BTEX (Benzene, Toluene, Ethylbenzene, Total Xylenes) 50 mg/kg, Benzene 10 mg/kg, per 19.15.29.12(C)(4) NMAC, Table I, Depth to ground water 51'-100'.

SITE INVESTIGATION AND EXCAVATION

On September 23rd, 2020, approximately 900 cubic feet of impacted soil were excavated and transported to Northern Delaware Basin Landfill, a licensed disposal facility. The field excavation crew visually inspected the impacted area to determine the extent of the release. Environmental staff arrived on site to collect confirmation samples demonstrating that any impacted soil has been removed. Field analysis utilizing a photoionization detector (PID) indicated that the impacted soils were removed. Field PID analysis is included as Table 1. Photos of the site during sampling are included as Attachment 3.

22 samples were collected in the impacted area and two additional background samples (S-23 & S-24) were collected as shown on Figure 1 and analyzed for chlorides, total petroleum hydrocarbons (TPH) including gasoline range organics (GRO), diesel range organics (DRO), and motor oil/lube organics (MRO), benzene, toluene, ethylbenzene, total xylenes (BTEX). An alternate sampling plan proposing 5-point composite samples per 500 sqft of excavation was approved by NMOCD on September 23, 2020. The alternate sampling plan approval email is included as Attachment 4. Analytical results are summarized in Table 2 and laboratory data is included as Attachment 5. Sample results were compared to 19.15.29.12(C)(4) NMAC, Table I, Depth to ground water 51'-100'. Sample S-3 was in exceedance of the applicable chlorides standard. No other samples were above Table I standards.

Based on these results further excavation and sampling was conducted at the site. 13 potholes were dug approximately 30' from the lateral extent of the excavation in each direction (PH-1 through PH-13) and 11 additional potholes were dug within the excavation to determine any further chlorides impacts. Due to the previous results, these samples were analyzed only for chlorides per conversation with NMOCD staff. Sample locations are shown on Figure 1. These sample results were compared to 19.15.29.12(C)(4) NMAC, Table I, Depth to ground water 51'-100'. Samples PH-11, EPH-15, EPH-16, EPH-18 through EPH-22 were all above the applicable chlorides standard.

On November 18, 2020, three boreholes and one monitoring well were drilled, and additional samples were collected at 2' intervals to further delineate potential impacts. These borehole locations are designated WW1 for the water monitoring well, H, SH, and TH. They are illustrated on Figure 1. These samples were analyzed for chlorides and compared to Table I standards. Samples TH Topsoil, TH12, TH 20, H Top Soil, and WW 24 are all in exceedance of Table I standards.



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CONCLUSIONS AND PROPOSED REMEDIAL ACTIONS

The chlorides exceedances combined with the absence of hydrocarbons and the relatively small volume of produced water released indicate that the Tap Rock spill likely occurred above and within a historical saltwater spill that has not been remediated. CDH has evaluated the option of excavating and hydro-vacuuming the material near the buried pipelines shown in the attached figure. However, upon discussion with the excavation contractors, CDH has been given strong warnings NOT to excavate near or beneath the buried pipelines running east and west along the south side of the current excavation and pipelines running north and south along the east side of the current excavation. Doing so would undermine several O&G related pipelines causing extreme risk of future failure of these lines. The excavation and associated pipeline infrastructure are shown on Figure 2. CDH respectfully requests that removal of soil under the pipelines be deferred until the pipelines are removed from service under NMAC 19.15.29.12 C. (2).

CDH estimates that approximately 3,415 cubic yards will need to be removed and properly disposed of in the final excavation. All samples will be reported on the final closure C-141. The location will be backfilled with clean soil and reclaimed with an appropriate seed mix during the next growing season.



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ATTACHMENT 1

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	
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Release Notification

Responsible Party

Responsible Party TapRock Operating LLC.	OGRID 37243
Contact Name Brad Morton	Contact Telephone (720) 460-3518
Contact email bmorton@taprk.com	Incident # (assigned by OCD) NRM2026231125
Contact mailing address 523 Park Point Dr #200	Golden, CO, 80401

Location of Release Source

Latitude **32.224601°** Longitude **-103.574705°**
 (NAD 83 in decimal degrees to 5 decimal places)

Site Name Zeus SWD Line	Site Type Above Ground Transfer Line
Date Release Discovered 9/3/20	API# (if applicable)

Unit Letter	Section	Township	Range	County
B	16	24S	33E	Lea

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 20	Volume Recovered (bbls) 5
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release


Equipment failure of above ground produced water poly transfer line.

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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>Brad Morton</u>	Title: <u>Production Manager</u>
Signature: 	Date: <u>9/18/20</u>
email: <u>bmorton@taprk.com</u>	Telephone: <u>(720) 460-3518</u>
<u>OCD Only</u>	
Received by: _____	Date: _____



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ATTACHMENT 2



WELL LOG AND CONSTRUCTION DIAGRAM

PROJECT NAME Zeus SWD Release
CLIENT Tap Rock Resources, LLC.

DRILLING DATE 11/18/20
TOTAL DEPTH 55'
DIAMETER 6-1/8"
CASING 4.5"
SCREEN Slotted 35'-55'

COORDINATES 32.22300, -103.57400
COORD SYS NAD 83
SURFACE ELEVATION 3616'
WELL TOC 5' Stickup

COMMENTS Depth to GW 53'2", measured 11/20/20

Samples	Analysed	Depth (ft)	Graphic Log	Material Description	Well Diagram
WW Top Soil	Y			Moist Clay/Sand Mix	
WW02	Y				
WW04	Y				
WW06	Y	5			
WW08	Y				
WW10	Y	10		Caliche Layer	
WW12	Y				
WW14	Y				
WW16	Y	15			
WW18	Y				
WW20	Y	20			
WW22	Y				
WW24	Y				
WW26	Y	25			
WW28	Y				
WW30	Y	30			
WW32	Y				
WW34	Y			Moist Brown Sand	
WW36	Y	35			
WW38	Y				
WW40	Y	40			
WW42	Y				
WW44	Y				
WW46	Y	45			
WW48	Y				
WW50	Y	50			
WW52	Y				
WW54	Y				
WW55	Y	55			

Disclaimer This bore log is intended for environmental not geotechnical purposes.

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ATTACHMENT 3



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Excavation Facing North



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Excavation Facing South



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Excavation Facing East



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Excavation Facing West

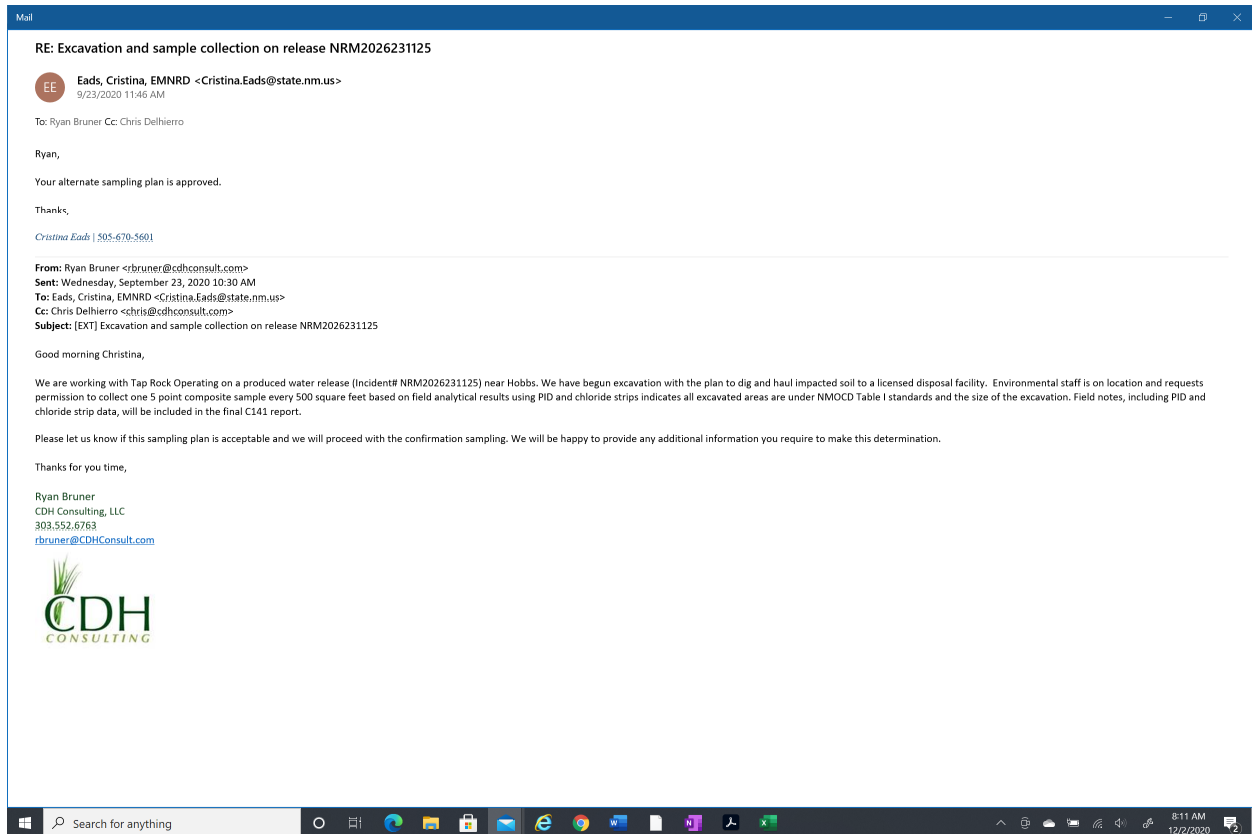


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ATTACHMENT 4



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ATTACHMENT 5



October 02, 2020

CDH Consulting
Chris Del Hierro
9446 Clermont St
Thornton CO 80229

Project Name - Tap Rock Operating-Zeus SWD
Line

Project Number - [none]

Attached are your analytical results for Tap Rock Operating-Zeus SWD Line received by Origins Laboratory, Inc. September 25, 2020. This project is associated with Origins project number Y009346-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-1	Y009346-01	Soil	September 23, 2020 9:00	09/25/2020 09:49
S-2	Y009346-02	Soil	September 23, 2020 9:10	09/25/2020 09:49
S-3	Y009346-03	Soil	September 23, 2020 9:20	09/25/2020 09:49
S-4	Y009346-04	Soil	September 23, 2020 9:30	09/25/2020 09:49
S-5	Y009346-05	Soil	September 23, 2020 9:40	09/25/2020 09:49
S-6	Y009346-06	Soil	September 23, 2020 9:50	09/25/2020 09:49
S-7	Y009346-07	Soil	September 23, 2020 10:00	09/25/2020 09:49
S-8	Y009346-08	Soil	September 23, 2020 10:10	09/25/2020 09:49
S-9	Y009346-09	Soil	September 23, 2020 10:20	09/25/2020 09:49
S-10	Y009346-10	Soil	September 23, 2020 10:30	09/25/2020 09:49
S-11	Y009346-11	Soil	September 23, 2020 10:40	09/25/2020 09:49
S-12	Y009346-12	Soil	September 23, 2020 10:50	09/25/2020 09:49
S-13	Y009346-13	Soil	September 23, 2020 11:00	09/25/2020 09:49
S-14	Y009346-14	Soil	September 23, 2020 11:10	09/25/2020 09:49

Origins Laboratory, Inc.

A handwritten signature in black ink, appearing to read "Jmerrill".

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S-15	Y009346-15	Soil	September 23, 2020 11:20	09/25/2020 09:49
S-16	Y009346-16	Soil	September 23, 2020 11:30	09/25/2020 09:49
S-17	Y009346-17	Soil	September 23, 2020 11:40	09/25/2020 09:49
S-18	Y009346-18	Soil	September 23, 2020 11:50	09/25/2020 09:49
S-19	Y009346-19	Soil	September 23, 2020 12:00	09/25/2020 09:49
S-20	Y009346-20	Soil	September 23, 2020 12:10	09/25/2020 09:49
S-21	Y009346-21	Soil	September 23, 2020 12:20	09/25/2020 09:49
S-22	Y009346-22	Soil	September 23, 2020 12:30	09/25/2020 09:49
S-23	Y009346-23	Soil	September 23, 2020 12:40	09/25/2020 09:49
S-24	Y009346-24	Soil	September 23, 2020 12:50	09/25/2020 09:49

Origins Laboratory, Inc.

A handwritten signature in black ink, appearing to read "Jmerrill".

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Jordan A. Merrill For Jen Pellegrini, Project Manager

ORIGINS

LABORATORY, INC

CDH Consulting

9446 Clermont St

Thornton

CO

80229

Chris Del Hierro

Project Number: [none]

Project: Tap Rock Operating-Zeus SWD Line

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Y009346

ORIGINS

LABORATORY, INC

Client: CDH Consulting
Address: 9446 Clermont St, Thornton CO 80229
Telephone Number: [blank]
Email Address: chris@cdhconsult.com

Project Manager: Chris Del Hierro
Project Name: Tap Rock Operating-Zeus SWD Line
Project Number: [blank]
Samples Collected By: chris@cdhconsult.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #			
S-1	9/23/2020	9:00	2						X		X	BTEX by 8260D	1
S-2	9/23/2020	9:10	2						X		X	TPH by 8015D	2
S-3	9/23/2020	9:20	2						X		X	Chloride by EPA 300.0	3
S-4	9/23/2020	9:30	2						X		X		4
S-5	9/23/2020	9:40	2						X		X		5
S-6	9/23/2020	9:50	2						X		X		6
S-7	9/23/2020	10:00	2						X		X		7
S-8	9/23/2020	10:10	2						X		X		8
S-9	9/23/2020	10:20	2						X		X		9
S-10	9/23/2020	10:30	2						X		X		10

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Turnaround Time:
[Signature]	9/23/2020	20:00	[Signature]	9/23/2020	09:49	Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>

Fax: 303.265.9645

Phone: 303.433.1322

Denver, CO 80211

1725 Elk Place

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Merrill For Jen Pellegrini, Project Manager

ORIGINS

LABORATORY, INC

CDH Consulting

9446 Clermont St

Thornton

CO

80229

Chris Del Hierro

Project Number: [none]

Project: Tap Rock Operating-Zeus SWD Line

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Y009346

page 2 of 3

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LABORATORY, INC

Client: CDH Consulting
Address: 9446 Clermont St, Thornton CO 80229
Telephone Number:
Email Address: chris@cdhconsult.com

Project Manager: Chris Del Hierro
Project Name: Tap Rock Operating-Zeus SWD Line
Project Number:
Samples Collected By: chris@cdhconsult.com

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #			Other
S-11	9/23/2020	10:40	2						X		X	BTEX by 8260D	1
S-12	9/23/2020	10:50	2						X		X	TPH by 8015D	2
S-13	9/23/2020	11:00	2						X		X	Chloride by EPA 300.0	3
S-14	9/23/2020	11:10	2						X		X		4
S-15	9/23/2020	11:25	2						X		X		5
S-16	9/23/2020	11:30	2						X		X		6
S-17	9/23/2020	11:40	2						X		X		7
S-18	9/23/2020	11:50	2						X		X		8
S-19	9/23/2020	12:00	2						X		X		9
S-20	9/23/2020	12:10	2						X		X		10
Relinquished By: C.D.H.	Date: 9/23/2020	Time: 20:00		Received By: [Signature]				Date: 9/23/2020			Time: 11:00	Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	
Relinquished By:	Date:	Time:		Received By: [Signature]				Date: 9/23/2020			Time: 09:49		

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Merrill For Jen Pellegrini, Project Manager

ORIGINS

LABORATORY, INC

CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

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page 3 of 3

Y009346

ORIGINS

LABORATORY, INC

Client: CDH Consulting
Address: 9446 Clermont St
Thornton, CO 80229
Telephone Number: 720.431.7468
Email Address: Chris@cdhconsult.com

Project Manager: Chris Del Hierro
Project Name: Tap Rock Operating - Zeus SWD Line
Project Number:
Samples Collected By: Chris Del Hierro

Fax: 303.265.9645

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis		Sample Instructions
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Summa #	Other		
S-21	9/23/20	12:20	2						X				BTEN by 826001 TPH by 801502 Chloride by EAH 30028
S-22	9/23/20	12:30	2						X				
S-23	9/23/20	12:40	2						X				
S-24	9/23/20	12:50	2						X				
													5
													6
													7
													8
													9
													10
Relinquished By:	Date: 9/23/2020	Time: 20:00		Received By:	Date: 09/25/2020	Time: 11:00		Received By:	Date: 09/25/2020	Time: 11:00		Turnaround Time:	
Relinquished By:	Date:	Time:		Received By:	Date:	Time:		Received By:	Date:	Time:		Same Day <input type="checkbox"/>	24 Hr <input type="checkbox"/>
												48 Hr <input type="checkbox"/>	72 Hr <input type="checkbox"/>
												Standard <input checked="" type="checkbox"/>	

Date Results Needed

Temp Received- 7.2

Origins Laboratory, Inc.

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Jordan A. Merrill For Jen Pellegrini, Project Manager

ORIGINS

LABORATORY, INC

CDH Consulting

9446 Clermont St

Thornton

CO

80229

Chris Del Hierro

Project Number: [none]

Project: Tap Rock Operating-Zeus SWD Line

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12Origins Work Order: Y009346 Sample Receipt ChecklistClient: CDHClient Project ID: Tap RockChecklist Completed by: KDKShipped Via: HPDate/time completed: 09-25-2020Airbill #: N/A
(UPS, FedEx, Hand Delivered, Pick-up, etc.)Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____Cooler Number/Temperature: 1 / 4.2 °C _____ / _____ °C (Describe) _____ °CThermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)			<input checked="" type="checkbox"/>	
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)			<input checked="" type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)(pH <2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH >10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) ImDate/Time Reviewed 9-28-20

Origins Laboratory, Inc.

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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-1

9/23/2020 9:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-01 (Soil)

Anions by EPA 300.0

Chloride	2490	115	mg/kg dry	50	2044967	CH5	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"
Surrogate: Toluene-d8	94.7 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.5 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	79.4 %	50-150			"	"	"
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Origins Laboratory, Inc.

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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-2

9/23/2020 9:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-02 (Soil)

Anions by EPA 300.0

Chloride	8010	445	mg/kg dry	200	2044967	CH5	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130			"	"	"
Surrogate: Toluene-d8	84.2 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	93.8 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	76.4 %	50-150			"	"	"
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Origins Laboratory, Inc.

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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-3

9/23/2020 9:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-03 (Soil)

Anions by EPA 300.0

Chloride	11000	466	mg/kg dry	200	2044967	CH5	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130			"	"	"
Surrogate: Toluene-d8	94.7 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.9 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	62.4 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-4

9/23/2020 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-04 (Soil)

Anions by EPA 300.0

Chloride	7250	456	mg/kg dry	200	2044967	CH5	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130	"	"	"
Surrogate: Toluene-d8	94.5 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	97.1 %	70-130	"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	61.3 %	50-150	"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-5

9/23/2020 9:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-05 (Soil)

Anions by EPA 300.0

Chloride	5160	206	mg/kg dry	100	2044967	CH5	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"
Surrogate: Toluene-d8	114 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	93.7 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	80.8 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-6

9/23/2020 9:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-06 (Soil)

Anions by EPA 300.0

Chloride	6230	420	mg/kg dry	200	2044967	CH5	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	91.5 %	70-130	"	"	"
Surrogate: Toluene-d8	100 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130	"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	63.4 %	50-150	"	"	"
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Origins Laboratory, Inc.

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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-7

9/23/2020 10:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-07 (Soil)

Anions by EPA 300.0

Chloride	6060	414	mg/kg dry	200	2044967	CH5	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"
Surrogate: Toluene-d8	94.2 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.9 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	78.6 %	50-150			"	"	"
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Origins Laboratory, Inc.

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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-8

9/23/2020 10:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-08 (Soil)

Anions by EPA 300.0

Chloride	442	23.2	mg/kg dry	10	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"
Surrogate: Toluene-d8	88.9 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.7 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	63.8 %	50-150			"	"	"
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Origins Laboratory, Inc.

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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-9

9/23/2020 10:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-09 (Soil)

Anions by EPA 300.0

Chloride	5810	214	mg/kg dry	100	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	10/01/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130			"	"	"
Surrogate: Toluene-d8	100 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	79.8 %	50-150			"	"	"
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Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-10

9/23/2020 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-10 (Soil)

Anions by EPA 300.0

Chloride	6210	215	mg/kg dry	100	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	10/01/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130	"	"	"
Surrogate: Toluene-d8	102 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	70-130	"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	70.0 %	50-150	"	"	"
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Origins Laboratory, Inc.

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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-11

9/23/2020 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-11 (Soil)

Anions by EPA 300.0

Chloride	6570	424	mg/kg dry	200	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"
Surrogate: Toluene-d8	93.9 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.4 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	70.8 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-12

9/23/2020 10:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-12 (Soil)

Anions by EPA 300.0

Chloride	2070	218	mg/kg dry	100	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	"
Surrogate: Toluene-d8	94.4 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.3 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	77.9 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-13

9/23/2020 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-13 (Soil)

Anions by EPA 300.0

Chloride	174	4.75	mg/kg dry	2	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	105 %	70-130			"	"	"
Surrogate: Toluene-d8	95.3 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.8 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	61.6 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-14

9/23/2020 11:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-14 (Soil)

Anions by EPA 300.0

Chloride	1250	48.0	mg/kg dry	20	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	106 %	70-130			"	"	"
Surrogate: Toluene-d8	94.3 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.9 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	64.8 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-15

9/23/2020 11:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-15 (Soil)

Anions by EPA 300.0

Chloride	4540	217	mg/kg dry	100	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	107 %	70-130			"	"	"
Surrogate: Toluene-d8	91.7 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	94.9 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	72.6 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting

9446 Clermont St

Thornton CO 80229

Chris Del Hierro

Project Number: [none]

Project: Tap Rock Operating-Zeus SWD Line

S-16

9/23/2020 11:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-16 (Soil)

Anions by EPA 300.0

Chloride	2880	206	mg/kg dry	100	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	96.0 %	70-130	"	"	"
Surrogate: Toluene-d8	100 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	87.2 %	70-130	"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	86.4 %	50-150	"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting

9446 Clermont St

Thornton CO 80229

Chris Del Hierro

Project Number: [none]

Project: Tap Rock Operating-Zeus SWD Line

S-17

9/23/2020 11:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-17 (Soil)

Anions by EPA 300.0

Chloride	4450	207	mg/kg dry	100	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	09/29/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130	"	"	"
Surrogate: Toluene-d8	88.5 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	82.3 %	70-130	"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	86.3 %	50-150	"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-18

9/23/2020 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-18 (Soil)

Anions by EPA 300.0

Chloride	6940	437	mg/kg dry	200	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	10/01/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130			"	"	"
Surrogate: Toluene-d8	100 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	103 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	81.6 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-19

9/23/2020 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-19 (Soil)

Anions by EPA 300.0

Chloride	6980	431	mg/kg dry	200	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	10/01/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	99.5 %	70-130			"	"	"
Surrogate: Toluene-d8	100 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	80.1 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-20

9/23/2020 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-20 (Soil)

Anions by EPA 300.0

Chloride	7390	438	mg/kg dry	200	2044967	CH5	09/26/2020	09/28/2020	
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BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B012501	KDK	09/25/2020	10/01/2020	Ua
Toluene	ND	0.002	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	100 %	70-130			"	"	"
Surrogate: Toluene-d8	100 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012502	KDK	09/25/2020	09/28/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	64.1 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting

9446 Clermont St

Thornton CO 80229

Chris Del Hierro

Project Number: [none]

Project: Tap Rock Operating-Zeus SWD Line

S-21

9/23/2020 12:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-21 (Soil)

Anions by EPA 300.0

Chloride	407	21.1	mg/kg dry	10	2044969	LXA2	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B012406	KDK	09/24/2020	09/29/2020	Ua
Toluene	ND	0.050	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	91.0 %	70-130	"	"	"
Surrogate: Toluene-d8	96.0 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	91.8 %	70-130	"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012407	KDK	09/24/2020	09/26/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	73.3 %	50-150	"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager

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9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-22**9/23/2020 12:30:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-22 (Soil)

Anions by EPA 300.0

Chloride	5050	217	mg/kg dry	100	2044969	LXA2	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B012406	KDK	09/24/2020	09/30/2020	Ua
Toluene	ND	0.050	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	88.8 %	70-130	"	"	"
Surrogate: Toluene-d8	95.1 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	92.6 %	70-130	"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012407	KDK	09/24/2020	09/26/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	61.1 %	50-150	"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-23

9/23/2020 12:40:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-23 (Soil)

Anions by EPA 300.0

Chloride	4.82	2.12	mg/kg dry	1	2044969	LXA2	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B012406	KDK	09/24/2020	09/30/2020	Ua
Toluene	ND	0.050	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	93.8 %	70-130			"	"	"
Surrogate: Toluene-d8	95.3 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	93.4 %	70-130			"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012407	KDK	09/24/2020	09/26/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	71.5 %	50-150			"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

S-24**9/23/2020 12:50:00PM**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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GEL Laboratories, LLC
Y009346-24 (Soil)

Anions by EPA 300.0

Chloride	4.76	2.02	mg/kg dry	1	2044969	LXA2	09/26/2020	09/27/2020	
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BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B012406	KDK	09/24/2020	09/30/2020	Ua
Toluene	ND	0.050	"	"	"	KDK	"	"	Ua
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	Ua
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	92.1 %	70-130	"	"	"
Surrogate: Toluene-d8	96.2 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	94.0 %	70-130	"	"	"

TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B012407	KDK	09/24/2020	09/26/2020	Ua
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	Ua
Residual Range Organics (C28-C40)	ND	200	"	"	"	KDK	"	"	Ua

Surrogate: o-Terphenyl	68.4 %	50-150	"	"	"
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Jordan A. Merrill For Jen Pellegrini, Project Manager



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9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012406 - EPA 5030 (soil)

Blank (B012406-BLK1)

Prepared: 09/24/2020 Analyzed: 09/29/2020

Benzene	ND	0.002	mg/kg							Ua
Toluene	ND	0.002	"							Ua
Ethylbenzene	ND	0.002	"							Ua
Xylenes, total	ND	0.002	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		92.7	70-130			

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Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B0I2406 - EPA 5030 (soil)

LCS (B0I2406-BS1)

Prepared: 09/24/2020 Analyzed: 09/29/2020

Benzene	0.086	0.002	mg/kg	0.100		86.1	70-130			
Toluene	0.088	0.002	"	0.100		88.0	70-130			
Ethylbenzene	0.093	0.002	"	0.100		93.4	70-130			
m,p-Xylene	0.190	0.004	"	0.200		94.8	70-130			
o-Xylene	0.089	0.002	"	0.100		88.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		89.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		94.3	70-130			

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Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B0I2406 - EPA 5030 (soil)

Matrix Spike (B0I2406-MS1)		Source: Y009335-01			Prepared: 09/24/2020 Analyzed: 09/29/2020					
Benzene	0.080	0.002	mg/kg	0.100	ND	80.4	70-130			
Toluene	0.084	0.002	"	0.100	ND	84.1	70-130			
Ethylbenzene	0.090	0.002	"	0.100	ND	90.1	70-130			
m,p-Xylene	0.180	0.004	"	0.200	ND	90.1	70-130			
o-Xylene	0.088	0.002	"	0.100	ND	87.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		90.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		94.6	70-130			

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Chris Del Hierro

Project Number: [none]

Project: Tap Rock Operating-Zeus SWD Line

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012406 - EPA 5030 (soil)

Matrix Spike Dup (B012406-MSD1)		Source: Y009335-01			Prepared: 09/24/2020 Analyzed: 09/29/2020					
Benzene	0.080	0.002	mg/kg	0.100	ND	79.8	70-130	0.774	20	
Toluene	0.083	0.002	"	0.100	ND	82.5	70-130	1.94	20	
Ethylbenzene	0.088	0.002	"	0.100	ND	87.8	70-130	2.59	20	
m,p-Xylene	0.177	0.004	"	0.200	ND	88.6	70-130	1.74	20	
o-Xylene	0.087	0.002	"	0.100	ND	87.3	70-130	0.457	20	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		88.1	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.2	70-130			

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Chris Del Hierro

Project Number: [none]

Project: Tap Rock Operating-Zeus SWD Line

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012407 - EPA 3580

Blank (B012407-BLK1)

Prepared: 09/24/2020 Analyzed: 09/26/2020

Gasoline (C6-C10)	ND	50.0	mg/kg							Ua
Diesel (C10-C28)	ND	50.0	"							Ua
Residual Range Organics (C28-C40)	ND	200	"							Ua
Surrogate: o-Terphenyl	35.5		"	50.0		71.1	50-150			

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Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012407 - EPA 3580

LCS (B012407-BS1)

Prepared: 09/24/2020 Analyzed: 09/26/2020

Gasoline (C6-C10)	845	50.0	mg/kg	1000		84.5	70-130			
Diesel (C10-C28)	1030	50.0	"	1000		103	70-130			
Residual Range Organics (C28-C40)	1030	200	"	1000		103	70-130			
Surrogate: o-Terphenyl	46.8		"	50.0		93.6	50-150			

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Chris Del Hierro

Project Number: [none]

Project: Tap Rock Operating-Zeus SWD Line

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012407 - EPA 3580

Matrix Spike (B012407-MS1)		Source: Y009335-01			Prepared: 09/24/2020 Analyzed: 09/26/2020					
Gasoline (C6-C10)	821	50.0	mg/kg	1000	ND	82.1	70-130			
Diesel (C10-C28)	1010	50.0	"	1000	ND	101	70-130			
Residual Range Organics (C28-C40)	1040	200	"	1000	ND	104	70-130			
Surrogate: o-Terphenyl	42.9		"	50.0		85.8	50-150			

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Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012407 - EPA 3580

Matrix Spike Dup (B012407-MSD1)		Source: Y009335-01			Prepared: 09/24/2020 Analyzed: 09/26/2020					
Gasoline (C6-C10)	803	50.0	mg/kg	1000	ND	80.3	70-130	2.28	35	
Diesel (C10-C28)	1020	50.0	"	1000	ND	102	70-130	0.508	35	
Residual Range Organics (C28-C40)	999	200	"	1000	ND	99.9	70-130	4.05	35	
Surrogate: o-Terphenyl	46.3		"	50.0		92.5	50-150			

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Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B012501 - EPA 5030 (soil)										
Blank (B012501-BLK1)					Prepared: 09/25/2020 Analyzed: 09/30/2020					
Benzene	ND	0.002	mg/kg							Ua
Toluene	ND	0.002	"							Ua
Ethylbenzene	ND	0.002	"							Ua
Xylenes, total	ND	0.002	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		94.5	70-130			

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Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012501 - EPA 5030 (soil)

LCS (B012501-BS1)

Prepared: 09/25/2020 Analyzed: 09/29/2020

Benzene	0.092	0.002	mg/kg	0.100		92.1	70-130			
Toluene	0.092	0.002	"	0.100		91.5	70-130			
Ethylbenzene	0.098	0.002	"	0.100		98.3	70-130			
m,p-Xylene	0.206	0.004	"	0.200		103	70-130			
o-Xylene	0.106	0.002	"	0.100		106	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.097		"	0.125		77.9	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		84.6	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012501 - EPA 5030 (soil)

Matrix Spike (B012501-MS1)		Source: Y009346-01			Prepared: 09/25/2020 Analyzed: 09/29/2020					
Benzene	0.048	0.002	mg/kg	0.0500	ND	95.3	70-130			
Toluene	0.046	0.002	"	0.0500	ND	91.7	70-130			
Ethylbenzene	0.044	0.002	"	0.0500	ND	87.5	70-130			
m,p-Xylene	0.093	0.004	"	0.100	ND	92.7	70-130			
o-Xylene	0.045	0.002	"	0.0500	ND	90.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		99.2	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.4	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.9	70-130			

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Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012501 - EPA 5030 (soil)

Matrix Spike Dup (B012501-MSD1)		Source: Y009346-01			Prepared: 09/25/2020 Analyzed: 09/29/2020					
Benzene	0.046	0.002	mg/kg	0.0500	ND	91.2	70-130	4.37	20	
Toluene	0.041	0.002	"	0.0500	ND	82.8	70-130	10.2	20	
Ethylbenzene	0.044	0.002	"	0.0500	ND	88.4	70-130	1.09	20	
m,p-Xylene	0.090	0.004	"	0.100	ND	90.4	70-130	2.60	20	
o-Xylene	0.043	0.002	"	0.0500	ND	85.8	70-130	4.86	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.6	70-130			
Surrogate: Toluene-d8	0.11		"	0.125		84.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.9	70-130			

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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting

9446 Clermont St

Thornton

CO

80229

Chris Del Hierro

Project Number: [none]

Project: Tap Rock Operating-Zeus SWD Line

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012502 - EPA 3580

Blank (B012502-BLK1)

Prepared: 09/25/2020 Analyzed: 09/28/2020

Gasoline (C6-C10)	ND	50.0	mg/kg							Ua
Diesel (C10-C28)	ND	50.0	"							Ua
Residual Range Organics (C28-C40)	ND	200	"							Ua
Surrogate: o-Terphenyl	38.2		"	50.0		76.4	50-150			

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9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012502 - EPA 3580

LCS (B012502-BS1)

Prepared: 09/25/2020 Analyzed: 09/28/2020

Gasoline (C6-C10)	755	50.0	mg/kg	1000		75.5	70-130			
Diesel (C10-C28)	947	50.0	"	1000		94.7	70-130			
Residual Range Organics (C28-C40)	969	200	"	1000		96.9	70-130			
Surrogate: o-Terphenyl	41.5		"	50.0		83.0	50-150			

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9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012502 - EPA 3580

Matrix Spike (B012502-MS1)		Source: Y009346-01			Prepared: 09/25/2020 Analyzed: 09/28/2020					
Gasoline (C6-C10)	877	50.0	mg/kg	1000	ND	87.7	70-130			
Diesel (C10-C28)	1090	50.0	"	1000	16.1	108	70-130			
Residual Range Organics (C28-C40)	1030	200	"	1000	18.5	102	70-130			
Surrogate: o-Terphenyl	50.6		"	50.0		101	50-150			

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9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B012502 - EPA 3580

Matrix Spike Dup (B012502-MSD1)		Source: Y009346-01			Prepared: 09/25/2020 Analyzed: 09/28/2020					
Gasoline (C6-C10)	728	50.0	mg/kg	1000	ND	72.8	70-130	18.5	35	
Diesel (C10-C28)	940	50.0	"	1000	16.1	92.4	70-130	14.9	35	
Residual Range Organics (C28-C40)	904	200	"	1000	18.5	88.5	70-130	13.5	35	
Surrogate: o-Terphenyl	39.0		"	50.0		77.9	50-150			

Origins Laboratory, Inc.

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Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Anions by EPA 300.0 - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 2044967 - EPA 300.0 PREP

BLANK (1204653220-BLK)

Prepared: 09/26/2020 Analyzed: 09/26/2020

Chloride 2.36 1.99 mg/kg

-

LCS (1204653221-BKS)

Prepared: 09/26/2020 Analyzed: 09/26/2020

Chloride 49.8 1.99 mg/kg 49.6

100

90-110

DUP (1204653222 D)

Source: Y009346-01

Prepared: 09/26/2020 Analyzed: 09/27/2020

Chloride 698 111 mg/kg dry

2490

0-90

112

90

DUP (1204653223 D)

Source: Y009346-02

Prepared: 09/26/2020 Analyzed: 09/27/2020

Chloride 8310 456 mg/kg dry

8010

0-90

3.76

90

MS (1204653224 S)

Source: Y009346-01

Prepared: 09/26/2020 Analyzed: 09/27/2020

Chloride 922 114 mg/kg dry 56.8

2490

0

90-110

MS (1204653225 S)

Source: Y009346-02

Prepared: 09/26/2020 Analyzed: 09/27/2020

Chloride 7550 452 mg/kg dry 56.6

8010

0

90-110

Batch 2044969 - EPA 300.0 PREP

BLANK (1204653226-BLK)

Prepared: 09/26/2020 Analyzed: 09/30/2020

Chloride ND 2.00 mg/kg

-

U

LCS (1204653227-BKS)

Prepared: 09/26/2020 Analyzed: 09/26/2020

Chloride 48.6 1.98 mg/kg 49.4

98.5

90-110

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Anions by EPA 300.0 - Quality Control
GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2044969 - EPA 300.0 PREP										
DUP (1204653228 D)		Source: Y009346-21		Prepared: 09/26/2020 Analyzed: 09/27/2020						
Chloride	417	20.2	mg/kg dry		407		0-90	2.29	90	
DUP (1204653229 D)		Source: Y009346-22		Prepared: 09/26/2020 Analyzed: 09/27/2020						
Chloride	4920	220	mg/kg dry		5050		0-90	2.6	90	
MS (1204653230 S)		Source: Y009346-21		Prepared: 09/26/2020 Analyzed: 09/27/2020						
Chloride	509	21.1	mg/kg dry	52.8	407	0	90-110			
MS (1204653231 S)		Source: Y009346-22		Prepared: 09/26/2020 Analyzed: 09/27/2020						
Chloride	5340	217	mg/kg dry	54.3	5050	0	90-110			

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Merrill For Jen Pellegrini, Project Manager



CDH Consulting
9446 Clermont St
Thornton CO 80229

Chris Del Hierro
Project Number: [none]
Project: Tap Rock Operating-Zeus SWD Line

Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.

A handwritten signature in black ink, appearing to read "Jmerrill", is written over a horizontal line.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Jordan A. Merrill For Jen Pellegrini, Project Manager

Certificate of Analysis Summary 676131

CDH Consulting, Thornton, CO

Project Name: Zeus SW

Project Id:

Contact: Chris Del Hierro

Project Location:

Date Received in Lab: Mon 10.26.2020 16:30

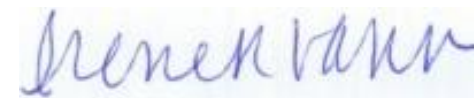
Report Date: 10.27.2020 15:23

Project Manager: Irene Vann

Analysis Requested	Lab Id:	676131-001	676131-002	676131-003	676131-004	676131-005	676131-006
	Field Id:	PH-001	PH-002	PH-003	PH-004	PH-005	PH-006
	Depth:	68- In	58- In	65- In	62- In	50- In	60- In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	10.26.2020 09:03	10.26.2020 09:16	10.26.2020 09:30	10.26.2020 09:42	10.26.2020 09:56	10.26.2020 10:08
Chloride by EPA 300	Extracted:	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13
	Analyzed:	10.26.2020 18:14	10.26.2020 18:31	10.26.2020 18:37	10.26.2020 18:42	10.26.2020 18:48	10.26.2020 19:05
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<10.1 10.1	12.6 9.94	<10.0 10.0	<9.98 9.98	20.4 10.1	10.1 10.1

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 676131

CDH Consulting, Thornton, CO

Project Name: Zeus SW

Project Id:

Date Received in Lab: Mon 10.26.2020 16:30

Contact: Chris Del Hierro

Report Date: 10.27.2020 15:23

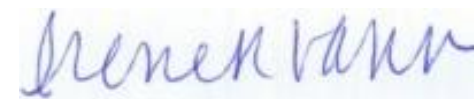
Project Location:

Project Manager: Irene Vann

Analysis Requested	Lab Id:	676131-007	676131-008	676131-009	676131-010	676131-011	676131-012
	Field Id:	PH-007	PH-008	PH-009	PH-010	EPH-011	EPH-012
	Depth:	65- In	60- In	79- In	76- In	78- In	128- In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	10.26.2020 10:22	10.26.2020 10:37	10.26.2020 10:55	10.26.2020 11:14	10.26.2020 11:38	10.26.2020 11:45
Chloride by EPA 300	Extracted:	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13
	Analyzed:	10.26.2020 19:10	10.26.2020 19:16	10.26.2020 19:21	10.26.2020 19:27	10.26.2020 19:33	10.26.2020 19:49
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		45.0 10.1	12.4 9.92	<9.98 9.98	<10.1 10.1	10400 199	9540 202

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 676131

CDH Consulting, Thornton, CO

Project Name: Zeus SW

Project Id:

Contact: Chris Del Hierro

Project Location:

Date Received in Lab: Mon 10.26.2020 16:30

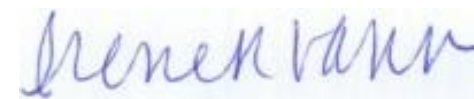
Report Date: 10.27.2020 15:23

Project Manager: Irene Vann

Analysis Requested	Lab Id:	676131-013	676131-014	676131-015	676131-016	676131-017	676131-018
	Field Id:	EPH-013	EPH-014	EPH-015	EPH-016	EPH-017	EPH-018
	Depth:	78- In	128- In	63- In	79- In	68- In	76- In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	10.26.2020 11:50	10.26.2020 12:03	10.26.2020 12:09	10.26.2020 12:27	10.26.2020 12:48	10.26.2020 12:49
Chloride by EPA 300	Extracted:	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:13
	Analyzed:	10.26.2020 19:55	10.26.2020 20:00	10.26.2020 20:17	10.26.2020 20:23	10.26.2020 20:28	10.26.2020 20:34
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		7600 202	8000 202	11700 198	11100 198	9220 199	11000 198

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 676131

CDH Consulting, Thornton, CO

Project Name: Zeus SW

Project Id:

Contact: Chris Del Hierro

Project Location:

Date Received in Lab: Mon 10.26.2020 16:30

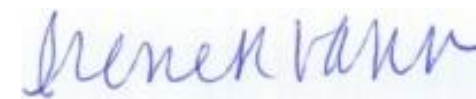
Report Date: 10.27.2020 15:23

Project Manager: Irene Vann

Analysis Requested	Lab Id:	676131-019	676131-020	676131-021	676131-022	676131-023	676131-024
	Field Id:	EPH-019	EPH-020	EPH-021	EPH-022	EPH-023	EPH-024
	Depth:	62- In	84- In	68- In	88- In	73- In	78- In
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	10.26.2020 12:57	10.26.2020 13:00	10.26.2020 13:07	10.26.2020 13:13	10.26.2020 13:21	10.26.2020 13:22
Chloride by EPA 300	Extracted:	10.26.2020 17:13	10.26.2020 17:13	10.26.2020 17:10	10.26.2020 17:10	10.26.2020 17:10	10.26.2020 17:10
	Analyzed:	10.26.2020 20:39	10.26.2020 20:45	10.26.2020 21:52	10.26.2020 22:09	10.26.2020 22:14	10.26.2020 22:20
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		11200 200	11100 199	11100 200	11300 200	9320 200	8390 200

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico





Analytical Report 676131

for

CDH Consulting

Project Manager: Chris Del Hierro

Zeus SW

10.27.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



10.27.2020

Project Manager: **Chris Del Hierro**

CDH Consulting

9426 Clermont St.
Thornton, CO 80229

Reference: Eurofins Xenco, LLC Report No(s): **676131**

Zeus SW

Project Address:

Chris Del Hierro:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 676131. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 676131 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in blue ink that reads "Irene Vann".

Irene Vann
Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Sample Cross Reference 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH-001	S	10.26.2020 09:03	68 In	676131-001
PH-002	S	10.26.2020 09:16	58 In	676131-002
PH-003	S	10.26.2020 09:30	65 In	676131-003
PH-004	S	10.26.2020 09:42	62 In	676131-004
PH-005	S	10.26.2020 09:56	50 In	676131-005
PH-006	S	10.26.2020 10:08	60 In	676131-006
PH-007	S	10.26.2020 10:22	65 In	676131-007
PH-008	S	10.26.2020 10:37	60 In	676131-008
PH-009	S	10.26.2020 10:55	79 In	676131-009
PH-010	S	10.26.2020 11:14	76 In	676131-010
EPH-011	S	10.26.2020 11:38	78 In	676131-011
EPH-012	S	10.26.2020 11:45	128 In	676131-012
EPH-013	S	10.26.2020 11:50	78 In	676131-013
EPH-014	S	10.26.2020 12:03	128 In	676131-014
EPH-015	S	10.26.2020 12:09	63 In	676131-015
EPH-016	S	10.26.2020 12:27	79 In	676131-016
EPH-017	S	10.26.2020 12:48	68 In	676131-017
EPH-018	S	10.26.2020 12:49	76 In	676131-018
EPH-019	S	10.26.2020 12:57	62 In	676131-019
EPH-020	S	10.26.2020 13:00	84 In	676131-020
EPH-021	S	10.26.2020 13:07	68 In	676131-021
EPH-022	S	10.26.2020 13:13	88 In	676131-022
EPH-023	S	10.26.2020 13:21	73 In	676131-023
EPH-024	S	10.26.2020 13:22	78 In	676131-024



CASE NARRATIVE

Client Name: CDH Consulting

Project Name: Zeus SW

Project ID:
Work Order Number(s): 676131

Report Date: 10.27.2020
Date Received: 10.26.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

**Certificate of Analytical Results 676131****CDH Consulting, Thornton, CO**

Zeus SW

Sample Id: **PH-001**
Lab Sample Id: 676131-001

Matrix: Soil
Date Collected: 10.26.2020 09:03

Date Received: 10.26.2020 16:30
Sample Depth: 68 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:
Basis: Wet Weight

Seq Number: 3140633

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	10.26.2020 18:14	U	1



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **PH-002**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-002

Date Collected: 10.26.2020 09:16

Sample Depth: 58 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.6	9.94	mg/kg	10.26.2020 18:31		1



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **PH-003**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-003

Date Collected: 10.26.2020 09:30

Sample Depth: 65 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	10.26.2020 18:37	U	1



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **PH-004**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-004

Date Collected: 10.26.2020 09:42

Sample Depth: 62 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	10.26.2020 18:42	U	1



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **PH-005**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-005

Date Collected: 10.26.2020 09:56

Sample Depth: 50 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.4	10.1	mg/kg	10.26.2020 18:48		1

**Certificate of Analytical Results 676131****CDH Consulting, Thornton, CO**

Zeus SW

Sample Id: **PH-006**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-006

Date Collected: 10.26.2020 10:08

Sample Depth: 60 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.1	10.1	mg/kg	10.26.2020 19:05		1



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **PH-007** Matrix: Soil Date Received: 10.26.2020 16:30
Lab Sample Id: 676131-007 Date Collected: 10.26.2020 10:22 Sample Depth: 65 In
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 10.26.2020 17:13 % Moisture:
Seq Number: 3140633 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.0	10.1	mg/kg	10.26.2020 19:10		1



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **PH-008**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-008

Date Collected: 10.26.2020 10:37

Sample Depth: 60 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	9.92	mg/kg	10.26.2020 19:16		1



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **PH-009**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-009

Date Collected: 10.26.2020 10:55

Sample Depth: 79 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	10.26.2020 19:21	U	1



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **PH-010**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-010

Date Collected: 10.26.2020 11:14

Sample Depth: 76 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	10.26.2020 19:27	U	1



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-011**
Lab Sample Id: 676131-011

Matrix: Soil
Date Collected: 10.26.2020 11:38

Date Received: 10.26.2020 16:30
Sample Depth: 78 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:
Basis: Wet Weight

Seq Number: 3140633

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10400	199	mg/kg	10.26.2020 19:33		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-012**
Lab Sample Id: 676131-012

Matrix: Soil
Date Collected: 10.26.2020 11:45

Date Received: 10.26.2020 16:30
Sample Depth: 128 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:
Basis: Wet Weight

Seq Number: 3140633

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9540	202	mg/kg	10.26.2020 19:49		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-013**
Lab Sample Id: 676131-013

Matrix: Soil
Date Collected: 10.26.2020 11:50

Date Received: 10.26.2020 16:30
Sample Depth: 78 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:
Basis: Wet Weight

Seq Number: 3140633

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7600	202	mg/kg	10.26.2020 19:55		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-014**
Lab Sample Id: 676131-014

Matrix: Soil
Date Collected: 10.26.2020 12:03

Date Received: 10.26.2020 16:30
Sample Depth: 128 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:
Basis: Wet Weight

Seq Number: 3140633

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8000	202	mg/kg	10.26.2020 20:00		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-015**
Lab Sample Id: 676131-015

Matrix: Soil
Date Collected: 10.26.2020 12:09

Date Received: 10.26.2020 16:30
Sample Depth: 63 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:
Basis: Wet Weight

Seq Number: 3140633

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11700	198	mg/kg	10.26.2020 20:17		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-016**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-016

Date Collected: 10.26.2020 12:27

Sample Depth: 79 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11100	198	mg/kg	10.26.2020 20:23		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-017**
Lab Sample Id: 676131-017

Matrix: Soil
Date Collected: 10.26.2020 12:48

Date Received: 10.26.2020 16:30
Sample Depth: 68 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:
Basis: Wet Weight

Seq Number: 3140633

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9220	199	mg/kg	10.26.2020 20:28		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-018**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-018

Date Collected: 10.26.2020 12:49

Sample Depth: 76 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11000	198	mg/kg	10.26.2020 20:34		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-019**
Lab Sample Id: 676131-019

Matrix: Soil
Date Collected: 10.26.2020 12:57

Date Received: 10.26.2020 16:30
Sample Depth: 62 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:
Basis: Wet Weight

Seq Number: 3140633

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11200	200	mg/kg	10.26.2020 20:39		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-020**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-020

Date Collected: 10.26.2020 13:00

Sample Depth: 84 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:13

% Moisture:

Seq Number: 3140633

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11100	199	mg/kg	10.26.2020 20:45		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-021**
Lab Sample Id: 676131-021

Matrix: Soil
Date Collected: 10.26.2020 13:07

Date Received: 10.26.2020 16:30
Sample Depth: 68 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:10

% Moisture:
Basis: Wet Weight

Seq Number: 3140632

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11100	200	mg/kg	10.26.2020 21:52		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-022**
Lab Sample Id: 676131-022

Matrix: Soil
Date Collected: 10.26.2020 13:13

Date Received: 10.26.2020 16:30
Sample Depth: 88 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:10

% Moisture:
Basis: Wet Weight

Seq Number: 3140632

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11300	200	mg/kg	10.26.2020 22:09		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-023**

Matrix: Soil

Date Received: 10.26.2020 16:30

Lab Sample Id: 676131-023

Date Collected: 10.26.2020 13:21

Sample Depth: 73 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:10

% Moisture:

Seq Number: 3140632

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9320	200	mg/kg	10.26.2020 22:14		20



Certificate of Analytical Results 676131

CDH Consulting, Thornton, CO

Zeus SW

Sample Id: **EPH-024**
Lab Sample Id: 676131-024

Matrix: Soil
Date Collected: 10.26.2020 13:22

Date Received: 10.26.2020 16:30
Sample Depth: 78 In

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 10.26.2020 17:10

% Moisture:
Basis: Wet Weight

Seq Number: 3140632

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8390	200	mg/kg	10.26.2020 22:20		20

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



CDH Consulting Zeus SW

Analytical Method: Chloride by EPA 300

Seq Number: 3140632

MB Sample Id: 7713961-1-BLK

Matrix: Solid

LCS Sample Id: 7713961-1-BKS

Prep Method: E300P

Date Prep: 10.26.2020

LCSD Sample Id: 7713961-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	256	102	250	100	90-110	2	20	mg/kg	10.26.2020 21:07	

Analytical Method: Chloride by EPA 300

Seq Number: 3140633

MB Sample Id: 7713962-1-BLK

Matrix: Solid

LCS Sample Id: 7713962-1-BKS

Prep Method: E300P

Date Prep: 10.26.2020

LCSD Sample Id: 7713962-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	252	101	246	98	90-110	2	20	mg/kg	10.26.2020 18:03	

Analytical Method: Chloride by EPA 300

Seq Number: 3140632

Parent Sample Id: 675984-010

Matrix: Soil

MS Sample Id: 675984-010 S

Prep Method: E300P

Date Prep: 10.26.2020

MSD Sample Id: 675984-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	189	200	392	102	387	99	90-110	1	20	mg/kg	10.26.2020 21:24	

Analytical Method: Chloride by EPA 300

Seq Number: 3140633

Parent Sample Id: 676131-001

Matrix: Soil

MS Sample Id: 676131-001 S

Prep Method: E300P

Date Prep: 10.26.2020

MSD Sample Id: 676131-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	200	190	95	191	96	90-110	1	20	mg/kg	10.26.2020 18:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3140633

Parent Sample Id: 676131-011

Matrix: Soil

MS Sample Id: 676131-011 S

Prep Method: E300P

Date Prep: 10.26.2020

MSD Sample Id: 676131-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10400	202	10600	99	10600	99	90-110	0	20	mg/kg	10.26.2020 19:38	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Chain of Custody

Work Order No. 1626131

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crasbad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 1 of 3

Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH CDH Consulting	Company Name:	
Address:	9426 Clemons St	Address:	
City, State ZIP:	Thornton CO 80229	City, State ZIP:	
Phone:	720 431 7468	Email:	chris@cdhconsult.com

Program: <input type="checkbox"/> PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	ZEUS SW	Turn Around	
Project Number:		Route	<input type="checkbox"/>
Project Location:		Rush:	X
Sampler's Name:	Chris Del Hierro	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT		Temp Blank:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wet Ice:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Temperature (°C):	5.6 / 5.4	Thermometer ID			
Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	-0.2		
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	Total Containers:	24		
Sample Custody Seals:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A				

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Preservative Codes	Sample Comments
	PH-001	Soil	10/26	9:03	68"	1		
	PH-002	Soil	10/26	9:10	58"	1		
	PH-003	Soil	10/26	9:30	65"	1		
	PH-004	Soil	10/26	9:42	62"	1		
	PH-005	Soil	10/26	9:56	50"	1		
	PH-006	Soil	10/26	10:08	60"	1		
	PH-007	Soil	10/26	10:22	65"	1		
	PH-008	Soil	10/26	10:37	60"	1		
	PH-009	Soil	10/26	10:55	79"	1		
	PH-010	Soil	10/26	11:14	76"	1		

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Andrea Hernandez	Chris Del Hierro	10/26/2020 16:30			

Revised Date 02/28/19 Rev. 2019.1



Chain of Custody

Work Order No: 676131

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crystal, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 2 of 3

Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH Consulting	Company Name:	
Address:	9486 Cermont St	Address:	
City, State ZIP:	Thomson CO 80229	City, State ZIP:	
Phone:	720 431 7468	Email:	Chris@CDHCONSULT.COM

Program: <input type="checkbox"/> UST/ST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project:	
Reporting Level: <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	Deliverables: <input type="checkbox"/> EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	ZCOS SW	Turn Around	
Project Number:		Routine <input type="checkbox"/>	
Project Location:		Rush: <input checked="" type="checkbox"/>	
Sampler's Name:	Chris Del Hierro	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):				Thermometer ID		
Received Intact:	Yes	No		See Page 1		
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:		
Sample Custody Seals:	Yes	No	N/A	Total Containers:		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	received by 4:00pm																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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	EPH-011	Soil	10/26	11:38	78"	1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

Total 200.7 / 6010 200.8 / 6020:

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Ancher & Hernandez	De Luján	10:30 10/26/20			



Chain of Custody

Work Order No: 1616131

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334

Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crashtad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH Consulting	Company Name:	
Address:	9426 Clermont St	Address:	
City, State ZIP:	Thornton CO 80229	City, State ZIP:	
Phone:	7204317468	Email:	Chris@CDHConsult.com

Program: <input type="checkbox"/> UST/ST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting Level: <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	Zeus SW	Turn Around	
Project Number:		Routine	<input type="checkbox"/>
Project Location:		Rush:	<input checked="" type="checkbox"/>
Sampler's Name:	Chris Del Hierro	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temperature (°C):	Temp Blank:	Yes	No
Received Intact:	Thermometer ID	Yes	No
Cooler Custody Seals:	Correction Factor:	Yes	No
Sample Custody Seals:	Total Containers:	Yes	No

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers
--------	-----------------------	--------	--------------	--------------	-------	----------------------

EPH-021	Soil	10/26	1:07	68"	1
EPH-022	Soil	10/26	1:13	88"	1
EPH-023	Soil	10/26	1:21	73"	1
EPH-024	Soil	10/26	1:22	78"	1

Chlorides

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2SO4: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Andrea Hernandez	Chris Del Hierro	10/30/2020			

Certificate of Analysis Summary 678373

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location: Thornton, CO 80229

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:33

Project Manager: Irene Vann

Analysis Requested	Lab Id:	678373-001	678373-002	678373-003	678373-004	678373-005	678373-006
	Field Id:	WW2	WW4	WW6	WW8	WW10	WW12
	Depth:	2- ft	4- ft	6- ft	8- ft	10- ft	12- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	11.18.2020 09:38	11.18.2020 09:39	11.18.2020 09:40	11.18.2020 09:40	11.18.2020 09:41	11.18.2020 09:41
Chloride by EPA 300 SUB: T104704400-20-21	Extracted:	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42
	Analyzed:	11.20.2020 02:15	11.20.2020 02:31	11.20.2020 02:37	11.20.2020 02:53	11.20.2020 02:59	11.20.2020 03:04
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		11.3 9.92	363 9.96	501 10.0	786 10.0	255 49.9	1110 49.8

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 678373

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location: Thornton, CO 80229

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:33

Project Manager: Irene Vann

<i>Analysis Requested</i>	<i>Lab Id:</i>	678373-007	678373-008	678373-009	678373-010	678373-011	678373-012
	<i>Field Id:</i>	WW14	WW16	WW18	WW20	WW22	WW24
	<i>Depth:</i>	14- ft	16- ft	18- ft	20- ft	22- ft	24- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.18.2020 09:42	11.18.2020 09:43	11.18.2020 09:46	11.18.2020 09:46	11.18.2020 09:46	11.18.2020 09:47
Chloride by EPA 300 SUB: T104704400-20-21	<i>Extracted:</i>	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 17:44	11.19.2020 17:44
	<i>Analyzed:</i>	11.20.2020 03:10	11.20.2020 03:15	11.20.2020 03:21	11.20.2020 03:26	11.20.2020 03:59	11.20.2020 04:15
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		785 49.9	5250 50.4	8660 202	9690 199	9340 200	11500 198

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 678373

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location: Thornton, CO 80229

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:33

Project Manager: Irene Vann

<i>Analysis Requested</i>	<i>Lab Id:</i>	678373-013	678373-014	678373-015	678373-016	678373-017	678373-018
	<i>Field Id:</i>	WW26	WW28	WW30	WW32	WW34	WW36
	<i>Depth:</i>	26- ft	28- ft	30- ft	32- ft	34- ft	36- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.18.2020 09:48	11.18.2020 09:49	11.18.2020 09:50	11.18.2020 09:53	11.18.2020 09:54	11.18.2020 09:56
Chloride by EPA 300 SUB: T104704400-20-21	<i>Extracted:</i>	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44
	<i>Analyzed:</i>	11.20.2020 04:21	11.20.2020 04:26	11.20.2020 04:32	11.20.2020 04:48	11.20.2020 04:54	11.20.2020 04:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		5990 50.0	198 10.1	704 10.1	516 10.1	336 9.94	322 9.98

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 678373

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location: Thornton, CO 80229

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:33

Project Manager: Irene Vann

Analysis Requested	Lab Id:	678373-019	678373-020	678373-021	678373-022	678373-023	678373-024
	Field Id:	WW38	WW40	WW42	WW44	WW46	WW48
	Depth:	38- ft	40- ft	42- ft	44- ft	46- ft	48- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	11.18.2020 09:57	11.18.2020 10:00	11.18.2020 10:01	11.18.2020 10:02	11.18.2020 10:03	11.18.2020 10:04
Chloride by EPA 300 SUB: T104704400-20-21	Extracted:	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44
	Analyzed:	11.20.2020 05:05	11.20.2020 05:10	11.20.2020 05:16	11.20.2020 05:32	11.20.2020 05:38	11.20.2020 05:54
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		198 10.0	802 10.0	159 9.94	258 50.5	179 50.5	156 9.90

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 678373

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location: Thornton, CO 80229

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:33

Project Manager: Irene Vann

Analysis Requested	Lab Id:	678373-025	678373-026	678373-027	678373-028	678373-029	
	Field Id:	WW50	WW52	WW54	WW55	Top Soil WW	
	Depth:	50- ft	52- ft	54- ft	55- ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	11.18.2020 10:05	11.18.2020 10:06	11.18.2020 10:07	11.18.2020 10:08	11.18.2020 09:30	
Chloride by EPA 300 SUB: T104704400-20-21	Extracted:	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44	11.19.2020 17:44	
	Analyzed:	11.20.2020 06:00	11.20.2020 06:05	11.20.2020 06:11	11.20.2020 06:16	11.20.2020 06:21	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		199 9.92	206 49.9	151 49.4	163 9.98	7820 49.9	

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico





Analytical Report 678373

for

CDH Consulting

Project Manager: Chris Del Hierro

Zeus CTB

11.24.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

Project Manager: **Chris Del Hierro**

CDH Consulting

9446 Clermont St.
Thornton, CO 80229

Reference: Eurofins Xenco, LLC Report No(s): **678373**

Zeus CTB

Project Address: Thornton, CO 80229

Chris Del Hierro:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 678373. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 678373 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink, appearing to read "Erica Morales", written over a horizontal line.

Erica Morales

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
WW2	S	11.18.2020 09:38	2 ft	678373-001
WW4	S	11.18.2020 09:39	4 ft	678373-002
WW6	S	11.18.2020 09:40	6 ft	678373-003
WW8	S	11.18.2020 09:40	8 ft	678373-004
WW10	S	11.18.2020 09:41	10 ft	678373-005
WW12	S	11.18.2020 09:41	12 ft	678373-006
WW14	S	11.18.2020 09:42	14 ft	678373-007
WW16	S	11.18.2020 09:43	16 ft	678373-008
WW18	S	11.18.2020 09:46	18 ft	678373-009
WW20	S	11.18.2020 09:46	20 ft	678373-010
WW22	S	11.18.2020 09:46	22 ft	678373-011
WW24	S	11.18.2020 09:47	24 ft	678373-012
WW26	S	11.18.2020 09:48	26 ft	678373-013
WW28	S	11.18.2020 09:49	28 ft	678373-014
WW30	S	11.18.2020 09:50	30 ft	678373-015
WW32	S	11.18.2020 09:53	32 ft	678373-016
WW34	S	11.18.2020 09:54	34 ft	678373-017
WW36	S	11.18.2020 09:56	36 ft	678373-018
WW38	S	11.18.2020 09:57	38 ft	678373-019
WW40	S	11.18.2020 10:00	40 ft	678373-020
WW42	S	11.18.2020 10:01	42 ft	678373-021
WW44	S	11.18.2020 10:02	44 ft	678373-022
WW46	S	11.18.2020 10:03	46 ft	678373-023
WW48	S	11.18.2020 10:04	48 ft	678373-024
WW50	S	11.18.2020 10:05	50 ft	678373-025
WW52	S	11.18.2020 10:06	52 ft	678373-026
WW54	S	11.18.2020 10:07	54 ft	678373-027
WW55	S	11.18.2020 10:08	55 ft	678373-028
Top Soil WW	S	11.18.2020 09:30	N/A	678373-029



CASE NARRATIVE

Client Name: CDH Consulting

Project Name: Zeus CTB

Project ID:
Work Order Number(s): 678373

Report Date: 11.24.2020
Date Received: 11.18.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW2**
Lab Sample Id: 678373-001

Matrix: Soil
Date Collected: 11.18.2020 09:38

Date Received: 11.18.2020 16:40
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.3	9.92	mg/kg	11.20.2020 02:15		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW4**
Lab Sample Id: 678373-002

Matrix: Soil
Date Collected: 11.18.2020 09:39

Date Received: 11.18.2020 16:40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	363	9.96	mg/kg	11.20.2020 02:31		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW6**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678373-003

Date Collected: 11.18.2020 09:40

Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	501	10.0	mg/kg	11.20.2020 02:37		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW8**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678373-004

Date Collected: 11.18.2020 09:40

Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	786	10.0	mg/kg	11.20.2020 02:53		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW10**
Lab Sample Id: 678373-005

Matrix: Soil
Date Collected: 11.18.2020 09:41

Date Received: 11.18.2020 16:40
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	255	49.9	mg/kg	11.20.2020 02:59		5



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW12**
Lab Sample Id: 678373-006

Matrix: Soil
Date Collected: 11.18.2020 09:41

Date Received: 11.18.2020 16:40
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1110	49.8	mg/kg	11.20.2020 03:04		5



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW14**
Lab Sample Id: 678373-007

Matrix: Soil
Date Collected: 11.18.2020 09:42

Date Received: 11.18.2020 16:40
Sample Depth: 14 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	785	49.9	mg/kg	11.20.2020 03:10		5



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW16**
Lab Sample Id: 678373-008

Matrix: Soil
Date Collected: 11.18.2020 09:43

Date Received: 11.18.2020 16:40
Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5250	50.4	mg/kg	11.20.2020 03:15		5



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW18**
Lab Sample Id: 678373-009

Matrix: Soil
Date Collected: 11.18.2020 09:46

Date Received: 11.18.2020 16:40
Sample Depth: 18 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8660	202	mg/kg	11.20.2020 03:21		20



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW20**
Lab Sample Id: 678373-010

Matrix: Soil
Date Collected: 11.18.2020 09:46

Date Received: 11.18.2020 16:40
Sample Depth: 20 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142891

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9690	199	mg/kg	11.20.2020 03:26		20



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW22**
Lab Sample Id: 678373-011

Matrix: Soil
Date Collected: 11.18.2020 09:46

Date Received: 11.18.2020 16:40
Sample Depth: 22 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9340	200	mg/kg	11.20.2020 03:59		20



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW24**
Lab Sample Id: 678373-012

Matrix: Soil
Date Collected: 11.18.2020 09:47

Date Received: 11.18.2020 16:40
Sample Depth: 24 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11500	198	mg/kg	11.20.2020 04:15		20



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW26**
Lab Sample Id: 678373-013

Matrix: Soil
Date Collected: 11.18.2020 09:48

Date Received: 11.18.2020 16:40
Sample Depth: 26 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5990	50.0	mg/kg	11.20.2020 04:21		5



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW28**
Lab Sample Id: 678373-014

Matrix: Soil
Date Collected: 11.18.2020 09:49

Date Received: 11.18.2020 16:40
Sample Depth: 28 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	198	10.1	mg/kg	11.20.2020 04:26		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW30**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678373-015

Date Collected: 11.18.2020 09:50

Sample Depth: 30 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:

Basis: Wet Weight

Seq Number: 3142892

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	704	10.1	mg/kg	11.20.2020 04:32		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW32**
Lab Sample Id: 678373-016

Matrix: Soil
Date Collected: 11.18.2020 09:53

Date Received: 11.18.2020 16:40
Sample Depth: 32 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	516	10.1	mg/kg	11.20.2020 04:48		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW34**
Lab Sample Id: 678373-017

Matrix: Soil
Date Collected: 11.18.2020 09:54

Date Received: 11.18.2020 16:40
Sample Depth: 34 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	336	9.94	mg/kg	11.20.2020 04:54		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW36**
Lab Sample Id: 678373-018

Matrix: Soil
Date Collected: 11.18.2020 09:56

Date Received: 11.18.2020 16:40
Sample Depth: 36 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	322	9.98	mg/kg	11.20.2020 04:59		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW38**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678373-019

Date Collected: 11.18.2020 09:57

Sample Depth: 38 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:

Basis: Wet Weight

Seq Number: 3142892

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	198	10.0	mg/kg	11.20.2020 05:05		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW40**
Lab Sample Id: 678373-020

Matrix: Soil
Date Collected: 11.18.2020 10:00

Date Received: 11.18.2020 16:40
Sample Depth: 40 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	802	10.0	mg/kg	11.20.2020 05:10		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW42**
Lab Sample Id: 678373-021

Matrix: Soil
Date Collected: 11.18.2020 10:01

Date Received: 11.18.2020 16:40
Sample Depth: 42 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	159	9.94	mg/kg	11.20.2020 05:16		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW44**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678373-022

Date Collected: 11.18.2020 10:02

Sample Depth: 44 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:

Basis: Wet Weight

Seq Number: 3142892

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	258	50.5	mg/kg	11.20.2020 05:32		5



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW46**
Lab Sample Id: 678373-023

Matrix: Soil
Date Collected: 11.18.2020 10:03

Date Received: 11.18.2020 16:40
Sample Depth: 46 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	179	50.5	mg/kg	11.20.2020 05:38		5



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW48**
Lab Sample Id: 678373-024

Matrix: Soil
Date Collected: 11.18.2020 10:04

Date Received: 11.18.2020 16:40
Sample Depth: 48 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	156	9.90	mg/kg	11.20.2020 05:54		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW50**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678373-025

Date Collected: 11.18.2020 10:05

Sample Depth: 50 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:

Basis: Wet Weight

Seq Number: 3142892

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	199	9.92	mg/kg	11.20.2020 06:00		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW52**
Lab Sample Id: 678373-026

Matrix: Soil
Date Collected: 11.18.2020 10:06

Date Received: 11.18.2020 16:40
Sample Depth: 52 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	206	49.9	mg/kg	11.20.2020 06:05		5



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW54**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678373-027

Date Collected: 11.18.2020 10:07

Sample Depth: 54 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:

Basis: Wet Weight

Seq Number: 3142892

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	151	49.4	mg/kg	11.20.2020 06:11		5



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **WW55**
Lab Sample Id: 678373-028

Matrix: Soil
Date Collected: 11.18.2020 10:08

Date Received: 11.18.2020 16:40
Sample Depth: 55 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142892

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	163	9.98	mg/kg	11.20.2020 06:16		1



Certificate of Analytical Results 678373

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **Top Soil WW**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678373-029

Date Collected: 11.18.2020 09:30

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 17:44

% Moisture:

Basis: Wet Weight

Seq Number: 3142892

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7820	49.9	mg/kg	11.20.2020 06:21		5

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



CDH Consulting Zeus CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3142891

MB Sample Id: 7715577-1-BLK

Matrix: Solid

LCS Sample Id: 7715577-1-BKS

Prep Method: E300P

Date Prep: 11.19.2020

LCSD Sample Id: 7715577-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	257	103	90-110	0	20	mg/kg	11.20.2020 00:47	

Analytical Method: Chloride by EPA 300

Seq Number: 3142892

MB Sample Id: 7715579-1-BLK

Matrix: Solid

LCS Sample Id: 7715579-1-BKS

Prep Method: E300P

Date Prep: 11.19.2020

LCSD Sample Id: 7715579-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	256	102	257	103	90-110	0	20	mg/kg	11.20.2020 03:48	

Analytical Method: Chloride by EPA 300

Seq Number: 3142891

Parent Sample Id: 678372-009

Matrix: Soil

MS Sample Id: 678372-009 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678372-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8290	200	8480	95	8500	104	90-110	0	20	mg/kg	11.20.2020 01:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3142891

Parent Sample Id: 678373-001

Matrix: Soil

MS Sample Id: 678373-001 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678373-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.3	200	218	103	217	103	90-110	0	20	mg/kg	11.20.2020 02:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3142892

Parent Sample Id: 678373-011

Matrix: Soil

MS Sample Id: 678373-011 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678373-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9340	200	9530	95	9530	95	90-110	0	20	mg/kg	11.20.2020 04:05	

Analytical Method: Chloride by EPA 300

Seq Number: 3142892

Parent Sample Id: 678373-021

Matrix: Soil

MS Sample Id: 678373-021 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678373-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	159	200	367	104	375	108	90-110	2	20	mg/kg	11.20.2020 05:21	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Chain of Custody

Work Order No:

678373

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334

Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Caspabad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 1 of 3

Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH consulting	Company Name:	
Address:	9446 Clermont St	Address:	
City, State ZIP:	Thornton, CO 80229	City, State ZIP:	
Phone:	720-431-7468	Email:	Chris@cdhconsult.com

Program: <input type="checkbox"/> PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	ZEUS CTB	Turn Around	
Project Number:		Routine <input type="checkbox"/>	Pres. Code
Project Location		Rush:	
Sampler's Name:	Andrea Hernandez	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT		Temp Blank:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wet Ice:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Temperature (°C):	6.0/5.8	Thermometer ID	TMM007		
Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	-0.2		
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	Total Containers:	29		
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A				

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes
WW 2	Soil	11-18	9:38	2'	1	1	Chlorides	MeOH: Me None: NO HNO3: HN H2SO4: H2 HCL: HL NaOH: Na Zn Acetate+ NaOH: Zn
WW 4	Soil	11-18	9:39	4'	1	1		TAT starts the day received by the lab. If received by 4:00pm
WW 6	Soil	11-18	9:40	6'	1	1		Sample Comments
WW 8	Soil	11-18	9:40	8'	1	1		
WW 10	Soil	11-18	9:41	10'	1	1		
WW 12	Soil	11-18	9:41	12'	1	1		
WW 14	Soil	11-18	9:42	14'	1	1		
WW 16	Soil	11-18	9:43	16'	1	1		
WW 18	Soil	11-18	9:46	18'	1	1		
WW 20	Soil	11-18	9:46	20'	1	1		

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Andrea Hernandez		11/18/20 16:45			2
					4
					6



Chain of Custody

Work Order No:

678373

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Casabad, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 2 of 3

Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH Consulting, LLC	Company Name:	
Address:	9446 Clemons St	Address:	
City, State ZIP:	Thornton, CO 80229	City, State ZIP:	
Phone:	720-431-7468	Email:	Chris@CDHconsult.com

Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:
Reporting Level: I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	Zeus CTB	Turn Around	
Project Number:		Route	<input type="checkbox"/>
Project Location:		Rush:	
Sampler's Name:	Andrea Hernandez	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wetter:	Yes	No
Temperature (°C):				Thermometer ID		
Received Intact:	Yes	No				
Cooler/Custody Seals:	Yes	No	N/A	Correction Factor:		
Sample Custody Seals:	Yes	No	N/A	Total Containers:		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers
--------	-----------------------	--------	--------------	--------------	-------	----------------------

WW 22	Soil	11-18	9:46	22'	1	/	Chlorides									
WW 24	Soil	11-18	9:47	24'	1	/										
WW 26	Soil	11-18	9:48	26'	1	/										
WW 28	Soil	11-18	9:49	28'	1	/										
WW 30	Soil	11-18	9:50	30'	1	/										
WW 32	Soil	11-18	9:53	32'	1	/										
WW 34	Soil	11-18	9:54	34'	1	/										
WW 36	Soil	11-18	9:56	36'	1	/										
WW 38	Soil	11-18	9:57	38'	1	/										
WW 40	Soil	11-18	10:00	40'	1	/										

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Andrea Hernandez		11/18/20 16:25			



Chain of Custody

Work Order No: 678373

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 3 of 3

Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH Consulting, LLC	Company Name:	
Address:	9446 Clement St	Address:	
City, State ZIP:	Thornton, CO 80229	City, State ZIP:	
Phone:	720-431-7468	Email:	Chris@CDHconsult.com

Program: <input type="checkbox"/> PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project:	
Reporting Level II <input type="checkbox"/>	Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD <input type="checkbox"/>	ADAPT <input type="checkbox"/> Other: <input type="checkbox"/>

Project Name:	Zeus CTB	Turn Around	
Project Number:		Routine	<input type="checkbox"/>
Project Location:		Rush:	
Sampler's Name:	Andrea Hernandez	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet log:	Yes	No
Temperature (°C):				Thermometer ID		
Received Intact:	Yes	No				
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:		
Sample Custody Seals:	Yes	No	N/A	Total Containers:		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST										Preservative Codes		Sample Comments
WW 42	Soil	11-18	10:01	42'	1	-	Chlorides										MeOH: Me		
WW 44	Soil	11-18	10:02	44'	1	-											None: NO		
WW 46	Soil	11-18	10:03	46'	1	-											HNO3: HN		
WW 48	Soil	11-18	10:04	48'	1	-											H2SO4: H2		
WW 50	Soil	11-18	10:05	50'	1	-											HCL: HL		
WW 52	Soil	11-18	10:06	52'	1	-											NaOH: Na		
WW 54	Soil	11-18	10:07	54'	1	-											Zn Acetate+ NaOH: Zn		
WW 55	Soil	11-18	10:08	55'	1	-													
TOP Soil WW	Soil	11-18	9:30	TOP Soil	1	/													

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

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Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Michael Hernandez		11/18/20 16:45			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: CDH Consulting

Date/ Time Received: 11.18.2020 04.40.00 PM

Work Order #: 678373

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:



Martha Castro

Date: 11.18.2020

Checklist reviewed by:



Irene Vann

Date: 11.19.2020

Certificate of Analysis Summary 678372

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location: Thornton, CO 80229

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:32

Project Manager: Irene Vann

Analysis Requested	Lab Id:	678372-001	678372-002	678372-003	678372-004	678372-005	678372-006
	Field Id:	Top Soil Hole 1	H2	H4	H6	H8	H10
	Depth:	0- ft	2- ft	4- ft	6- ft	8- ft	10- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	11.18.2020 10:39	11.18.2020 10:40	11.18.2020 10:51	11.18.2020 10:52	11.18.2020 10:54	11.18.2020 10:55
Chloride by EPA 300 SUB: T104704400-20-21	Extracted:	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 14:30
	Analyzed:	11.19.2020 23:36	11.19.2020 23:53	11.19.2020 23:58	11.20.2020 00:03	11.20.2020 00:09	11.20.2020 00:14
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		18600 200	7350 101	3990 100	2600 101	3130 101	3650 100

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico





CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Date Received in Lab: Wed 11.18.2020 16:40

Contact: Chris Del Hierro

Report Date: 11.24.2020 17:32

Project Location: Thornton, CO 80229

Project Manager: Irene Vann

<i>Analysis Requested</i>	<i>Lab Id:</i>	678372-007	678372-008	678372-009	678372-010	678372-011	678372-012
	<i>Field Id:</i>	H12	H14	H16	H18	H20	H22
	<i>Depth:</i>	12- ft	14- ft	16- ft	18- ft	20- ft	22- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.18.2020 10:58	11.18.2020 10:59	11.18.2020 11:00	11.18.2020 11:02	11.18.2020 11:02	11.18.2020 11:03
Chloride by EPA 300 SUB: T104704400-20-21	<i>Extracted:</i>	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42
	<i>Analyzed:</i>	11.20.2020 00:20	11.20.2020 00:25	11.20.2020 00:58	11.20.2020 01:15	11.20.2020 01:20	11.20.2020 01:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		7680 200	6280 99.8	8290 199	9010 202	9210 202	9670 202

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Certificate of Analysis Summary 678372

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location: Thornton, CO 80229

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:32

Project Manager: Irene Vann

<i>Analysis Requested</i>	<i>Lab Id:</i>	678372-013	678372-014	678372-015	678372-016	678372-017	678372-018
	<i>Field Id:</i>	H24	H26	H28	H30	H32	H34
	<i>Depth:</i>	24- ft	26- ft	28- ft	30- ft	32- ft	34- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.18.2020 11:04	11.18.2020 11:05	11.18.2020 11:06	11.18.2020 11:06	11.18.2020 11:09	11.18.2020 11:09
Chloride by EPA 300 SUB: T104704400-20-21	<i>Extracted:</i>	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42	11.19.2020 15:42
	<i>Analyzed:</i>	11.20.2020 01:31	11.20.2020 01:48	11.20.2020 01:53	11.20.2020 01:59	11.20.2020 02:04	11.20.2020 02:09
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8060 100	1610 99.2	844 49.9	544 9.96	1570 49.7	1060 50.4

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico





Analytical Report 678372

for

CDH Consulting

Project Manager: Chris Del Hierro

Zeus CTB

11.24.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

Project Manager: **Chris Del Hierro**

CDH Consulting

9446 Clermont St.
Thornton, CO 80229

Reference: Eurofins Xenco, LLC Report No(s): **678372**

Zeus CTB

Project Address: Thornton, CO 80229

Chris Del Hierro:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 678372. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 678372 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink, appearing to read "Erica Morales", written over a horizontal line.

Erica Morales

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Sample Cross Reference 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Top Soil Hole 1	S	11.18.2020 10:39	0 ft	678372-001
H2	S	11.18.2020 10:40	2 ft	678372-002
H4	S	11.18.2020 10:51	4 ft	678372-003
H6	S	11.18.2020 10:52	6 ft	678372-004
H8	S	11.18.2020 10:54	8 ft	678372-005
H10	S	11.18.2020 10:55	10 ft	678372-006
H12	S	11.18.2020 10:58	12 ft	678372-007
H14	S	11.18.2020 10:59	14 ft	678372-008
H16	S	11.18.2020 11:00	16 ft	678372-009
H18	S	11.18.2020 11:02	18 ft	678372-010
H20	S	11.18.2020 11:02	20 ft	678372-011
H22	S	11.18.2020 11:03	22 ft	678372-012
H24	S	11.18.2020 11:04	24 ft	678372-013
H26	S	11.18.2020 11:05	26 ft	678372-014
H28	S	11.18.2020 11:06	28 ft	678372-015
H30	S	11.18.2020 11:06	30 ft	678372-016
H32	S	11.18.2020 11:09	32 ft	678372-017
H34	S	11.18.2020 11:09	34 ft	678372-018



CASE NARRATIVE

Client Name: CDH Consulting

Project Name: Zeus CTB

Project ID:

Work Order Number(s): 678372

Report Date: 11.24.2020

Date Received: 11.18.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **Top Soil Hole 1**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-001

Date Collected: 11.18.2020 10:39

Sample Depth: 0 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18600	200	mg/kg	11.19.2020 23:36		20



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H2** Matrix: Soil Date Received: 11.18.2020 16:40
Lab Sample Id: 678372-002 Date Collected: 11.18.2020 10:40 Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 11.19.2020 14:30 % Moisture:
Seq Number: 3142889 Basis: Wet Weight
SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7350	101	mg/kg	11.19.2020 23:53		10



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H4** Matrix: Soil Date Received: 11.18.2020 16:40
Lab Sample Id: 678372-003 Date Collected: 11.18.2020 10:51 Sample Depth: 4 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 11.19.2020 14:30 % Moisture:
Seq Number: 3142889 Basis: Wet Weight
SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3990	100	mg/kg	11.19.2020 23:58		10



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H6** Matrix: Soil Date Received: 11.18.2020 16:40
Lab Sample Id: 678372-004 Date Collected: 11.18.2020 10:52 Sample Depth: 6 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 11.19.2020 14:30 % Moisture:
Seq Number: 3142889 Basis: Wet Weight
SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2600	101	mg/kg	11.20.2020 00:03		10



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H8** Matrix: Soil Date Received: 11.18.2020 16:40
Lab Sample Id: 678372-005 Date Collected: 11.18.2020 10:54 Sample Depth: 8 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 11.19.2020 14:30 % Moisture:
Seq Number: 3142889 Basis: Wet Weight
SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3130	101	mg/kg	11.20.2020 00:09		10



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H10**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-006

Date Collected: 11.18.2020 10:55

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3650	100	mg/kg	11.20.2020 00:14		10



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H12** Matrix: Soil Date Received: 11.18.2020 16:40
Lab Sample Id: 678372-007 Date Collected: 11.18.2020 10:58 Sample Depth: 12 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 11.19.2020 14:30 % Moisture:
Seq Number: 3142889 Basis: Wet Weight
SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7680	200	mg/kg	11.20.2020 00:20		20



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H14** Matrix: Soil Date Received: 11.18.2020 16:40
Lab Sample Id: 678372-008 Date Collected: 11.18.2020 10:59 Sample Depth: 14 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 11.19.2020 14:30 % Moisture:
Seq Number: 3142889 Basis: Wet Weight
SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6280	99.8	mg/kg	11.20.2020 00:25		10



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H16**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-009

Date Collected: 11.18.2020 11:00

Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8290	199	mg/kg	11.20.2020 00:58		20



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H18**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-010

Date Collected: 11.18.2020 11:02

Sample Depth: 18 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9010	202	mg/kg	11.20.2020 01:15		20



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H20**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-011

Date Collected: 11.18.2020 11:02

Sample Depth: 20 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9210	202	mg/kg	11.20.2020 01:20		20



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H22**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-012

Date Collected: 11.18.2020 11:03

Sample Depth: 22 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9670	202	mg/kg	11.20.2020 01:26		20



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H24**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-013

Date Collected: 11.18.2020 11:04

Sample Depth: 24 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8060	100	mg/kg	11.20.2020 01:31		10



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H26**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-014

Date Collected: 11.18.2020 11:05

Sample Depth: 26 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1610	99.2	mg/kg	11.20.2020 01:48		10



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H28**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-015

Date Collected: 11.18.2020 11:06

Sample Depth: 28 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	844	49.9	mg/kg	11.20.2020 01:53		5



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H30**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-016

Date Collected: 11.18.2020 11:06

Sample Depth: 30 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	544	9.96	mg/kg	11.20.2020 01:59		1



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H32** Matrix: Soil Date Received: 11.18.2020 16:40
Lab Sample Id: 678372-017 Date Collected: 11.18.2020 11:09 Sample Depth: 32 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 11.19.2020 15:42 % Moisture:
Seq Number: 3142891 Basis: Wet Weight
SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1570	49.7	mg/kg	11.20.2020 02:04		5



Certificate of Analytical Results 678372

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **H34**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678372-018

Date Collected: 11.18.2020 11:09

Sample Depth: 34 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 15:42

% Moisture:

Basis: Wet Weight

Seq Number: 3142891

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1060	50.4	mg/kg	11.20.2020 02:09		5

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



CDH Consulting Zeus CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3142889

MB Sample Id: 7715576-1-BLK

Matrix: Solid

LCS Sample Id: 7715576-1-BKS

Prep Method: E300P

Date Prep: 11.19.2020

LCSD Sample Id: 7715576-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	258	103	257	103	90-110	0	20	mg/kg	11.19.2020 21:46	

Analytical Method: Chloride by EPA 300

Seq Number: 3142891

MB Sample Id: 7715577-1-BLK

Matrix: Solid

LCS Sample Id: 7715577-1-BKS

Prep Method: E300P

Date Prep: 11.19.2020

LCSD Sample Id: 7715577-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	257	103	90-110	0	20	mg/kg	11.20.2020 00:47	

Analytical Method: Chloride by EPA 300

Seq Number: 3142889

Parent Sample Id: 678369-005

Matrix: Soil

MS Sample Id: 678369-005 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678369-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	299	199	516	109	506	106	90-110	2	20	mg/kg	11.19.2020 22:03	

Analytical Method: Chloride by EPA 300

Seq Number: 3142889

Parent Sample Id: 678369-015

Matrix: Soil

MS Sample Id: 678369-015 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678369-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6670	199	6860	95	6860	95	90-110	0	20	mg/kg	11.19.2020 23:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3142891

Parent Sample Id: 678372-009

Matrix: Soil

MS Sample Id: 678372-009 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678372-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8290	200	8480	95	8500	104	90-110	0	20	mg/kg	11.20.2020 01:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3142891

Parent Sample Id: 678373-001

Matrix: Soil

MS Sample Id: 678373-001 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678373-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	11.3	200	218	103	217	103	90-110	0	20	mg/kg	11.20.2020 02:20	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Chain of Custody

Work Order No: 678372

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crashtad, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 1 of 2

Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH Consulting	Company Name:	
Address:	9446 Clermont St	Address:	
City, State ZIP:	Meriden, CT 06229	City, State ZIP:	
Phone:	720-431-7468	Email:	Chris@CDHconsult.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting Level: I <input type="checkbox"/> II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	Zeus CTB	Turn Around	
Project Number:		Routine	<input checked="" type="checkbox"/>
Project Location:		Rush:	
Sampler's Name:	Andrea Hernandez	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Well Ice:	Yes	No
Temperature (°C):	6.0/5.8			Thermometer ID	TMM007	
Received Intact:	Yes	No				
Cooler Custody Seals:	Yes	No	N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes	No	N/A	Total Containers:	18	

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers
--------	-----------------------	--------	--------------	--------------	-------	----------------------

Top Soil Hole 1	Soil	11-18	10:39	0	1	/													
H2	Soil	11-18	10:40	2'	1	/													
H4	Soil	11-18	10:51	4'	1	/													
H6	Soil	11-18	10:52	6'	1	/													
H8	Soil	11-18	10:54	8'	1	/													
H10	Soil	11-18	10:55	10'	1	/													
H12	Soil	11-18	10:58	12'	1	/													
H14	Soil	11-18	10:59	14'	1	/													
H16	Soil	11-18	11:00	16'	1	/													
H18	Soil	11-18	11:02	18'	1	/													

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Cu Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenoco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenoco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenoco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Chris Hernandez		11/18/20 16:40			



Chain of Custody

Work Order No. 678372

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334

Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296

Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 2 of 2

Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH Consulting	Company Name:	
Address:	9446 Germont St	Address:	
City, State ZIP:	Thornton Co, 80229	City, State ZIP:	
Phone:	720-431-7468	Email:	Chris@CDHconsult.com

Program: <input type="checkbox"/> PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> State of Project:	
Reporting Level: <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	Zeus CTB	Turn Around	
Project Number:		Routine	<input checked="" type="checkbox"/>
Project Location:		Rush:	
Sampler's Name:	Andrea Hernandez	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wettest:	Yes	No
Temperature (°C):				Thermometer ID		
Received Intact:	Yes	No				
Cooler/Storage Seals:	Yes	No	N/A	Correction Factor:		
Sample Custody Seals:	Yes	No	N/A	Total Containers:		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	ANALYSIS REQUEST																Sample Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
	H20	Soil	11-18	11:02	20'	1	✓																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Andrea Hernandez		11/18/20 16:40			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: CDH Consulting

Date/ Time Received: 11.18.2020 04.40.00 PM

Work Order #: 678372

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:



Martha Castro

Date: 11.18.2020

Checklist reviewed by:



Irene Vann

Date: 11.19.2020

Certificate of Analysis Summary 678369

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location: Thornton, CO 80229

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:29

Project Manager: Irene Vann

<i>Analysis Requested</i>	<i>Lab Id:</i>	678369-001	678369-002	678369-003	678369-004	678369-005	678369-006
	<i>Field Id:</i>	TH Top Soil	TH2	TH4	TH6	TH8	TH10
	<i>Depth:</i>	0- ft	2- ft	4- ft	6- ft	8- ft	10- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.18.2020 12:13	11.18.2020 12:19	11.18.2020 12:19	11.18.2020 12:19	11.18.2020 12:20	11.18.2020 12:20
Chloride by EPA 300 SUB: T104704400-20-21	<i>Extracted:</i>	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:30	11.19.2020 14:30
	<i>Analyzed:</i>	11.19.2020 21:08	11.19.2020 21:14	11.19.2020 21:19	11.19.2020 21:24	11.19.2020 21:57	11.19.2020 22:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		10700 201	27.7 10.0	24.4 9.98	25.5 10.0	299 9.92	7150 100

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 678369

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location: Thornton, CO 80229

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:29

Project Manager: Irene Vann

<i>Analysis Requested</i>	<i>Lab Id:</i>	678369-007	678369-008	678369-009	678369-010	678369-011	678369-012
	<i>Field Id:</i>	TH12	TH14	TH16	TH18	TH20	TH22
	<i>Depth:</i>	12- ft	14- ft	16- ft	18- ft	20- ft	22- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.18.2020 12:21	11.18.2020 12:21	11.18.2020 12:22	11.18.2020 12:22	11.18.2020 12:23	11.18.2020 12:24
Chloride by EPA 300 SUB: T104704400-20-21	<i>Extracted:</i>	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 14:30
	<i>Analyzed:</i>	11.19.2020 22:19	11.19.2020 22:25	11.19.2020 22:30	11.19.2020 22:47	11.19.2020 22:52	11.19.2020 22:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		13800 99.4	8590 200	9740 199	9790 200	10500 200	9470 202

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 678369

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location: Thornton, CO 80229

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:29

Project Manager: Irene Vann

<i>Analysis Requested</i>	<i>Lab Id:</i>	678369-013	678369-014	678369-015	678369-016		
	<i>Field Id:</i>	TH24	TH26	TH28	TH30		
	<i>Depth:</i>	24- ft	26- ft	28- ft	30- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	11.18.2020 12:25	11.18.2020 12:25	11.18.2020 12:26	11.18.2020 12:26		
Chloride by EPA 300 SUB: T104704400-20-21	<i>Extracted:</i>	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 14:30	11.19.2020 14:30		
	<i>Analyzed:</i>	11.19.2020 23:03	11.19.2020 23:09	11.19.2020 23:14	11.19.2020 23:30		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		6620 100	7800 99.2	6670 99.2	5500 100		

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 678364

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Date Received in Lab: Wed 11.18.2020 16:40

Contact: Chris Del Hierro

Report Date: 11.24.2020 17:28

Project Location:

Project Manager: Irene Vann

Analysis Requested	Lab Id:	678364-001	678364-002	678364-003	678364-004	678364-005	678364-006
	Field Id:	SH Top Soil	SH2	SH4	SH6	SH8	SH10
	Depth:	0- ft	2- ft	4- ft	6- ft	8- ft	10- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	11.18.2020 11:37	11.18.2020 11:42	11.18.2020 11:44	11.18.2020 11:45	11.18.2020 11:46	11.18.2020 11:46
Chloride by EPA 300 SUB: T104704400-20-21	Extracted:	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00
	Analyzed:	11.19.2020 18:57	11.19.2020 19:13	11.19.2020 19:19	11.19.2020 19:24	11.19.2020 19:29	11.19.2020 19:46
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1240 D 50.2	173 10.1	19.7 9.98	36.2 10.0	126 10.1	137 10.0

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 678364

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location:

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:28

Project Manager: Irene Vann

Analysis Requested	Lab Id:	678364-007	678364-008	678364-009	678364-010	678364-011	678364-012
	Field Id:	SH12	SH14	SH16	SH18	SH20	SH22
	Depth:	12- ft	14- ft	16- ft	18- ft	20- ft	22- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	11.18.2020 11:47	11.18.2020 11:48	11.18.2020 11:49	11.18.2020 11:50	11.18.2020 11:52	11.18.2020 11:53
Chloride by EPA 300 SUB: T104704400-20-21	Extracted:	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00
	Analyzed:	11.19.2020 19:51	11.19.2020 19:57	11.19.2020 20:02	11.19.2020 20:08	11.19.2020 20:13	11.19.2020 20:30
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		136 10.1	248 10.0	327 10.1	271 10.0	229 9.94	174 10.0

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



Certificate of Analysis Summary 678364

CDH Consulting, Thornton, CO

Project Name: Zeus CTB

Project Id:

Contact: Chris Del Hierro

Project Location:

Date Received in Lab: Wed 11.18.2020 16:40

Report Date: 11.24.2020 17:28

Project Manager: Irene Vann

<i>Analysis Requested</i>	<i>Lab Id:</i>	678364-013	678364-014	678364-015	678364-016		
	<i>Field Id:</i>	SH24	SH26	SH28	SH30		
	<i>Depth:</i>	24- ft	26- ft	28- ft	30- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	11.18.2020 11:53	11.18.2020 11:53	11.18.2020 11:54	11.18.2020 11:54		
Chloride by EPA 300 SUB: T104704400-20-21	<i>Extracted:</i>	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00	11.19.2020 14:00		
	<i>Analyzed:</i>	11.19.2020 20:35	11.19.2020 20:52	11.19.2020 20:57	11.19.2020 21:03		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		108 9.96	89.1 9.94	225 9.90	237 10.1		

BRL - Below Reporting Limit

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico





Analytical Report 678364

for

CDH Consulting

Project Manager: Chris Del Hierro

Zeus CTB

11.24.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

Project Manager: **Chris Del Hierro**

CDH Consulting

9446 Clermont St.
Thornton, CO 80229

Reference: Eurofins Xenco, LLC Report No(s): **678364**

Zeus CTB

Project Address:

Chris Del Hierro:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 678364. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 678364 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink, appearing to read "Erica Morales", written over a horizontal line.

Erica Morales

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 678364****CDH Consulting, Thornton, CO**

Zeus CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SH Top Soil	S	11.18.2020 11:37	0 ft	678364-001
SH2	S	11.18.2020 11:42	2 ft	678364-002
SH4	S	11.18.2020 11:44	4 ft	678364-003
SH6	S	11.18.2020 11:45	6 ft	678364-004
SH8	S	11.18.2020 11:46	8 ft	678364-005
SH10	S	11.18.2020 11:46	10 ft	678364-006
SH12	S	11.18.2020 11:47	12 ft	678364-007
SH14	S	11.18.2020 11:48	14 ft	678364-008
SH16	S	11.18.2020 11:49	16 ft	678364-009
SH18	S	11.18.2020 11:50	18 ft	678364-010
SH20	S	11.18.2020 11:52	20 ft	678364-011
SH22	S	11.18.2020 11:53	22 ft	678364-012
SH24	S	11.18.2020 11:53	24 ft	678364-013
SH26	S	11.18.2020 11:53	26 ft	678364-014
SH28	S	11.18.2020 11:54	28 ft	678364-015
SH30	S	11.18.2020 11:54	30 ft	678364-016



CASE NARRATIVE

Client Name: CDH Consulting

Project Name: Zeus CTB

Project ID:
Work Order Number(s): 678364

Report Date: 11.24.2020
Date Received: 11.18.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH Top Soil**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-001

Date Collected: 11.18.2020 11:37

Sample Depth: 0 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1240	50.2	mg/kg	11.20.2020 15:39	D	5



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH2**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-002

Date Collected: 11.18.2020 11:42

Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	173	10.1	mg/kg	11.19.2020 19:13		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH4**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-003

Date Collected: 11.18.2020 11:44

Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.7	9.98	mg/kg	11.19.2020 19:19		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH6**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-004

Date Collected: 11.18.2020 11:45

Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	36.2	10.0	mg/kg	11.19.2020 19:24		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH8**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-005

Date Collected: 11.18.2020 11:46

Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	126	10.1	mg/kg	11.19.2020 19:29		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH10**
Lab Sample Id: 678364-006

Matrix: Soil
Date Collected: 11.18.2020 11:46

Date Received: 11.18.2020 16:40
Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	137	10.0	mg/kg	11.19.2020 19:46		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH12**
Lab Sample Id: 678364-007

Matrix: Soil
Date Collected: 11.18.2020 11:47

Date Received: 11.18.2020 16:40
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	136	10.1	mg/kg	11.19.2020 19:51		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH14**
Lab Sample Id: 678364-008

Matrix: Soil
Date Collected: 11.18.2020 11:48

Date Received: 11.18.2020 16:40
Sample Depth: 14 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	248	10.0	mg/kg	11.19.2020 19:57		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH16**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-009

Date Collected: 11.18.2020 11:49

Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	327	10.1	mg/kg	11.19.2020 20:02		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH18**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-010

Date Collected: 11.18.2020 11:50

Sample Depth: 18 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	271	10.0	mg/kg	11.19.2020 20:08		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH20**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-011

Date Collected: 11.18.2020 11:52

Sample Depth: 20 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	229	9.94	mg/kg	11.19.2020 20:13		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH22**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-012

Date Collected: 11.18.2020 11:53

Sample Depth: 22 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	174	10.0	mg/kg	11.19.2020 20:30		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH24**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-013

Date Collected: 11.18.2020 11:53

Sample Depth: 24 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	108	9.96	mg/kg	11.19.2020 20:35		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH26**
Lab Sample Id: 678364-014

Matrix: Soil
Date Collected: 11.18.2020 11:53

Date Received: 11.18.2020 16:40
Sample Depth: 26 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	89.1	9.94	mg/kg	11.19.2020 20:52		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH28**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678364-015

Date Collected: 11.18.2020 11:54

Sample Depth: 28 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	225	9.90	mg/kg	11.19.2020 20:57		1



Certificate of Analytical Results 678364

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **SH30**
Lab Sample Id: 678364-016

Matrix: Soil
Date Collected: 11.18.2020 11:54

Date Received: 11.18.2020 16:40
Sample Depth: 30 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	237	10.1	mg/kg	11.19.2020 21:03		1

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



CDH Consulting Zeus CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3142887

MB Sample Id: 7715575-1-BLK

Matrix: Solid

LCS Sample Id: 7715575-1-BKS

Prep Method: E300P

Date Prep: 11.19.2020

LCSD Sample Id: 7715575-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	257	103	90-110	1	20	mg/kg	11.19.2020 18:46	

Analytical Method: Chloride by EPA 300

Seq Number: 3142887

Parent Sample Id: 678364-001

Matrix: Soil

MS Sample Id: 678364-001 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678364-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1240	248	1500	105	1500	105	90-110	0	20	mg/kg	11.20.2020 15:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3142887

Parent Sample Id: 678364-011

Matrix: Soil

MS Sample Id: 678364-011 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678364-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	229	200	438	105	440	106	90-110	0	20	mg/kg	11.19.2020 20:19	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Chain of Custody

Work Order No: 678364

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 1 of 2

Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH Consulting	Company Name:	
Address:	9446 Clermont St	Address:	
City, State ZIP:	Mountain, Co, 80229	City, State ZIP:	
Phone:	720-431-7468	Email:	Chris@CDHconsult.com

Work Order Comments	
Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	ZEUS CTB	Turn Around	
Project Number:		Routine	<input type="checkbox"/>
Project Location:		Rush:	
Sampler's Name:	Andrea Hernandez	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wet Ice:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Temperature (°C):	6.0/5.2	Thermometer ID		
Received Intact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	-0.2	
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Total Containers:	16	
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes
SH top Soil	Soil	11-18	10:37	0	1	-	Chlorides	MeOH: Me None: NO HNO3: HN H2SO4: H2 HCL: HL NaOH: Na Zn Acetate+ NaOH: Zn
SH2	Soil	11-18	11:42	2	1	-		TAT starts the day received by the lab, if received by 4:00pm
SH4	Soil	11-18	11:44	4	1	-		
SH6	Soil	11-18	11:45	6	1	-		
SH8	Soil	11-18	11:46	8	1	-		
SH10	Soil	11-18	11:46	10	1	-		
SH12	Soil	11-18	11:47	12	1	-		
SH14	Soil	11-18	11:48	14	1	-		
SH16	Soil	11-18	11:49	16	1	-		
SH18	Soil	11-18	11:50	18	1	-		

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Andrea Hernandez		11/8/20 16:40			
		2			
		4			
		6			



Chain of Custody

Work Order No: 678364

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334

Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crashtad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 2 of 2

Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH Consulting	Company Name:	
Address:	9446 Clermont St	Address:	
City, State ZIP:	Thornton, CO 80229	City, State ZIP:	
Phone:	720-431-7468	Email:	Chris@CDHconsult.com

Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:
Reporting Level: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	ZEUS CTB	Turn Around	<input type="checkbox"/>
Project Number:		Routine	<input type="checkbox"/>
Project Location		Rush:	
Sampler's Name:	Andrea Hernandez	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):						
Received Intact:	Yes	No	Thermometer ID			
Cooler Custody Seals:	Yes	No	Correction Factor:			
Sample Custody Seals:	Yes	No	Total Containers:			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers
--------	-----------------------	--------	--------------	--------------	-------	----------------------

SH 20	Soil	11-18	11:52	20'	1	
SH 22	Soil	11-18	11:53	22'	1	
SH 24	Soil	11-18	11:53	24'	1	
SH 26	Soil	11-18	11:53	26'	1	
SH 28	Soil	11-18	11:54	28'	1	
SH 30	Soil	11-18	11:54	30'	1	

ANALYSIS REQUEST													Preservative Codes	
													MeOH: Me	
													None: NO	
													HNO3: HN	
													H2SO4: H2	
													HCL: HL	
													NaOH: Na	
													Zn Acetate+ NaOH: Zn	
													TAT starts the day received by the lab, if received by 4:00pm	
													Sample Comments	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Andrea Hernandez		11/18/20 16:40			

Revised Date 02/26/19 Rev 2019.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: CDH Consulting

Date/ Time Received: 11.18.2020 04.40.00 PM

Work Order #: 678364

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:



Martha Castro

Date: 11.18.2020

Checklist reviewed by:



Irene Vann

Date: 11.19.2020



Analytical Report 678369

for

CDH Consulting

Project Manager: Chris Del Hierro

Zeus CTB

11.24.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.24.2020

Project Manager: **Chris Del Hierro**

CDH Consulting

9446 Clermont St.
Thornton, CO 80229

Reference: Eurofins Xenco, LLC Report No(s): **678369**

Zeus CTB

Project Address: Thornton, CO 80229

Chris Del Hierro:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 678369. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by Eurofins Xenco, LLC. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 678369 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Eurofins Xenco, LLC to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink, appearing to read "Erica Morales", written over a horizontal line.

Erica Morales

Project Manager

A Small Business and Minority Company

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

**Sample Cross Reference 678369****CDH Consulting, Thornton, CO**

Zeus CTB

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
TH Top Soil	S	11.18.2020 12:13	0 ft	678369-001
TH2	S	11.18.2020 12:19	2 ft	678369-002
TH4	S	11.18.2020 12:19	4 ft	678369-003
TH6	S	11.18.2020 12:19	6 ft	678369-004
TH8	S	11.18.2020 12:20	8 ft	678369-005
TH10	S	11.18.2020 12:20	10 ft	678369-006
TH12	S	11.18.2020 12:21	12 ft	678369-007
TH14	S	11.18.2020 12:21	14 ft	678369-008
TH16	S	11.18.2020 12:22	16 ft	678369-009
TH18	S	11.18.2020 12:22	18 ft	678369-010
TH20	S	11.18.2020 12:23	20 ft	678369-011
TH22	S	11.18.2020 12:24	22 ft	678369-012
TH24	S	11.18.2020 12:25	24 ft	678369-013
TH26	S	11.18.2020 12:25	26 ft	678369-014
TH28	S	11.18.2020 12:26	28 ft	678369-015
TH30	S	11.18.2020 12:26	30 ft	678369-016



CASE NARRATIVE

Client Name: CDH Consulting

Project Name: Zeus CTB

Project ID:

Work Order Number(s): 678369

Report Date: 11.24.2020

Date Received: 11.18.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH Top Soil**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-001

Date Collected: 11.18.2020 12:13

Sample Depth: 0 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10700	201	mg/kg	11.19.2020 21:08		20



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH2** Matrix: Soil Date Received: 11.18.2020 16:40
Lab Sample Id: 678369-002 Date Collected: 11.18.2020 12:19 Sample Depth: 2 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 11.19.2020 14:00 % Moisture:
Seq Number: 3142887 Basis: Wet Weight
SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.7	10.0	mg/kg	11.19.2020 21:14		1



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH4** Matrix: Soil Date Received: 11.18.2020 16:40
Lab Sample Id: 678369-003 Date Collected: 11.18.2020 12:19 Sample Depth: 4 ft
Analytical Method: Chloride by EPA 300 Prep Method: E300P
Tech: MAB
Analyst: MAB Date Prep: 11.19.2020 14:00 % Moisture:
Seq Number: 3142887 Basis: Wet Weight
SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	24.4	9.98	mg/kg	11.19.2020 21:19		1



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH6**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-004

Date Collected: 11.18.2020 12:19

Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:00

% Moisture:

Basis: Wet Weight

Seq Number: 3142887

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.5	10.0	mg/kg	11.19.2020 21:24		1



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH8**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-005

Date Collected: 11.18.2020 12:20

Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	299	9.92	mg/kg	11.19.2020 21:57		1



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH10**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-006

Date Collected: 11.18.2020 12:20

Sample Depth: 10 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7150	100	mg/kg	11.19.2020 22:14		10



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH12**
Lab Sample Id: 678369-007

Matrix: Soil
Date Collected: 11.18.2020 12:21

Date Received: 11.18.2020 16:40
Sample Depth: 12 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:
Basis: Wet Weight
SUB: T104704400-20-21

Seq Number: 3142889

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13800	99.4	mg/kg	11.19.2020 22:19		10



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH14**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-008

Date Collected: 11.18.2020 12:21

Sample Depth: 14 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8590	200	mg/kg	11.19.2020 22:25		20



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH16**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-009

Date Collected: 11.18.2020 12:22

Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9740	199	mg/kg	11.19.2020 22:30		20



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH18**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-010

Date Collected: 11.18.2020 12:22

Sample Depth: 18 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9790	200	mg/kg	11.19.2020 22:47		20



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH20**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-011

Date Collected: 11.18.2020 12:23

Sample Depth: 20 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10500	200	mg/kg	11.19.2020 22:52		20



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH22**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-012

Date Collected: 11.18.2020 12:24

Sample Depth: 22 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9470	202	mg/kg	11.19.2020 22:58		20



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH24**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-013

Date Collected: 11.18.2020 12:25

Sample Depth: 24 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6620	100	mg/kg	11.19.2020 23:03		10



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH26**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-014

Date Collected: 11.18.2020 12:25

Sample Depth: 26 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7800	99.2	mg/kg	11.19.2020 23:09		10



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH28**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-015

Date Collected: 11.18.2020 12:26

Sample Depth: 28 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6670	99.2	mg/kg	11.19.2020 23:14		10



Certificate of Analytical Results 678369

CDH Consulting, Thornton, CO

Zeus CTB

Sample Id: **TH30**

Matrix: Soil

Date Received: 11.18.2020 16:40

Lab Sample Id: 678369-016

Date Collected: 11.18.2020 12:26

Sample Depth: 30 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.19.2020 14:30

% Moisture:

Basis: Wet Weight

Seq Number: 3142889

SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5500	100	mg/kg	11.19.2020 23:30		10

Flagging Criteria

- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



CDH Consulting Zeus CTB

Analytical Method: Chloride by EPA 300

Seq Number: 3142887

MB Sample Id: 7715575-1-BLK

Matrix: Solid

LCS Sample Id: 7715575-1-BKS

Prep Method: E300P

Date Prep: 11.19.2020

LCSD Sample Id: 7715575-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	257	103	90-110	1	20	mg/kg	11.19.2020 18:46	

Analytical Method: Chloride by EPA 300

Seq Number: 3142889

MB Sample Id: 7715576-1-BLK

Matrix: Solid

LCS Sample Id: 7715576-1-BKS

Prep Method: E300P

Date Prep: 11.19.2020

LCSD Sample Id: 7715576-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	258	103	257	103	90-110	0	20	mg/kg	11.19.2020 21:46	

Analytical Method: Chloride by EPA 300

Seq Number: 3142887

Parent Sample Id: 678364-001

Matrix: Soil

MS Sample Id: 678364-001 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678364-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1240	248	1500	105	1500	105	90-110	0	20	mg/kg	11.20.2020 15:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3142887

Parent Sample Id: 678364-011

Matrix: Soil

MS Sample Id: 678364-011 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678364-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	229	200	438	105	440	106	90-110	0	20	mg/kg	11.19.2020 20:19	

Analytical Method: Chloride by EPA 300

Seq Number: 3142889

Parent Sample Id: 678369-005

Matrix: Soil

MS Sample Id: 678369-005 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678369-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	299	199	516	109	506	106	90-110	2	20	mg/kg	11.19.2020 22:03	

Analytical Method: Chloride by EPA 300

Seq Number: 3142889

Parent Sample Id: 678369-015

Matrix: Soil

MS Sample Id: 678369-015 S

Prep Method: E300P

Date Prep: 11.19.2020

MSD Sample Id: 678369-015 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6670	199	6860	95	6860	95	90-110	0	20	mg/kg	11.19.2020 23:20	

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Chain of Custody

Work Order No: 678369

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 1 of 2

Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH Consulting	Company Name:	
Address:	9446 Cleymont St	Address:	
City, State ZIP:	Thomton CO 80229	City, State ZIP:	
Phone:	720-431-7468	Email:	chris@cdhconsult.com

Program: UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>
State of Project:
Reporting Level I <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>
Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:

Project Name:	Zeus CTB	Turn Around	<input checked="" type="checkbox"/>
Project Number:		Routine	<input checked="" type="checkbox"/>
Project Location:		Rush:	
Sampler's Name:	Andrea Hernandez	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes/No	Wet Ice:	Yes/No
Temperature (°C):	0.0/5.8			
Receptacle Intact:	Yes/No	Thermometer ID		
Cooler Custody Seals:	Yes/No	Correction Factor:		
Sample Custody Seals:	Yes/No	Total Containers:		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers
--------	-----------------------	--------	--------------	--------------	-------	----------------------

TH1	TH2	TH3	TH4	TH5	TH6	TH7	TH8	TH9	TH10	TH11	TH12	TH13	TH14	TH15	TH16	TH17	TH18
Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B	11-1B
12:13	12:19	12:19	12:19	12:19	12:19	12:19	12:20	12:20	12:20	12:21	12:21	12:21	12:21	12:21	12:21	12:21	12:22
0	2	4	4	6	6	6	8	10	10	12	12	14	14	14	14	14	18
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Chlorides

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
 None: NO
 HNO3: HN
 H2SO4: H2
 HCL: HL
 NaOH: Na
 Zn Acetate+ NaOH: Zn

TAT starts the day received by the lab, if received by 4:00pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		11/18/20 16:40			
		2			
		4			
		6			

Revised Date 022819 Rev. 2019.1



Chain of Custody

Work Order No: 678369

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Cashtad, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 699-6701

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Project Manager:	Chris Del Hierro	Bill to: (if different)	
Company Name:	CDH Consulting	Company Name:	
Address:	4446 Clermont St	Address:	
City, State ZIP:	Thornton CO 80229	City, State ZIP:	
Phone:	720-431-7468	Email:	Chris@cdhconsult.com

Work Order Comments	
Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/>	
State of Project:	
Reporting Level: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>	
Deliverables: <input type="checkbox"/> EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	

Project Name:	ZEUS CTB	Turn Around	
Project Number:		Routine	<input checked="" type="checkbox"/>
Project Location:		Rush:	
Sampler's Name:	Andrea Hernandez	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):						
Received Intact:	Yes	No		Thermometer ID		
Cooler Custody Seals:	Yes	No		Correction Factor:		
Sample Custody Seal:	Yes	No		Total Containers:		

Chlorides

Tab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST																Preservative Codes		Sample Comments
TH20	Soil	11-18	12:23	20	1	-																			
TH22	Soil	11-18	12:24	22	1	-																			
TH24	Soil	11-18	12:25	24	1	-																			
TH26	Soil	11-18	12:25	26	1	-																			
TH28	Soil	11-18	12:26	28	1	-																			
TH30	Soil	11-18	12:26	30	1	-																			

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11	Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed		TCIP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Andrea Hernandez		11/18/20 16:40			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: CDH Consulting

Date/ Time Received: 11.18.2020 04.40.00 PM

Work Order #: 678369

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:



Martha Castro

Date: 11.18.2020

Checklist reviewed by:



Irene Vann

Date: 11.19.2020



CDH Consulting, LLC
Thornton, Colorado
720.431.7468
www.CDHConsult.com

FIGURE 1



Tap Rock Resources
Zeus Spill Initial Excavation Extent and Sample Location Map



Legend

- ⊗ Sidewall Sample
- ◆ Pothole Sample
- Background Sample

- ⊗ Groundwater Monitoring Well
- ◆ Soil Borings
- ▭ Composite Sample

Date Created: 11/24/2020

Location: T24S R33E S16 NWNE, Lea County, NM



0 25 50 75 100
 Feet

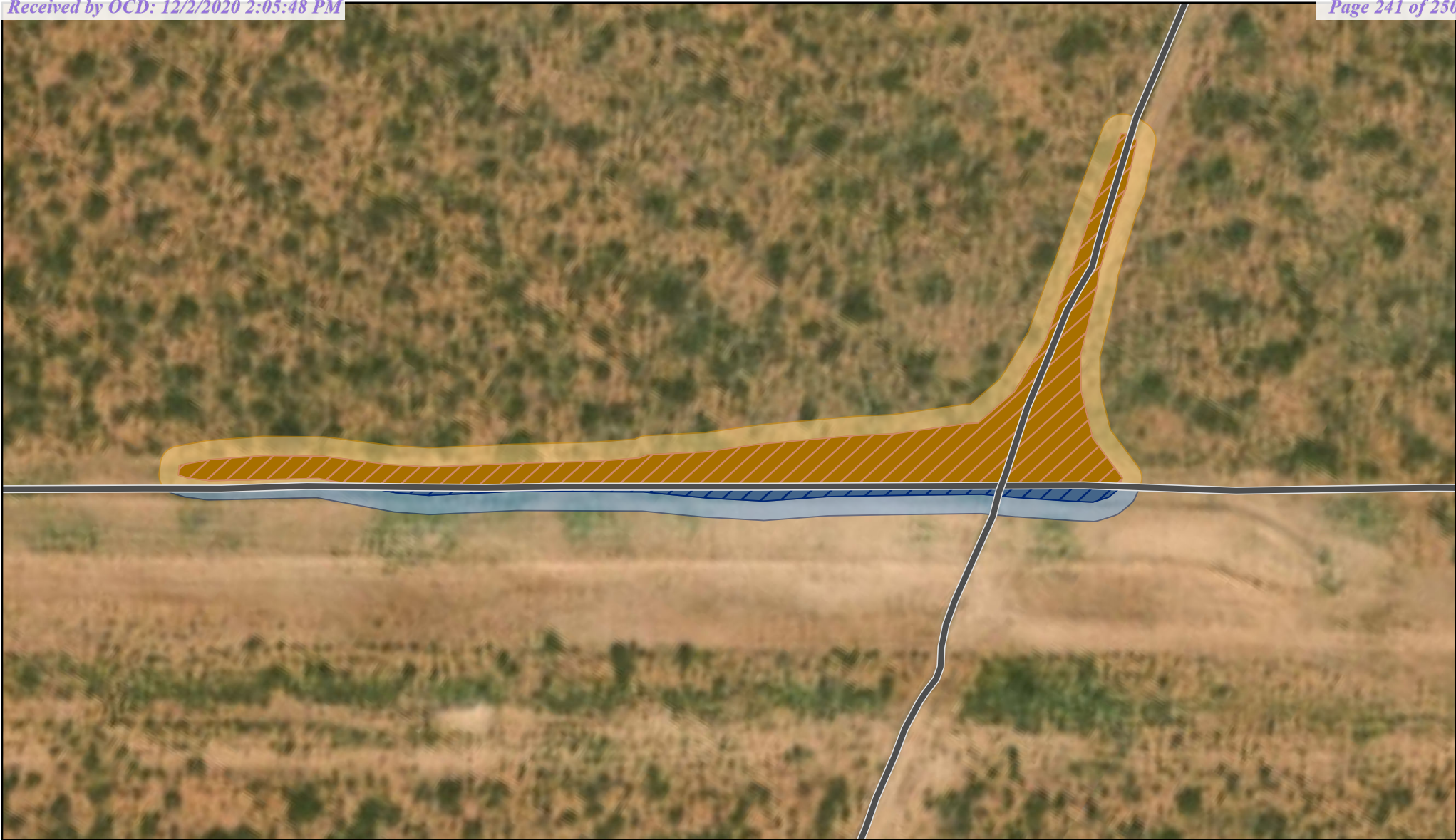
Figure 1

Note:
 All locations approximate
 unless otherwise noted.
 Additional excavation area is
 approximately 10 ft on all
 sides, and 10 ft depth.



CDH Consulting, LLC
Thornton, Colorado
720.431.7468
www.CDHConsult.com

FIGURE 2



Tap Rock Resources
Zeus Spill Initial Excavation Extent and Area Requiring Further Excavation



Legend	
Current Excavated Area	Further Excavation Required
Hydrovac	Hydrovac
Standard	Standard
Pipeline	
Date Created: 11/30/2020	Location: T24S R33E S16 NWNE, Lea County, NM

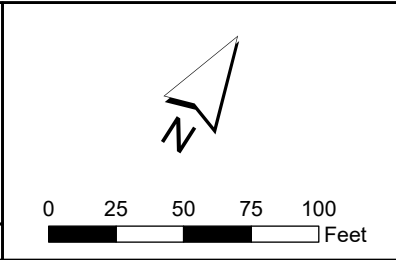


Figure 2

Note:
All locations approximate unless otherwise noted.
Additional excavation area is approximately 10 ft on all sides, and 10 ft depth.



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TABLE 1

ZEUS SWD LINE FIELD NOTES

Sample ID	Date Sampled	Depth (ft. bgs)	PID
S1	9/23/2020	24"	0.2
S2	9/23/2020	24"	0.2
S3	9/23/2020	30"	0.2
S4	9/23/2020	48"	0.2
S5	9/23/2020	56"	0.3
S6	9/23/2020	56"	0.3
S7	9/23/2020	56"	0.2
S8	9/23/2020	24"	0.3
S9	9/23/2020	24"	0.3
S10	9/23/2020	24"	0.4
S11	9/23/2020	24"	0.2
S12	9/23/2020	24"	0.5
S13	9/23/2020	24"	0.2
S14	9/23/2020	24"	0.3
S15	9/23/2020	24"	0.2
S16	9/23/2020	24"	0.2
S17	9/23/2020	24"	0.2
S18	9/23/2020	Side wall 24"	0.5
S19	9/23/2020	Side wall 24"	0.4
S20	9/23/2020	Side wall 24"	0.4
S21	9/23/2020	Side wall 24"	0.5
S22	9/23/2020	Side wall 24"	0.5
S23	9/23/2020	BG 1	0.3
S24	9/23/2020	BG 2	0.3



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TABLE 2

ZEUS SWD LINE ANALYTICAL TABLE

Sample ID	Date Sampled	Depth (in. bgs)	Chlorides (mg/kg)	TPH ⁽²⁾	BTEX (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
NMOCD Table I Soil Standard (mg/kg) ⁽¹⁾			600 mg/kg	100 mg/kg	50 mg/kg	10 mg/kg			
S-1	9/23/2020	24	2490	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-2	9/23/2020	24	8010	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-3	9/23/2020	30	11000	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-4	9/23/2020	48	7250	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-5	9/23/2020	56	5160	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-6	9/23/2020	56	6230	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-7	9/23/2020	56	6060	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-8	9/23/2020	24	442	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-9	9/23/2020	24	5810	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-10	9/23/2020	24	6210	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-11	9/23/2020	24	6570	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-12	9/23/2020	24	2070	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-13	9/23/2020	24	174	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-14	9/23/2020	24	1250	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-15	9/23/2020	24	4540	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-16	9/23/2020	24	2880	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-17	9/23/2020	24	4450	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-18	9/23/2020	24	6940	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-19	9/23/2020	24	6980	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-20	9/23/2020	24	7390	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-21	9/23/2020	24	407	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-22	9/23/2020	24	5050	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-23	9/23/2020	24	4.82	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
S-24	9/23/2020	24	4.76	< 50	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
PH-001	10/26/2020	68	< 10.1	NA	NA	NA	NA	NA	NA
PH-002	10/26/2020	58	12.6	NA	NA	NA	NA	NA	NA
PH-003	10/26/2020	65	< 10.0	NA	NA	NA	NA	NA	NA
PH-004	10/26/2020	62	< 9.98	NA	NA	NA	NA	NA	NA
PH-005	10/26/2020	50	20.4	NA	NA	NA	NA	NA	NA
PH-006	10/26/2020	60	10.1	NA	NA	NA	NA	NA	NA
PH-007	10/26/2020	65	45.0	NA	NA	NA	NA	NA	NA
PH-008	10/26/2020	60	12.4	NA	NA	NA	NA	NA	NA
PH-009	10/26/2020	79	< 9.98	NA	NA	NA	NA	NA	NA
PH-010	10/26/2020	76	< 10.1	NA	NA	NA	NA	NA	NA
PH-011	10/26/2020	78	10400	NA	NA	NA	NA	NA	NA
PH-012	10/26/2020	128	9540	NA	NA	NA	NA	NA	NA
PH-013	10/26/2020	78	7600	NA	NA	NA	NA	NA	NA
EPH-014	10/26/2020	128	8000	NA	NA	NA	NA	NA	NA

ZEUS SWD LINE ANALYTICAL TABLE

Sample ID	Date Sampled	Depth (in. bgs)	Chlorides (mg/kg)	TPH ⁽²⁾	BTEX (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
NMOCD Table I Soil Standard (mg/kg)⁽¹⁾			600 mg/kg	100 mg/kg	50 mg/kg	10 mg/kg			
EPH-015	10/26/2020	63	11700	NA	NA	NA	NA	NA	NA
EPH-016	10/26/2020	79	11100	NA	NA	NA	NA	NA	NA
EPH-017	10/26/2020	68	9220	NA	NA	NA	NA	NA	NA
EPH-018	10/26/2020	76	11000	NA	NA	NA	NA	NA	NA
EPH-019	10/26/2020	62	11200	NA	NA	NA	NA	NA	NA
EPH-020	10/26/2020	84	11100	NA	NA	NA	NA	NA	NA
EPH-021	10/26/2020	68	11100	NA	NA	NA	NA	NA	NA
EPH-022	10/26/2020	88	11300	NA	NA	NA	NA	NA	NA
EPH-023	10/26/2020	73	9320	NA	NA	NA	NA	NA	NA
EPH-024	10/26/2020	78	8390	NA	NA	NA	NA	NA	NA
H Top Soil	11/18/2020	0	18600	NA	NA	NA	NA	NA	NA
H2	11/18/2020	24	7350	NA	NA	NA	NA	NA	NA
H4	11/18/2020	48	3990	NA	NA	NA	NA	NA	NA
H6	11/18/2020	72	2600	NA	NA	NA	NA	NA	NA
H8	11/18/2020	96	3130	NA	NA	NA	NA	NA	NA
H10	11/18/2020	120	3650	NA	NA	NA	NA	NA	NA
H12	11/18/2020	144	7680	NA	NA	NA	NA	NA	NA
H14	11/18/2020	168	6280	NA	NA	NA	NA	NA	NA
H16	11/18/2020	192	8290	NA	NA	NA	NA	NA	NA
H18	11/18/2020	216	9010	NA	NA	NA	NA	NA	NA
H20	11/18/2020	240	9210	NA	NA	NA	NA	NA	NA
H22	11/18/2020	264	9670	NA	NA	NA	NA	NA	NA
H24	11/18/2020	288	8060	NA	NA	NA	NA	NA	NA
H26	11/18/2020	312	1610	NA	NA	NA	NA	NA	NA
H28	11/18/2020	336	844	NA	NA	NA	NA	NA	NA
H30	11/18/2020	360	544	NA	NA	NA	NA	NA	NA
H32	11/18/2020	384	1570	NA	NA	NA	NA	NA	NA
H34	11/18/2020	408	1060	NA	NA	NA	NA	NA	NA
SH Top Soil	11/18/2020	0	1240	NA	NA	NA	NA	NA	NA
SH2	11/18/2020	24	173	NA	NA	NA	NA	NA	NA
SH4	11/18/2020	48	19.7	NA	NA	NA	NA	NA	NA
SH6	11/18/2020	72	36.2	NA	NA	NA	NA	NA	NA
SH8	11/18/2020	96	126	NA	NA	NA	NA	NA	NA
SH10	11/18/2020	120	137	NA	NA	NA	NA	NA	NA
SH12	11/18/2020	144	136	NA	NA	NA	NA	NA	NA
SH14	11/18/2020	168	248	NA	NA	NA	NA	NA	NA
SH16	11/18/2020	192	327	NA	NA	NA	NA	NA	NA
SH18	11/18/2020	216	271	NA	NA	NA	NA	NA	NA

ZEUS SWD LINE ANALYTICAL TABLE

Sample ID	Date Sampled	Depth (in. bgs)	Chlorides (mg/kg)	TPH ⁽²⁾	BTEX (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
NMOCD Table I Soil Standard (mg/kg)⁽¹⁾			600 mg/kg	100 mg/kg	50 mg/kg	10 mg/kg			
SH20	11/18/2020	240	229	NA	NA	NA	NA	NA	NA
SH22	11/18/2020	264	174	NA	NA	NA	NA	NA	NA
SH24	11/18/2020	288	108	NA	NA	NA	NA	NA	NA
SH26	11/18/2020	312	89.1	NA	NA	NA	NA	NA	NA
SH28	11/18/2020	336	225	NA	NA	NA	NA	NA	NA
SH30	11/18/2020	360	237	NA	NA	NA	NA	NA	NA
TH Top Soil	11/18/2020	0	10700	NA	NA	NA	NA	NA	NA
TH2	11/18/2020	24	27.7	NA	NA	NA	NA	NA	NA
TH4	11/18/2020	48	24.4	NA	NA	NA	NA	NA	NA
TH6	11/18/2020	72	25.5	NA	NA	NA	NA	NA	NA
TH8	11/18/2020	96	299	NA	NA	NA	NA	NA	NA
TH10	11/18/2020	120	7150	NA	NA	NA	NA	NA	NA
TH12	11/18/2020	144	13800	NA	NA	NA	NA	NA	NA
TH14	11/18/2020	168	8590	NA	NA	NA	NA	NA	NA
TH16	11/18/2020	192	9740	NA	NA	NA	NA	NA	NA
TH18	11/18/2020	216	9790	NA	NA	NA	NA	NA	NA
TH20	11/18/2020	240	10500	NA	NA	NA	NA	NA	NA
TH22	11/18/2020	264	9470	NA	NA	NA	NA	NA	NA
TH24	11/18/2020	288	6620	NA	NA	NA	NA	NA	NA
TH26	11/18/2020	312	7800	NA	NA	NA	NA	NA	NA
TH28	11/18/2020	336	6670	NA	NA	NA	NA	NA	NA
TH30	11/18/2020	360	5500	NA	NA	NA	NA	NA	NA
WW2	11/18/2020	24	11.3	NA	NA	NA	NA	NA	NA
WW4	11/18/2020	48	363	NA	NA	NA	NA	NA	NA
WW6	11/18/2020	72	501	NA	NA	NA	NA	NA	NA
WW8	11/18/2020	96	786	NA	NA	NA	NA	NA	NA
WW10	11/18/2020	120	255	NA	NA	NA	NA	NA	NA
WW12	11/18/2020	144	1110	NA	NA	NA	NA	NA	NA
WW14	11/18/2020	168	785	NA	NA	NA	NA	NA	NA
WW16	11/18/2020	192	5250	NA	NA	NA	NA	NA	NA
WW18	11/18/2020	216	8660	NA	NA	NA	NA	NA	NA
WW20	11/18/2020	240	9690	NA	NA	NA	NA	NA	NA
WW22	11/18/2020	264	9340	NA	NA	NA	NA	NA	NA
WW24	11/18/2020	288	11500	NA	NA	NA	NA	NA	NA
WW26	11/18/2020	312	5990	NA	NA	NA	NA	NA	NA
WW28	11/18/2020	336	198	NA	NA	NA	NA	NA	NA
WW30	11/18/2020	360	704	NA	NA	NA	NA	NA	NA
WW32	11/18/2020	384	516	NA	NA	NA	NA	NA	NA

ZEUS SWD LINE ANALYTICAL TABLE

Sample ID	Date Sampled	Depth (in. bgs)	Chlorides (mg/kg)	TPH ⁽²⁾	BTEX (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)
NMOCD Table I Soil Standard (mg/kg) ⁽¹⁾			600 mg/kg	100 mg/kg	50 mg/kg	10 mg/kg			
WW34	11/18/2020	408	336	NA	NA	NA	NA	NA	NA
WW36	11/18/2020	432	322	NA	NA	NA	NA	NA	NA
WW38	11/18/2020	456	198	NA	NA	NA	NA	NA	NA
WW40	11/18/2020	480	802	NA	NA	NA	NA	NA	NA
WW42	11/18/2020	504	159	NA	NA	NA	NA	NA	NA
WW44	11/18/2020	528	258	NA	NA	NA	NA	NA	NA
WW46	11/18/2020	552	179	NA	NA	NA	NA	NA	NA
WW48	11/18/2020	576	156	NA	NA	NA	NA	NA	NA
WW50	11/18/2020	600	199	NA	NA	NA	NA	NA	NA
WW52	11/18/2020	624	206	NA	NA	NA	NA	NA	NA
WW54	11/18/2020	648	151	NA	NA	NA	NA	NA	NA
WW55	11/18/2020	660	163	NA	NA	NA	NA	NA	NA
WW Top Soil	11/18/2020	0	7820	NA	NA	NA	NA	NA	NA

Notes:

- 1. Standards for soil are taken from 19.15.29.12(C)(4) NMAC, Table I, Depth to ground water 51 - 100 ft
- 2. TPH - total volatile and extractable hydrocarbons. Value calculated by adding GRO, DRO and MRO concentrations

BOLD = Result above closure criteria

NMOCD = New Mexico Oil Conservation Divison

(<) = Analytical result is less than the indicated laboratory reporting limit

GRO = Total volatile petroleum hydrocarbons - gasoline range organics

DRO = Total volatile petroleum hydrocarbons - diesel range organics

MRO = Total volatile petroleum hydrocarbons - motor oil/lube range organics

BTEX = Total benzene, toluene, ethlybenzene, and total xylenes

mg/kg = Milligrams per kilogram

in. = inch

ft = Feet

bgs = Below ground surface

NA = Constituent not analyzed

District I

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District II

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District III

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District IV

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Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

COMMENTS

Action 11396

COMMENTS

Operator:		OGRID:		Action Number:		Action Type:	
TAP ROCK OPERATING, LLC	523 Park Point Drive	372043		11396		C-141	
Suite 200	Golden, CO80401						

Created By	Comment	Comment Date
ceads	Remediation Plan conditionally approved. Deferral request denied.	02/05/2021

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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 11396

CONDITIONS OF APPROVAL

Operator: TAP ROCK OPERATING, LLC Suite 200 Golden, CO80401		523 Park Point Drive	OGRID: 372043	Action Number: 11396	Action Type: C-141
OCD Reviewer	Condition				
ceads	In areas where total depth of excavation are less than 4' and exceed NMOCD reclamation standards and areas where confirmation and pothole samples collected from depths greater than 4' exceed applicable Table I Closure Criteria, a liner will need to be installed.				
ceads	Additional sidewall samples must be collected to acheive horizontal delineation for all sides of the excavaiton. Sidewall samples collected within the top 4 feet of excavation should meet reclamation standards.				
ceads	Please complete page 5 of C-141 form in next submittal.				