District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NPAC0721134644
District RP	1RP-1498
Facility ID	30-025-03831
Application ID	pPAC0721134710

Release Notification

Responsible Party

Responsible Party: Chevron USA Inc.	OGRID 4323
Contact Name: Jason Michelson	Contact Telephone 832.854.5601
Contact email: jmichelson@chevron.com	Incident # *(assigned by OCD)* NPAC0721134644
Contact mailing address: 1500 Louisiana St. Houston, TX 77002	

Location of Release Source

Latitude 32.865882885 Longitude -103.309097904
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Lovington Paddock Unit 60	Site Type: Injection Well
Date Release Discovered: 7/13/2007	API# *(if applicable):* 30-025-03831

Unit Letter	Section	Township	Range	County
F	1	17S	36E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (*Name:* City of Lovington)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls): 50 bbls	Volume Recovered (bbls): 0 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	☒ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: The water injection trunkline and cement lined nipple failed resulting in the release of an estimated 50 bbls of produced water shortly before midnight. Low pressure alarm activated resulting in call out of lease operator. Leak was isolated and determined no recovery of fluid was possible. Release impacted sandy soil with heavy grass vegetation. City of Lovington personnel were notified Saturday July 14. Emergency one call and excavation of immediate impacted area was conducted Saturday July 14. Initial site assessment has been conducted and delineation plan has been approved.

Chlorides 38,000 Oil Gravity 38

State of New Mexico
Oil Conservation Division

Incident ID	NPAC0721134644
District RP	1RP-1498
Facility ID	30-025-03831
Application ID	pPAC0721134710

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release was greater than 25 bbls

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Yes, Gary Wink was contacted on 7/14/2007

Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

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: __Jason Michelson_____ Title: ___Operations Lead_____

Signature: _____ _____ Date: _9/15/22_____

email: ____jmichelson@chevron.com_____ Telephone: _____832.854.5601_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NPAC0721134644
District RP	1RP-1498
Facility ID	30-025-03831
Application ID	pPAC0721134710

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?	107 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
☒ Field data
☒ Data table of soil contaminant concentration data
☒ Depth to water determination
☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
☒ Boring or excavation logs
☐ Photographs including date and GIS information
☒ Topographic/Aerial maps
☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 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

Incident ID	NPAC0721134644
District RP	1RP-1498
Facility ID	30-025-03831
Application ID	pPAC0721134710

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: __Jason Michelson_____ Title: ___Operations Lead_____

Signature: _____ _____ Date: ___9/15/22_____

email: ____jmichelson@chevron.com_____ Telephone: _____832.854.5601_____

OCD Only

Received by: Jocelyn Harimon Date: 09/22/2022

State of New Mexico
Oil Conservation Division

Incident ID	NPAC0721134644
District RP	1RP-1498
Facility ID	30-025-03831
Application ID	pPAC0721134710

Remediation Plan

Remediation Plan Checklist: ***Each of the following items must be included in the plan.***

☒ Detailed description of proposed remediation technique
☒ Scaled sitemap with GPS coordinates showing delineation points
☒ Estimated volume of material to be remediated
☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: ***Each of the following items must be confirmed as part of any request for deferral of remediation.***

☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☐ Extents of contamination must be fully delineated.

☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: __Jason Michelson_____ Title: ___Operations Lead_____

Signature: _____ _____ Date: ____9/15/22_____

email: ____jmichelson@chevron.com_____ Telephone: _____832.854.5601_____

OCD Only

Received by: Jocelyn Harimon Date: 09/22/2022

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

Signature: _____ Date: _____

Jason Michelson
Project Manager

Chevron Environmental Management Company
1500 Louisiana Street, #38116
Houston, Texas 77002
Work: 832-854-5601
Cell: 281-660-8564
jmichelson@chevron.com

January 10, 2020

New Mexico Oil Conservation Division, District 1
1625 N. French Drive
Hobbs, NM 88240

Re: Lovington Paddock Unit No. 60 Well Site
Case No. 1RP-1498
2018 Site Assessment Report
Lea County, New Mexico

Dear whom it concerns,

Please find enclosed for your files, copies of the following report:

- Lovington Paddock Unit No. 60 Well Site 1RP-1498 2018 Site Assessment Report

The submittal was prepared by GHD Services, Inc. (GHD) on behalf of Chevron Environmental Management Company (CEMC).

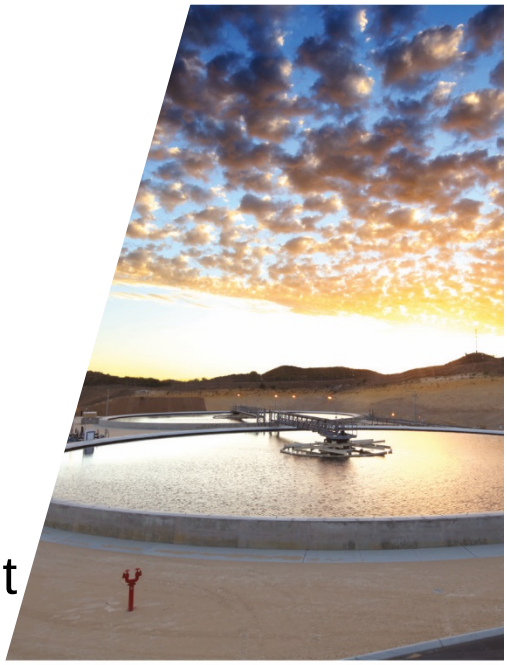
Please do not hesitate to call Scott Foord with Arcadis U.S., Inc., the current consultant, at 713-953-4853 or myself at 832-854-5601, should you have any questions.

Sincerely,

Jason Michelson

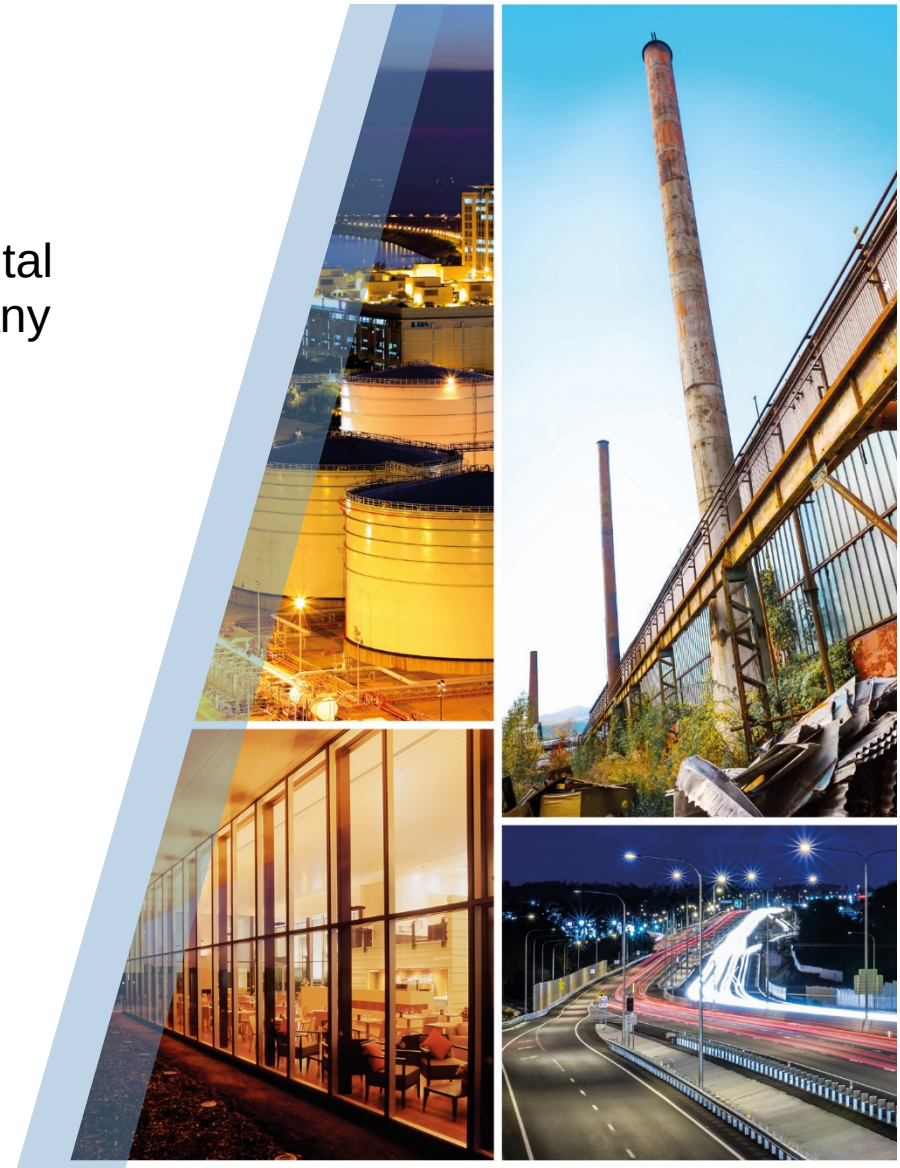
Encl. Lovington Paddock Unit No. 60 Well Site 1RP-1498 2018 Site Assessment Report

C.C. Amy Barnhill, Chevron/MCBU



2018 Site Assessment Report

Lovington Paddock Unit 60
Produced Water Release
RP-1498
Lea County, New Mexico



Chevron Environmental Management Company

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1. Introduction

On behalf of Chevron Environmental Management Company (CEMC), GHD Services Inc. (GHD) has prepared this report summarizing site assessment activities conducted at the Lovington Paddock Unit (LPU) 60 site (hereafter referred to as the "Site"). The Site is located in Unit F, Section 1, Township 17 South, Range 36 East, approximately 5 miles southeast of the City of Lovington (COL) in Lea County, New Mexico. The land surface is owned by the COL, and the minerals are managed by the State of New Mexico. The location of the Site is identified on the vicinity map on Figure 1 and on the aerial map on Figure 2.

2. Regulatory Criteria

2.1 Soil

Historical subsurface investigation activities were completed in accordance with the Guidelines for Remediation of Leaks, Spills, and Releases Rule 19.15.29 New Mexico Administrative Code (NMAC) from the New Mexico Oil Conservation Division (NMOCD) dated August 13, 1993. The former the site-specific Recommended Remedial Action Levels (RRALs) previously applied to this location by the NMOCD were 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total BTEX, 100 mg/kg for total TPH, and ranging from 250 to 600 mg/kg historically for chloride.

Rule 19.15.29 was revised and reissued on August 14, 2018. The following criteria (below) from Table 1 within NMAC 19.15.29.12 were utilized to determine site-specific screening limits.

Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/l TDS	Constituent	Limit*
>100 feet	Chloride**	20,000 mg/kg
	TPH (GRO+DRO+MRO)	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

* Numerical limits or natural background level, whichever is greater.

** This applies to release of produced water or other fluids which may contain chloride.

Localized depth to groundwater was confirmed to be approximately 107 feet below ground surface (bgs) in 2018 based on the gauging data collected from site monitoring wells MW-1 and MW-2. The boring log for recently installed MW-2 is included in Appendix A. Additionally, information available from various sources including the Petroleum Recovery Research Center (PRRC) Mapping Portal, currently managed groundwater site(s) data by GHD, and the United States Geological Survey (USGS) Current Water Database for the Nation, concludes:

1. the depth to groundwater at the Site is greater than 100-feet bgs;
2. the site is not within 300 feet of any continuously flowing watercourse;

3. the site is not within 200 feet of any lakebed, sinkhole or playa lake;
4. the site is not within 300 feet of an occupied permanent residence, school, etc.;
5. the site is not within 500 feet of a spring or private, domestic fresh water well;
6. the site is not within 1,000 feet of any fresh water well or spring;
7. the site is not within incorporated municipal boundaries or within a defined municipal fresh water well field;
8. the site is not within 300 feet of a wetland;
9. the site is not within an area overlying a subsurface mine;
10. the site is not within an unstable area; and
11. the site is not within a 100-year floodplain.

Consequently, the anticipated site-specific screening limits to be applied to this location by the NMOCD based on the revised Rule are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 2,500 mg/kg for total TPH, and 20,000 mg/kg for chloride.

Per 19.15.29.13, Restoration, Reclamation, and Re-vegetation, the impacted area must be remediated a minimum of 4-feet bgs with non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg. Soil cover must consist of topsoil at a thickness comparable to background topsoil thicknesses, or one foot of suitable earthen material capable of establishing and maintaining vegetation at the site. Reclamation is considered complete when all disturbed areas have established vegetative cover with a life-form ratio of plus or minus 50 percent of pre-remedial levels, and plant cover of a minimum of 70 percent of previous levels, excluding noxious weeds.

2.2 Groundwater

The NMOCD provides guidance for remediation of contaminants of oil field wastes or products in Guidelines for Remediation of Leaks, Spills, and Releases (August 13, 1993). The guidance requires remediation of groundwater to the human health standards of the New Mexico Water Quality Control Commission (NMWQCC) set forth in New Mexico Administrative Code 20.6.2.3103. Standards for chloride and total dissolved solids (TDS) are listed below.

Analyte	NMWQCC Standard for Groundwater (mg/L)
Chloride	250
TDS	1,000

3. Background

CEMC submitted a C-141 Form to the NMOCD dated July 24, 2007 reporting a release of approximately 50 barrels of produced brine from the failure of a water injection trunkline. The approximate affected area was estimated at 2,950 square feet. NMOCD incident number RP-1498 was assigned by the NMOCD Hobbs office.

Shallow soil samples were collected in August 2010 from two locations (T-1 & T-2) in the affected area at depths of approximately 2.5 feet bgs. Sample analyses included total petroleum hydrocarbons (TPH); benzene, toluene, ethylbenzene, and xylenes (BTEX); and chloride. TPH and BTEX concentrations were below laboratory detection limits in the upper sample intervals of T-1 and T-2 (0-1 feet and 0-0.5 feet, respectively), and therefore were not analyzed at the deeper interval. However, chloride results at location T-1 exceeded the historic RRAL of 250 mg/kg at both intervals.

In May 2011, Harrison Cooper, Inc. (HCI) advanced five soil borings (SB-1 through SB-5) utilizing an air-rotary drilling rig to depths of approximately 40 feet bgs. Soil samples were collected at five-foot intervals at depths ranging from 20 to 40 feet bgs (pending chloride field screening results) within each of the five soil borings. Soil samples were submitted for analysis of chloride by EPA Method 300. Laboratory analytical results for chloride indicated that the vertical extent of impact was not yet defined to the historic RRALs in borings SB-2, SB-3, and SB-5. On June 27, 2012, GHD and CEMC met at the NMOCD District 1 Hobbs office to discuss the path forward for the Site. The NMOCD requested additional assessment be completed to further assess the vertical extent of chloride impacts.

In December 2012, under the supervision of GHD, HCI advanced two additional borings (SB-2b and SB-5b) to depths of 70 feet bgs utilizing an air-rotary drilling rig. Soil samples were collected at 10-foot intervals from depths of 40 to 70 feet bgs and submitted for analysis of chloride by EPA Method 300 in an effort to delineate the vertical extent of chloride impacts. Chloride concentrations above the historic RRAL were reported in both soil borings. Groundwater was not encountered in either boring. Soil analytical results are included in Table 1 and soil boring locations are depicted on Figure 3.

Monitoring well MW-1 was installed in October 2016 to assess potential groundwater impact in follow-up to soil analytical results reported during previous assessment activities. No soil samples were collected during MW-1 installation activities. The depth to groundwater was confirmed at the Site at 101 feet bgs. Chloride concentrations reported for the groundwater sample collected from MW-1 in October 2016 were below the NMWQCC standard of 250 milligrams per liter (mg/L).

In May 2017, MW-1 was re-sampled and results were again below the NMWQCC standard of 250 mg/L. In October 2017, six additional soil borings (SB-6 through SB-11) were advanced at the Site and analytical analyses performed in an attempt to fully delineate the horizontal extents of chloride impact to soil.

Analytical results associated with assessment activities conducted from 2011 through 2017 indicated that the horizontal and vertical extent of chloride impact in soil had not been fully delineated to the historic RRALs. In September 2018, nine additional soil borings (SB-12 through SB-20) were advanced at the Site and analytical analyses performed in an attempt to fully delineate the horizontal extent of chloride impact to soil. One monitoring well (MW-2) was also installed in September 2018 per NMOCD request in order to further asses groundwater conditions present at the site. Groundwater samples were collected from MW-1 and MW-2 in October 2018. Results from the 2018 assessment activities are summarized in the following sections.

4. Soil Assessment

In order to further define the horizontal extent of chloride impact, nine additional soils borings (SB-12 though SB-20) were installed in September 2018, using an air rotary drilling rig. Prior to mobilizing drilling equipment to the Site, the boring locations were marked and an initial New Mexico One Call utility locate ticket was submitted. GHD's contracted service provider, HCI, a New Mexico-licensed water well driller, and GHD mobilized to the Site to begin drilling activities on September 7, 2018. Each boring location was cleared for underground utilities with the use of an air knife up to a depth of 5.0 feet bgs or refusal. SB-12 though SB-20 were advanced to 90 feet bgs. Site details and boring locations are shown on Figure 3.

Soil samples were collected at 3-4 feet bgs, and then at ten-foot intervals starting at 9-10 feet bgs within each of the nine soil borings. Soil samples were placed in laboratory-supplied sample containers on ice, labeled, and submitted to Xenco Laboratories in Midland, Texas for analysis of chloride by EPA Method 300. Groundwater was not encountered in any of the soil borings. Following completion of activities, the soil cuttings were returned to their respective boreholes and the remainder backfilled with hydrated bentonite pellets from 10 feet bgs to the ground surface.

Chloride screening was accomplished in the field by mixing soil samples with distilled water, then testing the rinsate using Hach® chloride test strips. The soil types observed during drilling of SB-12 through SB-20 consisted primarily of silty sands and caliche. The soils were logged in accordance with the Unified Soil Classification System, and soil boring logs are provided in Appendix A.

4.1 Soil Sampling Analytical Results - 2018

A soil analytical summary of results from September 2018 is presented in Table 1. A Site Details and Analytical Results Map is presented as Figure 4.

- All samples analyzed were below the NMOCD 19.15.29 Restoration Requirements (600 mg/kg within the first 4 feet bgs, and below 20,000 mg/kg within the deeper sample intervals).

5. Groundwater Assessment

5.1 Monitoring Well Installation

MW-2 was completed with four-inch diameter, schedule 40 polyvinyl chloride (PVC) casing, 30 feet of 0.010-inch PVC machine-slotted screen, a 20/40 sand filter pack overlain by a bentonite seal extending up to 10 feet bgs, and riser casing extending above the ground surface. The well was completed at the surface with a stick-up protective casing set in an approximate 2 feet by 2 feet concrete pad. The well was developed by bailing and pumping.

Preliminary gauging data indicated that groundwater was present at approximately 107 feet below the top of casing. The well was developed by removal of sufficient volumes of water to clear the well casing and annulus of sediment. Very turbid water was removed with a 3-inch diameter bailer. Following bailing, well development was completed by pumping at 9 gallons per minute with a submersible pump. Approximately 300 gallons of water were removed during well development.

The boring log, well construction diagram, and the State Well Report are provided in Appendix A.

5.2 Groundwater Sampling

Depth to groundwater was measured in MW-1 and MW-2 to the nearest hundredth of a foot (107.10 feet) and (107.32 feet), respectively, from the top of casing using an electronic water level meter on October 31, 2018. Field equipment was decontaminated with an Alconox ™ wash and distilled water rinse before beginning field activities and between gauging of each monitoring well.

MW-1 and MW-2 were sampled using a bladder pump and low-flow sampling methodology. The samples were placed in laboratory-supplied containers and chilled on ice in an insulated cooler. The samples were delivered under chain-of-custody documentation to Xenco Laboratories of Midland, Texas for analysis of chloride by EPA method 300 and total dissolved solids (TDS) by method SM 2540C.

5.3 Groundwater Analytical Results

Chloride was reported at a concentration of 59.5 mg/L from the groundwater sample collected from MW-1, and 39.2 mg/L from MW-2, which are both below the 250 mg/L standard. TDS was reported at a concentration of 429 mg/L from the sample collected from MW-1, and 386 mg/L from MW-2, which are both below the 1,000 mg/L standard.

Groundwater analytical results for chloride and TDS are summarized in Table 2 in reference to NMWQCC standards. The laboratory analytical report is provided in Appendix B.

6. Summary of Findings

Evaluation of the analytical data obtained from soil assessment and delineation activities performed from 2012 through 2018 indicate horizontal and vertical delineation of chloride impacts has been achieved at the Site to support remediation activities (excavation). The depth to groundwater was determined to be 107.10 feet below top of casing at MW-1 and 107.32 feet below top of casing at MW-2, confirming that depth to groundwater at the Site is greater than 100 feet bgs. Chloride and TDS concentrations were not detected in groundwater above NMWQCC standards for either monitoring well (MW-1 or MW-2).

7. 2019 Assessment Activities

Lateral and horizontal delineation have been completed at the Site. Soil remediation activities (excavation) per NMAC 19.15.29.13 will be conducted to remove chloride-impacted soil within upper 4 feet bgs at the Site following NMOCD approval of the 2019 Remediation Work Plan attached as Appendix C of this report. Additionally, GHD would like to request permission to plug and abandon monitoring wells MW-1 and MW-2.

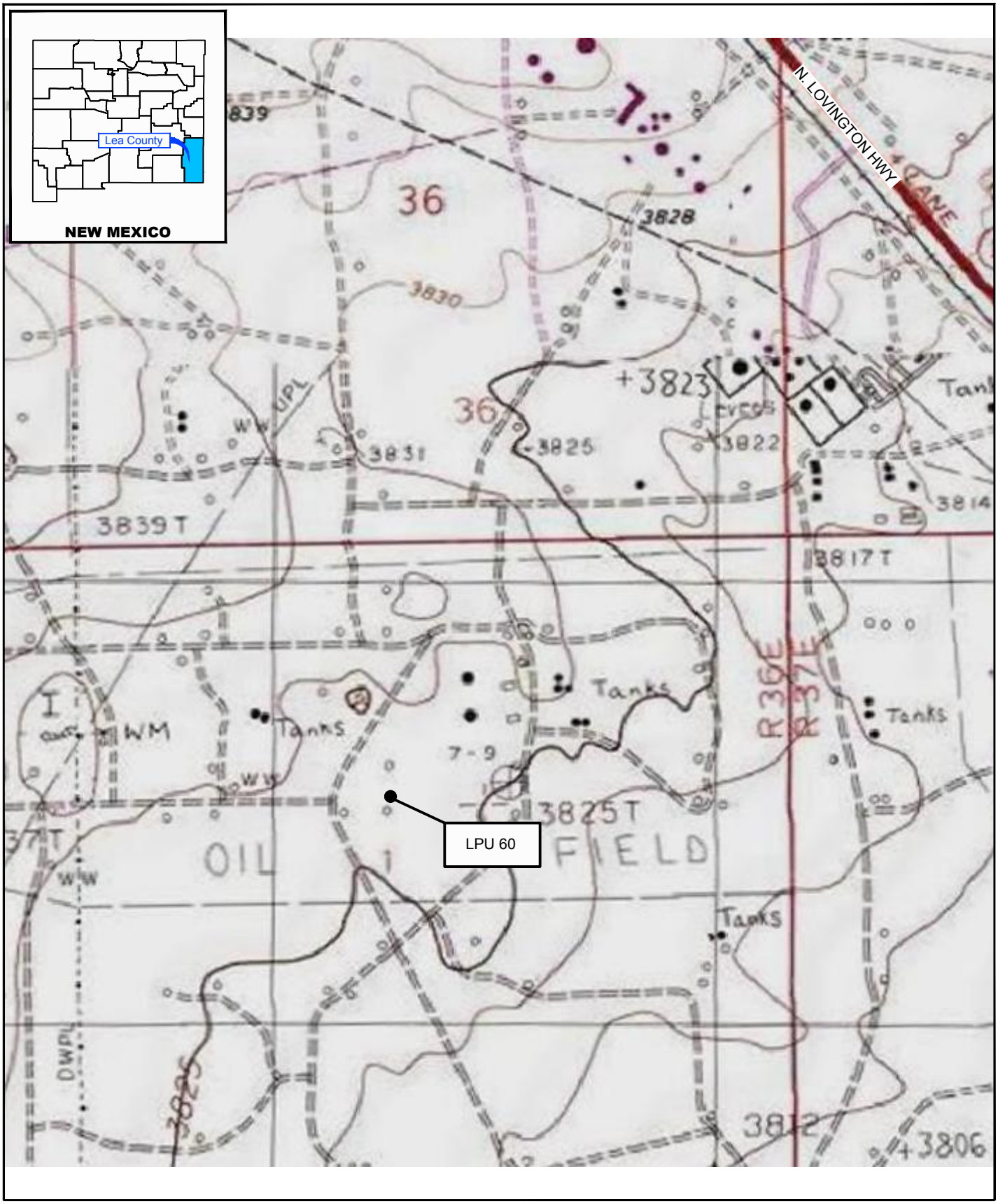
All of Which is Respectfully Submitted,

GHD

Paige Hall
Project Manager

Raaj U. Patel, P.G.
Program Manager

Figures



Source: USGS 7.5 Minute Topographic Map

Lat/Long: 32.866167° North, 103.309028° West

0 500 1000ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

CEMC
LEA COUNTY, NEW MEXICO
LPU-60 RELEASE

073817-2018
Dec 4, 2018

SITE VICINITY MAP

FIGURE 1

CAD File: I:\CAD\Files\07-----\073---\073817-CEMC-LPU #60\073817-2018\073817-2018(006)GN-DL001.dwg

Source: ESRI 1999 Aerial Photograph

Lat/Long: 32.866167° North, 103.309028° West

0 500 1000ft

Coordinate System:
NAD 1983 (2011) StatePlane-
New Mexico East (US Feet)

CEMC
LEA COUNTY, NEW MEXICO
LPU-60 RELEASE

073817-2018

Dec 4, 2018

SITE LOCATION MAP

FIGURE 2

CAD File: I:\CAD\Files\07-----\073---\073817-CEMC-LPU #60\073817-2018\073817-2018(006)GN-DL002.dwg

Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation

Lat/Long: 32.866167° North, 103.309028° West

0 20 40ft

Coordinate System:
NAD 1983 StatePlane-
New Mexico East (US Feet)

CEMC
LEA COUNTY, NEW MEXICO
LPU-60 RELEASE

073817-2018

Dec 4, 2018

SITE DETAILS MAP

FIGURE 3

CAD File: I:\CAD\Files\07----\073---\073817-CEMC-LPU #60\073817-2018\073817-2018(006)GN-DL003.dwg

NOTES:

1. Soil concentrations presented in milligrams per kilogram (mg/kg).
2. Groundwater concentrations presented in milligrams per liter (mg/L).
3. Highlighted cells indicate concentrations exceeding guidance screening criteria of 600 mg/kg depicted in 19.15.29.13 NMAC within the first 4' bgs for chloride.
4. Results for SB-8 (4-5') and SB-11 (4-5') are highlighted as exceedances with the assumption chloride concentrations <4 feet bgs are above 600 mg/kg.

LEGEND

	Boring Location (May 2011 / December 2012)
	Boring Location (October 2017)
	Boring Location (2018)
	Sample Trench (August 2010)
	Monitoring Well Location
Depth	Depth of Sample (ft)
TPH	Total Petroleum Hydrocarbons Concentration
TDS	Total Dissolved Solids Concentration
*	Indicates Duplicate Sample

Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation

Lat/Long: 32.866167° North, 103.309028° West

0 20 40ft

Coordinate System:
NAD 1983 StatePlane-
New Mexico East (US Feet)

Sample ID — SB-10 10/24/17 — Sample Date
Depth 0.5-1' — Sample Depth (ft)
Chloride 1190 — Sample Result (mg/kg)

GHD

CEMC
LEA COUNTY, NEW MEXICO
LPU-60 RELEASE

073817-2018

Jan 2, 2019

CHLORIDE ANALYTICAL RESULTS MAP

FIGURE 4

CAD File: I:\CAD\Files\07----\073---\073817-CEMC-LPU #60\073817-2018\073817-2018(006)GN-DL003.dwg

Tables

Summary of Soil Analytical Results
Chevron Environmental Management Company
Lovington Paddock Unit 60
Unit F, Section 1-T17S-R36E, Lea County, New Mexico

Sample ID	Depth (feet)	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	TPH			Chloride
								DRO	GRO	GRO/DRO	
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NMOCD Recommended Remediation Action Levels (Total Ranking Score = 20)			**10**	**---**	**---**	**---**	**50**	**---**	**---**	**1000**	**20,000**
NMOCD Restoration Requirements (4 ft bgs)											**600**
T-1	0-1	8/18/10	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00	<50.0	**1110**
	2-2.5	8/18/10	--	--	--	--	--	--	--	--	**1620**
T-2	0-0.5	8/18/10	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<50.0	<2.00	<50.0	<200
	0.5-1	8/18/10	--	--	--	--	--	--	--	--	<200
SB-1	4-5	5/27/11	--	--	--	--	--	--	--	--	93
	9-10	5/27/11	--	--	--	--	--	--	--	--	166
	14-15	5/27/11	--	--	--	--	--	--	--	--	155
	19-20	5/27/11	--	--	--	--	--	--	--	--	99
SB-2	4-5	5/27/11	--	--	--	--	--	--	--	--	541
	9-10	5/27/11	--	--	--	--	--	--	--	--	357
	14-15	5/27/11	--	--	--	--	--	--	--	--	289
	19-20	5/27/11	--	--	--	--	--	--	--	--	565
	24-25	5/27/11	--	--	--	--	--	--	--	--	231
	29-30	5/27/11	--	--	--	--	--	--	--	--	411
	34-35	5/27/11	--	--	--	--	--	--	--	--	465
	39-40	5/27/11	--	--	--	--	--	--	--	--	531
SB-2b	49-50	12/18/12	--	--	--	--	--	--	--	--	800
	59-60	12/18/12	--	--	--	--	--	--	--	--	780
	69-70	12/18/12	--	--	--	--	--	--	--	--	940
SB-3	4-5	5/27/11	--	--	--	--	--	--	--	--	245
	9-10	5/27/11	--	--	--	--	--	--	--	--	324
	14-15	5/27/11	--	--	--	--	--	--	--	--	498
	19-20	5/27/11	--	--	--	--	--	--	--	--	497
SB-4	4-5	5/27/11	--	--	--	--	--	--	--	--	326
	9-10	5/27/11	--	--	--	--	--	--	--	--	446
	14-15	5/27/11	--	--	--	--	--	--	--	--	260
	19-20	5/27/11	--	--	--	--	--	--	--	--	239
SB-5	4-5	5/27/11	--	--	--	--	--	--	--	--	151
	9-10	5/27/11	--	--	--	--	--	--	--	--	747
	14-15	5/27/11	--	--	--	--	--	--	--	--	1260
	19-20	5/27/11	--	--	--	--	--	--	--	--	1140
	24-25	5/27/11	--	--	--	--	--	--	--	--	1180
	29-30	5/27/11	--	--	--	--	--	--	--	--	1530
	34-35	5/27/11	--	--	--	--	--	--	--	--	1860
	39-40	5/27/11	--	--	--	--	--	--	--	--	1570
SB-5b	49-50	12/18/12	--	--	--	--	--	--	--	--	3740
	59-60	12/18/12	--	--	--	--	--	--	--	--	3720
	69-70	12/18/12	--	--	--	--	--	--	--	--	1520
SB-6	0.5-1	10/23/17	--	--	--	--	--	--	--	--	155
	4-5	10/23/17	--	--	--	--	--	--	--	--	48
	9-10	10/23/17	--	--	--	--	--	--	--	--	138
	19-20	10/23/17	--	--	--	--	--	--	--	--	67
	29-30	10/23/17	--	--	--	--	--	--	--	--	189
	39-40	10/23/17	--	--	--	--	--	--	--	--	766
	49-50	10/23/17	--	--	--	--	--	--	--	--	1300
	59-60	10/23/17	--	--	--	--	--	--	--	--	1300
	69-70	10/23/17	--	--	--	--	--	--	--	--	1220
	79-80	10/23/17	--	--	--	--	--	--	--	--	873
	89-90	10/23/17	--	--	--	--	--	--	--	--	622
	99-100	10/23/17	--	--	--	--	--	--	--	--	168

Summary of Soil Analytical Results
Chevron Environmental Management Company
Lovington Paddock Unit 60
Unit F, Section 1-T17S-R36E, Lea County, New Mexico

Sample ID	Depth (feet)	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	TPH			Chloride
								DRO	GRO	GRO/DRO	
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NMOCD Recommended Remediation Action Levels (Total Ranking Score = 20)			**10**	**---**	**---**	**---**	**50**	**---**	**---**	**1000**	**20,000**
SB-7	0.5-1	10/23/17	--	--	--	--	--	--	--	--	31
	4-5	10/23/17	--	--	--	--	--	--	--	--	30
	9-10	10/23/17	--	--	--	--	--	--	--	--	167
	19-20	10/23/17	--	--	--	--	--	--	--	--	208
SB-8	0.5-1	10/23/17	--	--	--	--	--	--	--	--	49
	4-5	10/23/17	--	--	--	--	--	--	--	--	**1070**
	9-10	10/23/17	--	--	--	--	--	--	--	--	1380
	19-20	10/23/17	--	--	--	--	--	--	--	--	2290
	29-30	10/23/17	--	--	--	--	--	--	--	--	5270
	39-40	10/23/17	--	--	--	--	--	--	--	--	5570
	49-50	10/23/17	--	--	--	--	--	--	--	--	3760
	59-60	10/23/17	--	--	--	--	--	--	--	--	3010
	69-70	10/23/17	--	--	--	--	--	--	--	--	2000
	79-80	10/23/17	--	--	--	--	--	--	--	--	854
	89-90	10/23/17	--	--	--	--	--	--	--	--	1010
	99-100	10/23/17	--	--	--	--	--	--	--	--	1920
SB-9	0.5-1	10/24/17	--	--	--	--	--	--	--	--	37
	4-5	10/24/17	--	--	--	--	--	--	--	--	131
	9-10	10/24/17	--	--	--	--	--	--	--	--	409
	19-20	10/24/17	--	--	--	--	--	--	--	--	352
	29-30	10/24/17	--	--	--	--	--	--	--	--	360
	39-40	10/24/17	--	--	--	--	--	--	--	--	308
	49-50	10/24/17	--	--	--	--	--	--	--	--	178
	59-60	10/24/17	--	--	--	--	--	--	--	--	119
	69-70	10/24/17	--	--	--	--	--	--	--	--	163
	79-80	10/24/17	--	--	--	--	--	--	--	--	200
	89-90	10/24/17	--	--	--	--	--	--	--	--	129
SB-10	0.5-1	10/23/17	--	--	--	--	--	--	--	--	**1190**
	4-5	10/23/17	--	--	--	--	--	--	--	--	**703**
	9-10	10/23/17	--	--	--	--	--	--	--	--	673
	19-20	10/23/17	--	--	--	--	--	--	--	--	154
Dup.	19-20	10/23/17	--	--	--	--	--	--	--	--	142
	29-30	10/23/17	--	--	--	--	--	--	--	--	50
SB-11	0.5-1	10/24/17	--	--	--	--	--	--	--	--	7
	4-5	10/24/17	--	--	--	--	--	--	--	--	**1040**
	9-10	10/24/17	--	--	--	--	--	--	--	--	673
	19-20	10/24/17	--	--	--	--	--	--	--	--	336
	29-30	10/24/17	--	--	--	--	--	--	--	--	530
	39-40	10/24/17	--	--	--	--	--	--	--	--	496
	49-50	10/24/17	--	--	--	--	--	--	--	--	477
	59-60	10/24/17	--	--	--	--	--	--	--	--	398
	69-70	10/24/17	--	--	--	--	--	--	--	--	283
	79-80	10/24/17	--	--	--	--	--	--	--	--	223
	89-90	10/24/17	--	--	--	--	--	--	--	--	352
SB-12	4	9/8/18	--	--	--	--	--	--	--	--	11
	10	9/8/18	--	--	--	--	--	--	--	--	<6.86
	20	9/8/18	--	--	--	--	--	--	--	--	<8.05
	30	9/8/18	--	--	--	--	--	--	--	--	7
	40	9/8/18	--	--	--	--	--	--	--	--	18
	50	9/8/18	--	--	--	--	--	--	--	--	73
	60	9/8/18	--	--	--	--	--	--	--	--	169
	70	9/8/18	--	--	--	--	--	--	--	--	374
	80	9/8/18	--	--	--	--	--	--	--	--	458
	90	9/8/18	--	--	--	--	--	--	--	--	555

Summary of Soil Analytical Results
Chevron Environmental Management Company
Lovington Paddock Unit 60
Unit F, Section 1-T17S-R36E, Lea County, New Mexico

Sample ID	Depth (feet)	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	TPH			Chloride
								DRO	GRO	GRO/DRO	
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NMOCD Recommended Remediation Action Levels (Total Ranking Score = 20)			10	---	---	---	50	---	---	1000	20,000
SB-13	4	9/8/18	--	--	--	--	--	--	--	--	76
	10	9/8/18	--	--	--	--	--	--	--	--	40
	20	9/8/18	--	--	--	--	--	--	--	--	92
	30	9/8/18	--	--	--	--	--	--	--	--	178
	40	9/8/18	--	--	--	--	--	--	--	--	107
	50	9/8/18	--	--	--	--	--	--	--	--	<6.60
	60	9/8/18	--	--	--	--	--	--	--	--	<5.35
	70	9/8/18	--	--	--	--	--	--	--	--	<5.44
	80	9/8/18	--	--	--	--	--	--	--	--	<8.94
	90	9/8/18	--	--	--	--	--	--	--	--	<5.29
SB-14	4	10/24/17	--	--	--	--	--	--	--	--	578
	10	10/24/17	--	--	--	--	--	--	--	--	119
	20	10/24/17	--	--	--	--	--	--	--	--	50
	30	10/24/17	--	--	--	--	--	--	--	--	29
	40	10/24/17	--	--	--	--	--	--	--	--	26
	50	10/24/17	--	--	--	--	--	--	--	--	22
	60	10/24/17	--	--	--	--	--	--	--	--	23
	70	10/24/17	--	--	--	--	--	--	--	--	25
	80	10/24/17	--	--	--	--	--	--	--	--	23
	90	10/24/17	--	--	--	--	--	--	--	--	22
SB-15	4	9/11/18	--	--	--	--	--	--	--	--	208
	10	9/11/18	--	--	--	--	--	--	--	--	545
	20	9/11/18	--	--	--	--	--	--	--	--	296
	30	9/11/18	--	--	--	--	--	--	--	--	102
	40	9/11/18	--	--	--	--	--	--	--	--	<8.12
	50	9/11/18	--	--	--	--	--	--	--	--	8
	60	9/11/18	--	--	--	--	--	--	--	--	<7.97
	70	9/11/18	--	--	--	--	--	--	--	--	9
	80	9/11/18	--	--	--	--	--	--	--	--	11
	90	9/11/18	--	--	--	--	--	--	--	--	9
SB-16	4	9/11/18	--	--	--	--	--	--	--	--	133
	10	9/11/18	--	--	--	--	--	--	--	--	433
	20	9/11/18	--	--	--	--	--	--	--	--	116
	30	9/11/18	--	--	--	--	--	--	--	--	40
	40	9/11/18	--	--	--	--	--	--	--	--	22
	50	9/11/18	--	--	--	--	--	--	--	--	37
	60	9/11/18	--	--	--	--	--	--	--	--	20
	70	9/11/18	--	--	--	--	--	--	--	--	37
	80	9/11/18	--	--	--	--	--	--	--	--	23
	90	9/11/18	--	--	--	--	--	--	--	--	23
SB-17	4	9/11/18	--	--	--	--	--	--	--	--	69
	10	9/11/18	--	--	--	--	--	--	--	--	22
	20	9/11/18	--	--	--	--	--	--	--	--	24
	30	9/11/18	--	--	--	--	--	--	--	--	19
	40	9/11/18	--	--	--	--	--	--	--	--	20
	50	9/11/18	--	--	--	--	--	--	--	--	19
	60	9/11/18	--	--	--	--	--	--	--	--	20
	70	9/11/18	--	--	--	--	--	--	--	--	20
	80	9/11/18	--	--	--	--	--	--	--	--	19
	90	9/11/18	--	--	--	--	--	--	--	--	20
SB-18	4	9/11/18	--	--	--	--	--	--	--	--	64
	10	9/11/18	--	--	--	--	--	--	--	--	586
	20	9/11/18	--	--	--	--	--	--	--	--	271
	30	9/11/18	--	--	--	--	--	--	--	--	230
	40	9/11/18	--	--	--	--	--	--	--	--	381
	50	9/11/18	--	--	--	--	--	--	--	--	361
	60	9/11/18	--	--	--	--	--	--	--	--	175
	70	9/11/18	--	--	--	--	--	--	--	--	138

Summary of Soil Analytical Results
Chevron Environmental Management Company
Lovington Paddock Unit 60
Unit F, Section 1-T17S-R36E, Lea County, New Mexico

Sample ID	Depth (feet)	Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX	TPH			Chloride
								DRO	GRO	GRO/DRO	
			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NMOCD Recommended Remediation Action Levels (Total Ranking Score = 20)			**10**	**---**	**---**	**---**	**50**	**---**	**---**	**1000**	**20,000**
	80	9/11/18	--	--	--	--	--	--	--	--	49
	90	9/11/18	--	--	--	--	--	--	--	--	86
SB-19	4	9/11/18	--	--	--	--	--	--	--	--	102
	10	9/11/18	--	--	--	--	--	--	--	--	125
	20	9/11/18	--	--	--	--	--	--	--	--	291
	30	9/11/18	--	--	--	--	--	--	--	--	64
	40	9/11/18	--	--	--	--	--	--	--	--	56
	50	9/11/18	--	--	--	--	--	--	--	--	52
	60	9/11/18	--	--	--	--	--	--	--	--	46
	70	9/11/18	--	--	--	--	--	--	--	--	36
	80	9/11/18	--	--	--	--	--	--	--	--	29
	90	9/11/18	--	--	--	--	--	--	--	--	26
SB-20	4	9/11/18	--	--	--	--	--	--	--	--	294
	10	9/11/18	--	--	--	--	--	--	--	--	59
	20	9/11/18	--	--	--	--	--	--	--	--	85
	30	9/11/18	--	--	--	--	--	--	--	--	114
	40	9/11/18	--	--	--	--	--	--	--	--	291
	50	9/11/18	--	--	--	--	--	--	--	--	590
	60	9/11/18	--	--	--	--	--	--	--	--	1020
	70	9/11/18	--	--	--	--	--	--	--	--	2040
	80	9/11/18	--	--	--	--	--	--	--	--	2500
	90	9/11/18	--	--	--	--	--	--	--	--	2390
MW-2	4	9/8/18	--	--	--	--	--	--	--	--	24
	10	9/8/18	--	--	--	--	--	--	--	--	25
	20	9/8/18	--	--	--	--	--	--	--	--	15
	30	9/8/18	--	--	--	--	--	--	--	--	<6.97
	40	9/8/18	--	--	--	--	--	--	--	--	<7.10
	50	9/8/18	--	--	--	--	--	--	--	--	15
	60	9/8/18	--	--	--	--	--	--	--	--	<5.28
	70	9/8/18	--	--	--	--	--	--	--	--	<7.72
	80	9/8/18	--	--	--	--	--	--	--	--	<5.68
	90	9/8/18	--	--	--	--	--	--	--	--	<5.30

Notes:
- Bold concentrations above lab reporting limits.
- Highlighted cells indicated concentrations exceeding regulatory limits.
- "--" indicates not analyzed or not applicable.
- BTEX analyses by EPA Method 8021B.
- TPH analyzed by EPA Method SW8015B Mod.
- Chloride analyzed by EPA Method 300.

Table 2

Summary of Groundwater Analytical Results
Chevron Environmental Management Company
Lovington Paddock Unit 60
Unit F, Section 1-T17S-R36E, Lea County, New Mexico

Well ID	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	TPH GRO	TPH DRO	Chloride	Total Dissolved Solids
NMWQCC Standards		0.01 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	-- mg/L	-- mg/L	250 mg/L	1000 mg/L
MW-1	10/19/16	<0.002	<0.002	<0.002	<0.002	<1.50	<1.50	**206**	--
MW-1	5/26/17	<0.002	<0.002	<0.002	<0.002	<1.50	<1.50	**83.9**	**432**
MW-1	10/31/18	--	--	--	--	--	--	**59.5**	**429**
MW-2	10/31/18	--	--	--	--	--	--	**39.2**	**386**
DUP-1	10/31/18	--	--	--	--	--	--	**59.9**	**449**

NOTES:

NMWQCC - New Mexico Water Quality Control Commission
'mg/L' indicates milligrams per liter
- BTEX analysis by EPA Method 8021B.
- TPH analysis by Method SW8015B.
- Chlorides analyzed by EPA Method 300.
-- indicates not analyzed

Appendices

Appendix A
SB-11 through SB-16 Soil Boring Logs

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: MW-2
DATE COMPLETED: 7 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary, Mud Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	Chlorides (mg/kg)
5	SAND (SW): fine, very light brown, dry, contains caliche			4	G	1.0		23.7
10	SAND (SP): fine, very light brown, dry	10.00		10	G	1.0		25.3
20				20	G	1.0		15.4
30	- yellowish orange, dry			30	G	1.0		<6.97
40				40	G	1.0		<7.10
50			Cement Bentonite Mix 4-inch SCH 40 PVC riser	50	G	1.0		14.9
60	- yellowish orange, moist			60	G	1.0		<5.28
70				70	G	1.0		<7.72
80				80	G	1.0		<5.68
90				90	G	1.0		<5.30
95								

NOTES: Stratigraphy descriptions are based on drill cuttings. Mud rotary began @ 90 ft. BGS
WATER FOUND ▽
LABORATORY ANALYSIS ⬭

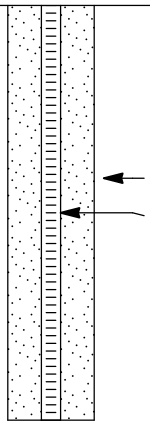
OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: MW-2
DATE COMPLETED: 7 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary, Mud Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	Monitoring Well	SAMPLE DEPTH (ft)	SAMPLE INTERVAL	SAMPLE REC (ft)	SAMPLE PP (tsf)	SAMPLE Chlorides (mg/kg)
105	- light brown, wet							
110								
115								
120	SAND (SWG): light brown, wet, contains pebbles	120.00						
125								
130	END OF BOREHOLE @ 130.0ft BGS	130.00						
135								
140								
145								
150								
155								
160								
165								
170								
175								
180								
185								
190								
195								



WELL DETAILS
Screened interval:
100.00 to 130.00ft BGS
Length: 30ft
Slot Size: 0.01
Material: PVC
Seal:
0.00 to 95.00ft BGS
Material: Cement Bentonite Mix
Sand Pack:
95.00 to 130.00ft BGS
Material: 8/16 Silica Sand

BOREHOLE DIAMETER 8 Inch

NOTES: Stratigraphy descriptions are based on drill cuttings. Mud rotary began @ 90 ft. BGS
WATER FOUND ▽
LABORATORY ANALYSIS ⬭

OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

This log should not be used separately from the original report.

STRATIGRAPHIC LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: SB-12
DATE COMPLETED: 8 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	Chlorides (mg/kg)
	CALICHE: light grey, dry		4	G	1.0		11.4
		10.00	10	G	1.0		<6.86
	SILTY SAND (SM): very light brown, dry		20	G	1.0		<8.05
	- light brown, moist		30	G	1.0		7.26
			40	G	1.0		18
	SAND (SP): fine, light brown, moist	50.00	50	G	1.0		72.6
			60	G	1.0		169
			70	G	1.0		374
			80	G	1.0		458
	END OF BOREHOLE @ 90.0ft BGS	90.00	90	G	1.0		555

NOTES: Stratigraphy descriptions are based on drill cuttings.

LABORATORY ANALYSIS

OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

This log should not be used separately from the original report.

STRATIGRAPHIC LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: SB-13
DATE COMPLETED: 9 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	Chlorides (mg/kg)
0	CALICHE: light grey-brown, dry, contians sand (f)						
5			4	G	1.0		75.6
10	SILTY SAND (SM): very light brown, dry	10.00	10	G	1.0		39.5
15							
20			20	G	1.0		92.2
25							
30	- moist		30	G	1.0		178
35							
40			40	G	1.0		107
45							
50			50	G	1.0		<6.60
55							
60			60	G	1.0		<5.35
65							
70	- light brown, moist		70	G	1.0		<5.44
75							
80			80	G	1.0		<8.94
85							
90	END OF BOREHOLE @ 90.0ft BGS	90.00	90	G	1.0		<5.29
95							

NOTES: Stratigraphy descriptions are based on drill cuttings.

LABORATORY ANALYSIS ( )

OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

This log should not be used separately from the original report.

STRATIGRAPHIC LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: SB-14
DATE COMPLETED: 11 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	Chlorides (mg/kg)
	CALICHE: light grey, dry		4	G	1.0		578
10	SANDY SILT (MLS): very light grey, dry	10.00	10	G	1.0		119
20	- brownish-grey, moist		20	G	1.0		49.5
30	SILTY SAND (MS): very light brown, moist	30.00	30	G	1.0		29.4
40			40	G	1.0		26.4
50	- light brown, moist		50	G	1.0		22.2
60			60	G	1.0		23.1
70			70	G	1.0		25.2
80			80	G	1.0		23.3
90	END OF BOREHOLE @ 90.0ft BGS	90.00	90	G	1.0		21.9

NOTES: Stratigraphy descriptions are based on drill cuttings.

LABORATORY ANALYSIS ( )

OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

This log should not be used separately from the original report.

STRATIGRAPHIC LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: SB-15
DATE COMPLETED: 11 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	Chlorides (mg/kg)
0	SILTY SAND (SM): light grey brown, dry, contains caliche						
5			4	G	1.0		208
10	- very light grey, dry		10	G	1.0		545
15							
20	- brownish grey, moist		20	G	1.0		296
25							
30	- light brown, moist		30	G	1.0		102
35							
40	- yellowish orange, dry		40	G	1.0		<8.12
45							
50			50	G	1.0		8.20
55							
60			60	G	1.0		<7.97
65							
70			70	G	1.0		9.32
75							
80			80	G	1.0		10.6
85							
90	END OF BOREHOLE @ 90.0ft BGS	90.00	90	G	1.0		8.74
95							

NOTES: Stratigraphy descriptions are based on drill cuttings.

LABORATORY ANALYSIS (G)

OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

This log should not be used separately from the original report.

STRATIGRAPHIC LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: SB-16
DATE COMPLETED: 11 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	Chlorides (mg/kg)
	SILTY SAND (SM): grey, dry, contains caliche		4	G	1.0		133
10	SANDY SILT (MLS): very light grey, dry	10.00	10	G	1.0		433
20	SILTY SAND (SM): orange yellow, dry	20.00	20	G	1.0		116
30	- light brown, moist		30	G	1.0		40.1
40	- orangish yellow, dry		40	G	1.0		22.3
50			50	G	1.0		37.0
60			60	G	1.0		19.6
70			70	G	1.0		37.4
80			80	G	1.0		23.0
90	END OF BOREHOLE @ 90.0ft BGS	90.00	90	G	1.0		22.8

NOTES: Stratigraphy descriptions are based on drill cuttings.

LABORATORY ANALYSIS

OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

This log should not be used separately from the original report.

STRATIGRAPHIC LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: SB-17
DATE COMPLETED: 11 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	Chlorides (mg/kg)
0	SILTY SAND (SM): light grey, dry						
5			4	G	1.0		69.4
10			10	G	1.0		21.5
15							
20	- light brown, dry		20	G	1.0		23.6
25							
30			30	G	1.0		19.4
35							
40			40	G	1.0		20.2
45							
50			50	G	1.0		19.2
55							
60			60	G	1.0		19.6
65							
70			70	G	1.0		20.1
75							
80			80	G	1.0		19.4
85							
90	END OF BOREHOLE @ 90.0ft BGS	90.00	90	G	1.0		19.7
95							

NOTES: Stratigraphy descriptions are based on drill cuttings.

LABORATORY ANALYSIS ( )

OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

This log should not be used separately from the original report.

STRATIGRAPHIC LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: SB-18
DATE COMPLETED: 11 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	Chlorides (mg/kg)
0	SILTY SAND (SM): very light grey, dry, contains caliche						
5			4	G	1.0		64.1
10	- light grey, dry		10	G	1.0		586
15							
20	- grey brown, dry		20	G	1.0		271
25							
30	- light brown, moist		30	G	1.0		230
35							
40	- yellow orange, dry		40	G	1.0		381
45							
50			50	G	1.0		361
55							
60			60	G	1.0		175
65							
70			70	G	1.0		138
75							
80			80	G	1.0		49.4
85							
90	END OF BOREHOLE @ 90.0ft BGS	90.00	90	G	1.0		85.9
95							

NOTES: Stratigraphy descriptions are based on drill cuttings.

LABORATORY ANALYSIS (G)

OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

This log should not be used separately from the original report.

STRATIGRAPHIC LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: SB-19
DATE COMPLETED: 11 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	Chlorides (mg/kg)
	CALICHE: very light grey, dry		4	G	1.0		102
	- increased clay content		10	G	1.0		125
			20	G	1.0		291
	SANDY SILT (MLS): light grey, dry	20.00					
			30	G	1.0		63.5
	SILTY SAND (SM): light brown, dry	30.00					
			40	G	1.0		55.5
			50	G	1.0		52.1
			60	G	1.0		45.5
			70	G	1.0		36.0
			80	G	1.0		28.6
	END OF BOREHOLE @ 90.0ft BGS	90.00	90	G	1.0		26.2

NOTES: Stratigraphy descriptions are based on drill cuttings.

LABORATORY ANALYSIS

OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

STRATIGRAPHIC LOG (OVERBURDEN)

PROJECT NAME: LPU 60
PROJECT NUMBER: 073817
CLIENT: Chevron
LOCATION: Lovington
DRILLING COMPANY: HCI

HOLE DESIGNATION: SB-20
DATE COMPLETED: 11 September 2018
DRILLING METHOD: Hydro Excavation, Air Rotary
FIELD PERSONNEL: Sean Parry

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	SAMPLE DEPTH (ft)	INTERVAL	REC (ft)	PP (tsf)	Chlorides (mg/kg)
0	CALICHE: brownish grey, dry, contains sand (f)						
5			4	G	1.0		294
10	SILTY SAND (SM): brownish grey, dry	10.00	10	G	1.0		58.7
15							
20	- yellowish orange, dry		20	G	1.0		84.8
25							
30			30	G	1.0		114
35							
40			40	G	1.0		291
45							
50			50	G	1.0		590
55							
60			60	G	1.0		1020
65							
70			70	G	1.0		2040
75							
80			80	G	1.0		2500
85							
90	END OF BOREHOLE @ 90.0ft BGS	90.00	90	G	1.0		2390
95							

NOTES: Stratigraphy descriptions are based on drill cuttings.

LABORATORY ANALYSIS

OVERBURDEN LOG 073817-CVX LPU60.GPJ CRA_CORP.GDT 28/11/18

This log should not be used separately from the original report.

Appendix B
Soil and Groundwater Laboratory Analytical Reports

Analytical Report 598984

for

GHD Services, INC- Midland

Project Manager: Scott Foord

CEMC LPU-60

073817-2018-001

27-SEP-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-16)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

27-SEP-18

Project Manager: **Scott Foord**
GHD Services, INC- Midland
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **598984**
CEMC LPU-60
Project Address: Lovington, NM

Scott Foord:

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 XENCO Report Number(s) 598984. 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 XENCO Laboratories. 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. 598984 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 XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Debbie Simmons

Debbie Simmons
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW2-4-080918	S	09-08-18 07:05	4	598984-001
MW2-10-080918	S	09-08-18 07:06	10	598984-002
MW2-20-080918	S	09-08-18 07:07	20	598984-003
MW2-30-080918	S	09-08-18 07:10	30	598984-004
MW2-40-080918	S	09-08-18 07:15	40	598984-005
MW2-50-080918	S	09-08-18 07:25	50	598984-006
MW2-60-080918	S	09-08-18 07:40	60	598984-007
MW2-70-080918	S	09-08-18 07:45	70	598984-008
MW2-80-080918	S	09-08-18 07:50	80	598984-009
MW2-90-080918	S	09-08-18 07:55	90	598984-010
SB12-4-080918	S	09-08-18 08:55	4	598984-011
SB12-10-080918	S	09-08-18 09:00	10	598984-012
SB12-20-080918	S	09-08-18 09:05	20	598984-013
SB12-30-080918	S	09-08-18 09:10	30	598984-014
SB12-40-080918	S	09-08-18 09:15	40	598984-015
SB12-50-080918	S	09-08-18 09:20	50	598984-016
SB12-60-080918	S	09-08-18 09:25	60	598984-017
SB12-70-080918	S	09-08-18 09:30	70	598984-018
SB12-80-080918	S	09-08-18 09:35	80	598984-019
SB12-90-080918	S	09-08-18 09:40	90	598984-020
SB13-4-080918	S	09-08-18 10:00	4	598984-021
SB13-10-080918	S	09-08-18 10:05	10	598984-022
SB13-20-080918	S	09-08-18 10:10	20	598984-023
SB13-30-080918	S	09-08-18 10:15	30	598984-024
SB13-40-080918	S	09-08-18 10:20	40	598984-025
SB13-50-080918	S	09-08-18 10:25	50	598984-026
SB13-60-080918	S	09-08-18 10:30	60	598984-027
SB13-70-080918	S	09-08-18 10:32	70	598984-028
SB13-80-080918	S	09-08-18 10:35	80	598984-029
SB13-90-080918	S	09-08-18 10:37	90	598984-030
SB15-4-110918	S	09-11-18 08:55	4	598984-031
SB15-10-110918	S	09-11-18 08:57	10	598984-032
SB15-20-110918	S	09-11-18 09:00	20	598984-033
SB15-30-110918	S	09-11-18 09:02	30	598984-034
SB15-40-110918	S	09-11-18 09:05	40	598984-035
SB15-50-110918	S	09-11-18 09:07	50	598984-036
SB15-60-110918	S	09-11-18 09:10	60	598984-037
SB15-70-110918	S	09-11-18 09:12	70	598984-038
SB15-80-110918	S	09-11-18 09:15	80	598984-039
SB15-90-110918	S	09-11-18 09:17	90	598984-040
SB16-4-110918	S	09-11-18 09:40	4	598984-041
SB16-10-110918	S	09-11-18 09:50	10	598984-042
SB16-20-110918	S	09-11-18 09:52	20	598984-043

Sample Cross Reference 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

SB16-30-110918	S	09-11-18 09:55	30	598984-044
SB16-40-110918	S	09-11-18 09:57	40	598984-045
SB16-50-110918	S	09-11-18 10:00	50	598984-046
SB16-60-110918	S	09-11-18 10:02	60	598984-047
SB16-70-110918	S	09-11-18 10:05	70	598984-048
SB16-80-110918	S	09-11-18 10:07	80	598984-049
SB16-90-110918	S	09-11-18 10:10	90	598984-050
SB17-4-110918	S	09-11-18 10:17	4	598984-051
SB17-10-110918	S	09-11-18 10:20	10	598984-052
SB17-20-110918	S	09-11-18 10:22	20	598984-053
SB17-30-110918	S	09-11-18 10:25	30	598984-054
SB17-40-110918	S	09-11-18 10:27	40	598984-055
SB17-50-110918	S	09-11-18 10:30	50	598984-056
SB17-60-110918	S	09-11-18 10:32	60	598984-057
SB17-70-110918	S	09-11-18 10:35	70	598984-058
SB17-80-110918	S	09-11-18 10:37	80	598984-059
SB17-90-110918	S	09-11-18 10:40	90	598984-060
SB18-4-110918	S	09-11-18 10:45	4	598984-061
SB18-10-110918	S	09-11-18 10:47	10	598984-062
SB18-20-110918	S	09-11-18 10:50	20	598984-063
SB18-30-110918	S	09-11-18 10:52	30	598984-064
SB18-40-110918	S	09-11-18 10:55	40	598984-065
SB18-50-110918	S	09-11-18 10:57	50	598984-066
SB18-60-110918	S	09-11-18 11:00	60	598984-067
SB18-70-110918	S	09-11-18 11:02	70	598984-068
SB18-80-110918	S	09-11-18 11:05	80	598984-069
SB18-90-110918	S	09-11-18 11:07	90	598984-070
SB19-4-110918	S	09-11-18 11:05	4	598984-071
SB19-10-110918	S	09-11-18 11:07	10	598984-072
SB19-20-110918	S	09-11-18 11:10	20	598984-073
SB19-30-110918	S	09-11-18 11:12	30	598984-074
SB19-40-110918	S	09-11-18 11:15	40	598984-075
SB19-50-110918	S	09-11-18 11:17	50	598984-076
SB19-60-110918	S	09-11-18 11:20	60	598984-077
SB19-70-110918	S	09-11-18 11:22	70	598984-078
SB19-80-110918	S	09-11-18 11:25	80	598984-079
SB19-90-110918	S	09-11-18 11:27	90	598984-080
SB20-4-110918	S	09-11-18 11:42	4	598984-081
SB20-10-110918	S	09-11-18 11:45	10	598984-082
SB20-20-110918	S	09-11-18 11:47	20	598984-083
SB20-30-110918	S	09-11-18 11:50	30	598984-084
SB20-40-110918	S	09-11-18 11:52	40	598984-085
SB20-50-110918	S	09-11-18 11:57	50	598984-086
SB20-60-110918	S	09-11-18 12:00	60	598984-087

Sample Cross Reference 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

SB20-70-110918	S	09-11-18 12:02	70	598984-088
SB20-80-110918	S	09-11-18 12:05	80	598984-089
SB20-90-110918	S	09-11-18 12:07	90	598984-090
SB14-4-110918	S	09-11-18 07:52	4	598984-091
SB14-10-110918	S	09-11-18 07:55	10	598984-092
SB14-20-110918	S	09-11-18 07:57	20	598984-093
SB14-30-110918	S	09-11-18 08:00	30	598984-094
SB14-40-110918	S	09-11-18 08:02	40	598984-095
SB14-50-110918	S	09-11-18 08:05	50	598984-096
SB14-60-110918	S	09-11-18 08:07	60	598984-097
SB14-70-110918	S	09-11-18 08:10	70	598984-098
SB14-80-110918	S	09-11-18 08:12	80	598984-099
SB14-90-110918	S	09-11-18 08:15	90	598984-100

CASE NARRATIVE

Client Name: GHD Services, INC- Midland

Project Name: CEMC LPU-60

Project ID: *073817-2018-001*
Work Order Number(s): *598984*

Report Date: *27-SEP-18*
Date Received: *09/13/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3063540 Inorganic Anions by EPA 300
Lab Sample ID 598984-001 and 598984-002 were randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 598984-001, -002.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3063560 Chloride by EPA 300
Lab Sample ID 598984-053 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD).
Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 598984-043, -044, -045, -046, -047, -048, -049, -050, -051, -052, -053, -054, -055, -056, -057, -058, -059, -060, -061, -062.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-001		598984-002		598984-003		598984-004		598984-005		598984-006	
	Field Id:	MW2-4-080918		MW2-10-080918		MW2-20-080918		MW2-30-080918		MW2-40-080918		MW2-50-080918	
	Depth:	4-		10-		20-		30-		40-		50-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-08-18 07:05		Sep-08-18 07:06		Sep-08-18 07:07		Sep-08-18 07:10		Sep-08-18 07:15		Sep-08-18 07:25	
Chloride by EPA 300	***Extracted:***	Sep-15-18 10:40		Sep-15-18 10:40		Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00	
	Analyzed:	Sep-15-18 11:22		Sep-15-18 13:47		Sep-16-18 20:38		Sep-16-18 21:01		Sep-16-18 21:08		Sep-16-18 21:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		23.7	6.23	25.3	5.33	15.4	5.31	<6.97	6.97	<7.10	7.10	14.9	9.92
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		19.8		7.08		4.90		27.6		30.3		49.4	

Debbie Simmons
Project Manager

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-007		598984-008		598984-009		598984-010		598984-011		598984-012	
	Field Id:	MW2-60-080918		MW2-70-080918		MW2-80-080918		MW2-90-080918		SB12-4-080918		SB12-10-080918	
	Depth:	60-		70-		80-		90-		4-		10-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-08-18 07:40		Sep-08-18 07:45		Sep-08-18 07:50		Sep-08-18 07:55		Sep-08-18 08:55		Sep-08-18 09:00	
Chloride by EPA 300	***Extracted:***	Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00	
	Analyzed:	Sep-16-18 21:23		Sep-16-18 21:45		Sep-16-18 21:53		Sep-16-18 22:00		Sep-16-18 22:07		Sep-16-18 22:15	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<5.28	5.28	<7.72	7.72	<5.68	5.68	<5.30	5.30	11.4	6.10	<6.86	6.86
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6.09		35.8		11.4		5.73		18.9		27.6	

Debbie Simmons
Project Manager

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-013		598984-014		598984-015		598984-016		598984-017		598984-018	
	Field Id:	SB12-20-080918		SB12-30-080918		SB12-40-080918		SB12-50-080918		SB12-60-080918		SB12-70-080918	
	Depth:	20-		30-		40-		50-		60-		70-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-08-18 09:05		Sep-08-18 09:10		Sep-08-18 09:15		Sep-08-18 09:20		Sep-08-18 09:25		Sep-08-18 09:30	
Chloride by EPA 300	***Extracted:***	Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00	
	Analyzed:	Sep-16-18 22:22		Sep-16-18 22:45		Sep-16-18 22:52		Sep-16-18 23:14		Sep-16-18 23:22		Sep-16-18 23:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<8.05	8.05	7.26	5.29	18.0	5.27	72.6	5.33	169	8.61	374	5.38
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		38.3		5.68		6.06		6.14		42.1		7.78	

Debbie Simmons
Project Manager

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-019		598984-020		598984-021		598984-022		598984-023		598984-024	
	Field Id:	SB12-80-080918		SB12-90-080918		SB13-4-080918		SB13-10-080918		SB13-20-080918		SB13-30-080918	
	Depth:	80-		90-		4-		10-		20-		30-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-08-18 09:35		Sep-08-18 09:40		Sep-08-18 10:00		Sep-08-18 10:05		Sep-08-18 10:10		Sep-08-18 10:15	
Chloride by EPA 300	***Extracted:***	Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:00		Sep-16-18 17:30		Sep-16-18 17:30	
	Analyzed:	Sep-16-18 23:37		Sep-16-18 23:44		Sep-16-18 23:52		Sep-16-18 23:59		Sep-17-18 00:51		Sep-17-18 01:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		458	9.46	555	5.30	75.6	5.28	39.5	5.44	92.2	8.83	178	7.81
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		47.1		6.66		5.55		8.23		43.5		36.1	

Debbie Simmons
Project Manager

Final 1.000

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-025		598984-026		598984-027		598984-028		598984-029		598984-030	
	Field Id:	SB13-40-080918		SB13-50-080918		SB13-60-080918		SB13-70-080918		SB13-80-080918		SB13-90-080918	
	Depth:	40-		50-		60-		70-		80-		90-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-08-18 10:20		Sep-08-18 10:25		Sep-08-18 10:30		Sep-08-18 10:32		Sep-08-18 10:35		Sep-08-18 10:37	
Chloride by EPA 300	***Extracted:***	Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30	
	Analyzed:	Sep-17-18 01:21		Sep-17-18 01:28		Sep-17-18 01:36		Sep-17-18 01:58		Sep-17-18 02:05		Sep-17-18 02:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		107	5.36	<6.60	6.60	<5.35	5.35	<5.44	5.44	<8.94	8.94	<5.29	5.29
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6.85		24.2		6.47		8.09		44.7		6.05	

Debbie Simmons
Project Manager

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-031		598984-032		598984-033		598984-034		598984-035		598984-036	
	Field Id:	SB15-4-110918		SB15-10-110918		SB15-20-110918		SB15-30-110918		SB15-40-110918		SB15-50-110918	
	Depth:	4-		10-		20-		30-		40-		50-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 08:55		Sep-11-18 08:57		Sep-11-18 09:00		Sep-11-18 09:02		Sep-11-18 09:05		Sep-11-18 09:07	
Chloride by EPA 300	***Extracted:***	Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30	
	Analyzed:	Sep-17-18 02:20		Sep-17-18 02:28		Sep-17-18 02:35		Sep-17-18 02:57		Sep-17-18 03:05		Sep-17-18 03:27	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		208	5.37	545	5.42	296	5.33	102	5.17	<8.12	8.12	8.20	5.16
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6.90		7.90		6.19		3.56		38.8		4.15	

Debbie Simmons
Project Manager

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-037		598984-038		598984-039		598984-040		598984-041		598984-042	
	Field Id:	SB15-60-110918		SB15-70-110918		SB15-80-110918		SB15-90-110918		SB16-4-110918		SB16-10-110918	
	Depth:	60-		70-		80-		90-		4-		10-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 09:10		Sep-11-18 09:12		Sep-11-18 09:15		Sep-11-18 09:17		Sep-11-18 09:40		Sep-11-18 09:50	
Chloride by EPA 300	***Extracted:***	Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30		Sep-16-18 17:30	
	Analyzed:	Sep-17-18 03:34		Sep-17-18 03:42		Sep-17-18 03:49		Sep-17-18 03:57		Sep-17-18 04:04		Sep-17-18 04:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<7.97	7.97	9.32	5.15	10.6	5.23	8.74	5.20	133	5.29	433	5.30
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-13-18 18:30		Sep-14-18 12:30		Sep-14-18 12:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		37.9		3.73		4.27		4.67		5.54		4.98	

Debbie Simmons
Project Manager

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-043		598984-044		598984-045		598984-046		598984-047		598984-048	
	Field Id:	SB16-20-110918		SB16-30-110918		SB16-40-110918		SB16-50-110918		SB16-60-110918		SB16-70-110918	
	Depth:	20-		30-		40-		50-		60-		70-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 09:52		Sep-11-18 09:55		Sep-11-18 09:57		Sep-11-18 10:00		Sep-11-18 10:02		Sep-11-18 10:05	
Chloride by EPA 300	***Extracted:***	Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00	
	Analyzed:	Sep-16-18 19:38		Sep-16-18 20:09		Sep-16-18 20:19		Sep-16-18 20:29		Sep-16-18 20:40		Sep-16-18 21:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		116	8.37	40.1	7.32	22.3	5.26	37.0	9.36	19.6	5.21	37.4	8.55
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		39.6		31.8		5.17		46.5		4.84		41.3	

Debbie Simmons
Project Manager

Final 1.000

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-049		598984-050		598984-051		598984-052		598984-053		598984-054	
	Field Id:	SB16-80-110918		SB16-90-110918		SB17-4-110918		SB17-10-110918		SB17-20-110918		SB17-30-110918	
	Depth:	80-		90-		4-		10-		20-		30-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 10:07		Sep-11-18 10:10		Sep-11-18 10:17		Sep-11-18 10:20		Sep-11-18 10:22		Sep-11-18 10:25	
Chloride by EPA 300	***Extracted:***	Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00	
	Analyzed:	Sep-16-18 21:21		Sep-16-18 21:32		Sep-16-18 21:42		Sep-16-18 21:52		Sep-16-18 22:03		Sep-16-18 22:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		23.0	5.59	22.8	5.33	69.4	5.18	21.5	5.31	23.6	5.28	19.4	5.13
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		9.66		7.06		4.31		6.50		4.32		3.25	

Debbie Simmons
Project Manager

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-055		598984-056		598984-057		598984-058		598984-059		598984-060	
	Field Id:	SB17-40-110918		SB17-50-110918		SB17-60-110918		SB17-70-110918		SB17-80-110918		SB17-90-110918	
	Depth:	40-		50-		60-		70-		80-		90-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 10:27		Sep-11-18 10:30		Sep-11-18 10:32		Sep-11-18 10:35		Sep-11-18 10:37		Sep-11-18 10:40	
Chloride by EPA 300	***Extracted:***	Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:00	
	Analyzed:	Sep-16-18 22:44		Sep-16-18 23:15		Sep-16-18 23:25		Sep-16-18 23:36		Sep-16-18 23:46		Sep-16-18 23:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		20.2	5.16	19.2	5.20	19.6	5.29	20.1	5.21	19.4	5.20	19.7	5.22
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.14		4.44		4.88		4.84		4.54		4.57	

Debbie Simmons
Project Manager

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-061		598984-062		598984-063		598984-064		598984-065		598984-066	
	Field Id:	SB18-4-110918		SB18-10-110918		SB18-20-110918		SB18-30-110918		SB18-40-110918		SB18-50-110918	
	Depth:	4-		10-		20-		30-		40-		50-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 10:45		Sep-11-18 10:47		Sep-11-18 10:50		Sep-11-18 10:52		Sep-11-18 10:55		Sep-11-18 10:57	
Chloride by EPA 300	***Extracted:***	Sep-16-18 18:00		Sep-16-18 18:00		Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30	
	Analyzed:	Sep-17-18 00:07		Sep-17-18 00:17		Sep-17-18 01:19		Sep-17-18 01:50		Sep-17-18 02:00		Sep-17-18 02:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		64.1	5.17	586	5.36	271	5.28	230	5.19	381	5.31	361	5.21
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.29		6.75		6.03		4.67		5.92		4.98	

Debbie Simmons
Project Manager

Final 1.000

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-067		598984-068		598984-069		598984-070		598984-071		598984-072	
	Field Id:	SB18-60-110918		SB18-70-110918		SB18-80-110918		SB18-90-110918		SB19-4-110918		SB19-10-110918	
	Depth:	60-		70-		80-		90-		4-		10-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 11:00		Sep-11-18 11:02		Sep-11-18 11:05		Sep-11-18 11:07		Sep-11-18 11:05		Sep-11-18 11:07	
Chloride by EPA 300	***Extracted:***	Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30	
	Analyzed:	Sep-17-18 02:21		Sep-17-18 02:52		Sep-17-18 03:03		Sep-17-18 03:13		Sep-17-18 03:23		Sep-17-18 03:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		175	5.30	138	5.28	49.4	5.24	85.9	5.23	102	5.18	125	5.39
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		5.86		5.51		4.73		4.53		3.83		7.34	

Debbie Simmons
Project Manager

Final 1.000

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-073		598984-074		598984-075		598984-076		598984-077		598984-078	
	Field Id:	SB19-20-110918		SB19-30-110918		SB19-40-110918		SB19-50-110918		SB19-60-110918		SB19-70-110918	
	Depth:	20-		30-		40-		50-		60-		70-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 11:10		Sep-11-18 11:12		Sep-11-18 11:15		Sep-11-18 11:17		Sep-11-18 11:20		Sep-11-18 11:22	
Chloride by EPA 300	***Extracted:***	Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30	
	Analyzed:	Sep-17-18 03:44		Sep-17-18 04:15		Sep-17-18 04:25		Sep-17-18 04:56		Sep-17-18 05:07		Sep-17-18 05:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		291	5.42	63.5	5.18	55.5	5.16	52.1	7.52	45.5	5.25	36.0	5.24
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		7.77		3.53		3.85		33.9		4.75		5.16	

Debbie Simmons
Project Manager

Final 1.000

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-079		598984-080		598984-081		598984-082		598984-083		598984-084	
	Field Id:	SB19-80-110918		SB19-90-110918		SB20-4-110918		SB20-10-110918		SB20-20-110918		SB20-30-110918	
	Depth:	80-		90-		4-		10-		20-		30-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 11:25		Sep-11-18 11:27		Sep-11-18 11:42		Sep-11-18 11:45		Sep-11-18 11:47		Sep-11-18 11:50	
Chloride by EPA 300	***Extracted:***	Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30		Sep-16-18 18:30		Sep-17-18 08:30		Sep-17-18 08:30	
	Analyzed:	Sep-17-18 05:27		Sep-17-18 05:38		Sep-17-18 05:48		Sep-17-18 05:58		Sep-17-18 09:54		Sep-17-18 10:25	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		28.6	5.24	26.2	5.24	294	5.42	58.7	5.47	84.8	5.32	114	5.27
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		4.62		4.57		8.68		8.18		7.03		4.22	

Debbie Simmons
Project Manager

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-085		598984-086		598984-087		598984-088		598984-089		598984-090	
	Field Id:	SB20-40-110918		SB20-50-110918		SB20-60-110918		SB20-70-110918		SB20-80-110918		SB20-90-110918	
	Depth:	40-		50-		60-		70-		80-		90-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 11:52		Sep-11-18 11:57		Sep-11-18 12:00		Sep-11-18 12:02		Sep-11-18 12:05		Sep-11-18 12:07	
Chloride by EPA 300	***Extracted:***	Sep-17-18 08:30		Sep-17-18 08:30		Sep-17-18 08:30		Sep-17-18 08:30		Sep-17-18 08:30		Sep-17-18 08:30	
	Analyzed:	Sep-17-18 10:35		Sep-17-18 10:45		Sep-17-18 10:56		Sep-17-18 11:27		Sep-17-18 11:37		Sep-17-18 11:47	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		291	5.31	590	5.26	1020	26.4	2040	26.3	2500	26.4	2390	26.1
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		6.85		5.86		5.37		5.25		4.97		5.28	

Debbie Simmons
Project Manager

Final 1.000

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-091		598984-092		598984-093		598984-094		598984-095		598984-096	
	Field Id:	SB14-4-110918		SB14-10-110918		SB14-20-110918		SB14-30-110918		SB14-40-110918		SB14-50-110918	
	Depth:	4-		10-		20-		30-		40-		50-	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-11-18 07:52		Sep-11-18 07:55		Sep-11-18 07:57		Sep-11-18 08:00		Sep-11-18 08:02		Sep-11-18 08:05	
Chloride by EPA 300	***Extracted:***	Sep-17-18 08:30		Sep-17-18 08:30		Sep-17-18 08:30		Sep-17-18 08:30		Sep-17-18 08:30		Sep-17-18 08:30	
	Analyzed:	Sep-17-18 11:58		Sep-17-18 12:08		Sep-17-18 12:18		Sep-17-18 12:49		Sep-17-18 13:00		Sep-17-18 13:31	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		578	5.22	119	5.43	49.5	5.39	29.4	5.23	26.4	5.27	22.2	5.27
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		5.14		7.90		6.80		5.39		5.29		5.34	

Debbie Simmons
Project Manager

Final 1.000

Certificate of Analysis Summary 598984

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location: Lovington, NM

Date Received in Lab: Thu Sep-13-18 01:00 pm
Report Date: 27-SEP-18
Project Manager: Debbie Simmons

Analysis Requested													
	Lab Id:	598984-097		598984-098		598984-099		598984-100					
	Field Id:	SB14-60-110918		SB14-70-110918		SB14-80-110918		SB14-90-110918					
	Depth:	60-		70-		80-		90-					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Sep-11-18 08:07		Sep-11-18 08:10		Sep-11-18 08:12		Sep-11-18 08:15					
Chloride by EPA 300	***Extracted:***	Sep-17-18 08:30		Sep-17-18 08:30		Sep-17-18 08:30		Sep-17-18 08:30					
	Analyzed:	Sep-17-18 13:41		Sep-17-18 13:52		Sep-17-18 14:02		Sep-17-18 14:12					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		23.1	5.24	25.2	5.36	23.3	5.32	21.9	5.32				
Percent Moisture	***Extracted:***												
	Analyzed:	Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30		Sep-14-18 12:30					
	Units/RL:	%	RL	%	RL	%	RL	%	RL				
Percent Moisture		5.55		5.70		6.89		6.99					

Debbie Simmons
Project Manager

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**MW2-4-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-001	Date Collected:	09.08.18 07.05	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	19.84
Analyst:	SCM	Date Prep:	09.15.18 10.40	Basis:	Dry Weight
Seq Number:	3063540				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.7**	6.23	mg/kg	09.15.18 11.22		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**MW2-10-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-002	Date Collected:	09.08.18 07.06	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	7.08
Analyst:	SCM	Date Prep:	09.15.18 10.40	Basis:	Dry Weight
Seq Number:	3063540				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**25.3**	5.33	mg/kg	09.15.18 13.47		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**MW2-20-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-003	Date Collected:	09.08.18 07.07	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	4.9
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15.4**	5.31	mg/kg	09.16.18 20.38		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**MW2-30-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-004	Date Collected:	09.08.18 07.10	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	27.59
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<6.97	6.97	mg/kg	09.16.18 21.01	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**MW2-40-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-005	Date Collected:	09.08.18 07.15	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	30.32
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<7.10	7.10	mg/kg	09.16.18 21.08	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**MW2-50-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-006	Date Collected:	09.08.18 07.25	Sample Depth:	50
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	49.41
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14.9**	9.92	mg/kg	09.16.18 21.15		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**MW2-60-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-007	Date Collected:	09.08.18 07.40	Sample Depth:	60
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	6.09
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.28	5.28	mg/kg	09.16.18 21.23	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**MW2-70-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-008	Date Collected:	09.08.18 07.45	Sample Depth:	70
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	35.84
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<7.72	7.72	mg/kg	09.16.18 21.45	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**MW2-80-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-009	Date Collected:	09.08.18 07.50	Sample Depth:	80
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	11.41
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.68	5.68	mg/kg	09.16.18 21.53	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**MW2-90-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-010	Date Collected:	09.08.18 07.55	Sample Depth:	90
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	5.73
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.30	5.30	mg/kg	09.16.18 22.00	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB12-4-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-011	Date Collected:	09.08.18 08.55	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	18.85
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11.4**	6.10	mg/kg	09.16.18 22.07		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB12-10-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-012	Date Collected:	09.08.18 09.00	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	27.57
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<6.86	6.86	mg/kg	09.16.18 22.15	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB12-20-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-013	Date Collected:	09.08.18 09.05	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	38.27
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<8.05	8.05	mg/kg	09.16.18 22.22	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB12-30-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-014	Date Collected:	09.08.18 09.10	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	5.68
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.26**	5.29	mg/kg	09.16.18 22.45		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB12-40-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-015	Date Collected:	09.08.18 09.15	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	6.06
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.0**	5.27	mg/kg	09.16.18 22.52		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB12-50-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-016	Date Collected:	09.08.18 09.20	Sample Depth:	50
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	6.14
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**72.6**	5.33	mg/kg	09.16.18 23.14		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB12-60-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-017	Date Collected:	09.08.18 09.25	Sample Depth:	60
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	42.06
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**169**	8.61	mg/kg	09.16.18 23.22		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB12-70-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-018	Date Collected:	09.08.18 09.30	Sample Depth:	70
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	7.78
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**374**	5.38	mg/kg	09.16.18 23.29		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB12-80-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-019	Date Collected:	09.08.18 09.35	Sample Depth:	80
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	47.12
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**458**	9.46	mg/kg	09.16.18 23.37		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB12-90-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-020	Date Collected:	09.08.18 09.40	Sample Depth:	90
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	6.66
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**555**	5.30	mg/kg	09.16.18 23.44		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB13-4-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-021	Date Collected:	09.08.18 10.00	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	5.55
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**75.6**	5.28	mg/kg	09.16.18 23.52		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB13-10-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-022	Date Collected:	09.08.18 10.05	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	8.23
Analyst:	CHE	Date Prep:	09.16.18 17.00	Basis:	Dry Weight
Seq Number:	3063502				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.5**	5.44	mg/kg	09.16.18 23.59		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB13-20-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-023	Date Collected:	09.08.18 10.10	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	43.46
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**92.2**	8.83	mg/kg	09.17.18 00.51		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB13-30-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-024	Date Collected:	09.08.18 10.15	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	36.11
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**178**	7.81	mg/kg	09.17.18 01.13		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB13-40-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-025	Date Collected:	09.08.18 10.20	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	6.85
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**107**	5.36	mg/kg	09.17.18 01.21		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB13-50-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-026	Date Collected:	09.08.18 10.25	Sample Depth:	50
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	24.21
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<6.60	6.60	mg/kg	09.17.18 01.28	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB13-60-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-027	Date Collected:	09.08.18 10.30	Sample Depth:	60
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	6.47
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.35	5.35	mg/kg	09.17.18 01.36	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB13-70-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-028	Date Collected:	09.08.18 10.32	Sample Depth:	70
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	8.09
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.44	5.44	mg/kg	09.17.18 01.58	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB13-80-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-029	Date Collected:	09.08.18 10.35	Sample Depth:	80
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	44.65
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<8.94	8.94	mg/kg	09.17.18 02.05	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB13-90-080918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-030	Date Collected:	09.08.18 10.37	Sample Depth:	90
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	6.05
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.29	5.29	mg/kg	09.17.18 02.13	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB15-4-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-031	Date Collected:	09.11.18 08.55	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	6.9
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**208**	5.37	mg/kg	09.17.18 02.20		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB15-10-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-032	Date Collected:	09.11.18 08.57	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	7.9
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**545**	5.42	mg/kg	09.17.18 02.28		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB15-20-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-033	Date Collected:	09.11.18 09.00	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	6.19
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**296**	5.33	mg/kg	09.17.18 02.35		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB15-30-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-034	Date Collected:	09.11.18 09.02	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	3.56
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**102**	5.17	mg/kg	09.17.18 02.57		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB15-40-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-035	Date Collected:	09.11.18 09.05	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	38.82
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<8.12	8.12	mg/kg	09.17.18 03.05	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB15-50-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-036	Date Collected:	09.11.18 09.07	Sample Depth:	50
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	4.15
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.20**	5.16	mg/kg	09.17.18 03.27		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB15-60-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-037	Date Collected:	09.11.18 09.10	Sample Depth:	60
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	37.86
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<7.97	7.97	mg/kg	09.17.18 03.34	U	1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB15-70-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-038	Date Collected:	09.11.18 09.12	Sample Depth:	70
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	3.73
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9.32**	5.15	mg/kg	09.17.18 03.42		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB15-80-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-039	Date Collected:	09.11.18 09.15	Sample Depth:	80
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	4.27
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**10.6**	5.23	mg/kg	09.17.18 03.49		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB15-90-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-040	Date Collected:	09.11.18 09.17	Sample Depth:	90
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	4.67
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.74**	5.20	mg/kg	09.17.18 03.57		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB16-4-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-041	Date Collected:	09.11.18 09.40	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	5.54
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**133**	5.29	mg/kg	09.17.18 04.04		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB16-10-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-042	Date Collected:	09.11.18 09.50	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	4.98
Analyst:	CHE	Date Prep:	09.16.18 17.30	Basis:	Dry Weight
Seq Number:	3063503				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**433**	5.30	mg/kg	09.17.18 04.11		1

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GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB16-20-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-043	Date Collected:	09.11.18 09.52	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	39.63
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**116**	8.37	mg/kg	09.16.18 19.38		1

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GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB16-30-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-044	Date Collected:	09.11.18 09.55	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	31.84
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**40.1**	7.32	mg/kg	09.16.18 20.09		1

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GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB16-40-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-045	Date Collected:	09.11.18 09.57	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.17
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22.3**	5.26	mg/kg	09.16.18 20.19		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB16-50-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-046	Date Collected:	09.11.18 10.00	Sample Depth:	50
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	46.49
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**37.0**	9.36	mg/kg	09.16.18 20.29		1

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GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB16-60-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-047	Date Collected:	09.11.18 10.02	Sample Depth:	60
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.84
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.6**	5.21	mg/kg	09.16.18 20.40		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB16-70-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-048	Date Collected:	09.11.18 10.05	Sample Depth:	70
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	41.27
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**37.4**	8.55	mg/kg	09.16.18 21.11		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB16-80-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-049	Date Collected:	09.11.18 10.07	Sample Depth:	80
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	9.66
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.0**	5.59	mg/kg	09.16.18 21.21		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB16-90-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-050	Date Collected:	09.11.18 10.10	Sample Depth:	90
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	7.06
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22.8**	5.33	mg/kg	09.16.18 21.32		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB17-4-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-051	Date Collected:	09.11.18 10.17	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.31
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**69.4**	5.18	mg/kg	09.16.18 21.42		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB17-10-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-052	Date Collected:	09.11.18 10.20	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	6.5
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**21.5**	5.31	mg/kg	09.16.18 21.52		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB17-20-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-053	Date Collected:	09.11.18 10.22	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.32
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.6**	5.28	mg/kg	09.16.18 22.03		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB17-30-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-054	Date Collected:	09.11.18 10.25	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	3.25
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.4**	5.13	mg/kg	09.16.18 22.34		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB17-40-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-055	Date Collected:	09.11.18 10.27	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.14
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.2**	5.16	mg/kg	09.16.18 22.44		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB17-50-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-056	Date Collected:	09.11.18 10.30	Sample Depth:	50
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.44
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.2**	5.20	mg/kg	09.16.18 23.15		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB17-60-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-057	Date Collected:	09.11.18 10.32	Sample Depth:	60
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.88
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.6**	5.29	mg/kg	09.16.18 23.25		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB17-70-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-058	Date Collected:	09.11.18 10.35	Sample Depth:	70
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.84
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**20.1**	5.21	mg/kg	09.16.18 23.36		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB17-80-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-059	Date Collected:	09.11.18 10.37	Sample Depth:	80
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.54
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.4**	5.20	mg/kg	09.16.18 23.46		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB17-90-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-060	Date Collected:	09.11.18 10.40	Sample Depth:	90
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.57
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**19.7**	5.22	mg/kg	09.16.18 23.56		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB18-4-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-061	Date Collected:	09.11.18 10.45	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.29
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**64.1**	5.17	mg/kg	09.17.18 00.07		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB18-10-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-062	Date Collected:	09.11.18 10.47	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	6.75
Analyst:	SCM	Date Prep:	09.16.18 18.00	Basis:	Dry Weight
Seq Number:	3063560				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**586**	5.36	mg/kg	09.17.18 00.17		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB18-20-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-063	Date Collected:	09.11.18 10.50	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	6.03
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**271**	5.28	mg/kg	09.17.18 01.19		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB18-30-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-064	Date Collected:	09.11.18 10.52	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.67
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**230**	5.19	mg/kg	09.17.18 01.50		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB18-40-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-065	Date Collected:	09.11.18 10.55	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.92
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**381**	5.31	mg/kg	09.17.18 02.00		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB18-50-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-066	Date Collected:	09.11.18 10.57	Sample Depth:	50
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.98
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**361**	5.21	mg/kg	09.17.18 02.11		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB18-60-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-067	Date Collected:	09.11.18 11.00	Sample Depth:	60
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.86
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**175**	5.30	mg/kg	09.17.18 02.21		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB18-70-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-068	Date Collected:	09.11.18 11.02	Sample Depth:	70
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.51
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**138**	5.28	mg/kg	09.17.18 02.52		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB18-80-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-069	Date Collected:	09.11.18 11.05	Sample Depth:	80
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.73
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**49.4**	5.24	mg/kg	09.17.18 03.03		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB18-90-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-070	Date Collected:	09.11.18 11.07	Sample Depth:	90
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.53
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**85.9**	5.23	mg/kg	09.17.18 03.13		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB19-4-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-071	Date Collected:	09.11.18 11.05	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	3.83
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**102**	5.18	mg/kg	09.17.18 03.23		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB19-10-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-072	Date Collected:	09.11.18 11.07	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	7.34
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**125**	5.39	mg/kg	09.17.18 03.34		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB19-20-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-073	Date Collected:	09.11.18 11.10	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	7.77
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**291**	5.42	mg/kg	09.17.18 03.44		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB19-30-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-074	Date Collected:	09.11.18 11.12	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	3.53
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**63.5**	5.18	mg/kg	09.17.18 04.15		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB19-40-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-075	Date Collected:	09.11.18 11.15	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	3.85
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**55.5**	5.16	mg/kg	09.17.18 04.25		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB19-50-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-076	Date Collected:	09.11.18 11.17	Sample Depth:	50
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	33.92
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**52.1**	7.52	mg/kg	09.17.18 04.56		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB19-60-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-077	Date Collected:	09.11.18 11.20	Sample Depth:	60
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.75
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**45.5**	5.25	mg/kg	09.17.18 05.07		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB19-70-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-078	Date Collected:	09.11.18 11.22	Sample Depth:	70
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.16
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**36.0**	5.24	mg/kg	09.17.18 05.17		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB19-80-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-079	Date Collected:	09.11.18 11.25	Sample Depth:	80
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.62
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**28.6**	5.24	mg/kg	09.17.18 05.27		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB19-90-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-080	Date Collected:	09.11.18 11.27	Sample Depth:	90
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.57
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.2**	5.24	mg/kg	09.17.18 05.38		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB20-4-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-081	Date Collected:	09.11.18 11.42	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	8.68
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**294**	5.42	mg/kg	09.17.18 05.48		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB20-10-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-082	Date Collected:	09.11.18 11.45	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	8.18
Analyst:	SCM	Date Prep:	09.16.18 18.30	Basis:	Dry Weight
Seq Number:	3063564				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**58.7**	5.47	mg/kg	09.17.18 05.58		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB20-20-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-083	Date Collected:	09.11.18 11.47	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	7.03
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**84.8**	5.32	mg/kg	09.17.18 09.54		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB20-30-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-084	Date Collected:	09.11.18 11.50	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.22
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**114**	5.27	mg/kg	09.17.18 10.25		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB20-40-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-085	Date Collected:	09.11.18 11.52	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	6.85
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**291**	5.31	mg/kg	09.17.18 10.35		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB20-50-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-086	Date Collected:	09.11.18 11.57	Sample Depth:	50
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.86
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**590**	5.26	mg/kg	09.17.18 10.45		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB20-60-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-087	Date Collected:	09.11.18 12.00	Sample Depth:	60
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.37
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1020**	26.4	mg/kg	09.17.18 10.56		5

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB20-70-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-088	Date Collected:	09.11.18 12.02	Sample Depth:	70
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.25
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2040**	26.3	mg/kg	09.17.18 11.27		5

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB20-80-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-089	Date Collected:	09.11.18 12.05	Sample Depth:	80
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	4.97
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2500**	26.4	mg/kg	09.17.18 11.37		5

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB20-90-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-090	Date Collected:	09.11.18 12.07	Sample Depth:	90
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.28
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2390**	26.1	mg/kg	09.17.18 11.47		5

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB14-4-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-091	Date Collected:	09.11.18 07.52	Sample Depth:	4
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.14
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**578**	5.22	mg/kg	09.17.18 11.58		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB14-10-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-092	Date Collected:	09.11.18 07.55	Sample Depth:	10
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	7.9
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**119**	5.43	mg/kg	09.17.18 12.08		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB14-20-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-093	Date Collected:	09.11.18 07.57	Sample Depth:	20
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	6.8
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**49.5**	5.39	mg/kg	09.17.18 12.18		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB14-30-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-094	Date Collected:	09.11.18 08.00	Sample Depth:	30
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.39
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.4**	5.23	mg/kg	09.17.18 12.49		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB14-40-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-095	Date Collected:	09.11.18 08.02	Sample Depth:	40
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.29
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**26.4**	5.27	mg/kg	09.17.18 13.00		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB14-50-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-096	Date Collected:	09.11.18 08.05	Sample Depth:	50
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.34
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**22.2**	5.27	mg/kg	09.17.18 13.31		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB14-60-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-097	Date Collected:	09.11.18 08.07	Sample Depth:	60
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.55
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.1**	5.24	mg/kg	09.17.18 13.41		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB14-70-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-098	Date Collected:	09.11.18 08.10	Sample Depth:	70
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	5.7
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**25.2**	5.36	mg/kg	09.17.18 13.52		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB14-80-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-099	Date Collected:	09.11.18 08.12	Sample Depth:	80
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	6.89
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.3**	5.32	mg/kg	09.17.18 14.02		1

Certificate of Analytical Results 598984

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id:	**SB14-90-110918**	Matrix:	Soil	Date Received:	09.13.18 13.00
Lab Sample Id:	598984-100	Date Collected:	09.11.18 08.15	Sample Depth:	90
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	6.99
Analyst:	SCM	Date Prep:	09.17.18 08.30	Basis:	Dry Weight
Seq Number:	3063515				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**21.9**	5.32	mg/kg	09.17.18 14.12		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.

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

QC Summary 598984

GHD Services, INC- Midland

CEMC LPU-60

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063540 — Matrix: Solid — Date Prep: 09.15.18
MB Sample Id: 7662450-1-BLK — LCS Sample Id: 7662450-1-BKS — LCSD Sample Id: 7662450-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	231	92	232	93	90-110	0	20	mg/kg	09.15.18 11:02	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063560 — Matrix: Solid — Date Prep: 09.16.18
MB Sample Id: 7662451-1-BLK — LCS Sample Id: 7662451-1-BKS — LCSD Sample Id: 7662451-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	248	99	248	99	90-110	0	20	mg/kg	09.16.18 19:17	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063564 — Matrix: Solid — Date Prep: 09.16.18
MB Sample Id: 7662452-1-BLK — LCS Sample Id: 7662452-1-BKS — LCSD Sample Id: 7662452-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	238	95	237	95	90-110	0	20	mg/kg	09.17.18 00:58	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063515 — Matrix: Solid — Date Prep: 09.17.18
MB Sample Id: 7662453-1-BLK — LCS Sample Id: 7662453-1-BKS — LCSD Sample Id: 7662453-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.99	250	256	102	251	100	90-110	2	20	mg/kg	09.17.18 09:33	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063502 — Matrix: Solid — Date Prep: 09.16.18
LCS Sample Id: 7662465-1-BKS

Parameter	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Chloride	275	250	275	110	90-110	mg/kg	09.16.18 20:24	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 598984

GHD Services, INC- Midland

CEMC LPU-60

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063503 — Matrix: Solid — Date Prep: 09.16.18
LCS Sample Id: 7662466-1-BKS

Parameter		Spike Amount	LCS Result	LCS %Rec	Limits	Units	Analysis Date	Flag
Chloride	273	250	273	109	90-110	mg/kg	09.17.18 00:36	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063540 — Matrix: Soil — Date Prep: 09.15.18
Parent Sample Id: 598984-001 — MS Sample Id: 598984-001 S — MSD Sample Id: 598984-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.7	311	288	85	288	85	90-110	0	20	mg/kg	09.15.18 11:33	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063540 — Matrix: Soil — Date Prep: 09.15.18
Parent Sample Id: 598984-002 — MS Sample Id: 598984-002 S — MSD Sample Id: 598984-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	25.3	266	262	89	263	89	90-110	0	20	mg/kg	09.15.18 13:58	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063502 — Matrix: Soil — Date Prep: 09.16.18
Parent Sample Id: 598984-003 — MS Sample Id: 598984-003 S — MSD Sample Id: 598984-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.4	266	289	103	290	103	90-110	0	20	mg/kg	09.16.18 20:46	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063503 — Matrix: Soil — Date Prep: 09.16.18
Parent Sample Id: 598984-023 — MS Sample Id: 598984-023 S — MSD Sample Id: 598984-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	92.2	441	556	105	557	105	90-110	0	20	mg/kg	09.17.18 00:58	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 598984

GHD Services, INC- Midland

CEMC LPU-60

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063503 — Matrix: Soil — Date Prep: 09.16.18
Parent Sample Id: 598984-033 — MS Sample Id: 598984-033 S — MSD Sample Id: 598984-033 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	296	266	564	101	567	102	90-110	1	20	mg/kg	09.17.18 02:42	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063560 — Matrix: Soil — Date Prep: 09.16.18
Parent Sample Id: 598984-043 — MS Sample Id: 598984-043 S — MSD Sample Id: 598984-043 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	116	418	514	95	515	95	90-110	0	20	mg/kg	09.16.18 19:48	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063560 — Matrix: Soil — Date Prep: 09.16.18
Parent Sample Id: 598984-053 — MS Sample Id: 598984-053 S — MSD Sample Id: 598984-053 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.6	264	256	88	257	88	90-110	0	20	mg/kg	09.16.18 22:13	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063564 — Matrix: Soil — Date Prep: 09.16.18
Parent Sample Id: 598984-063 — MS Sample Id: 598984-063 S — MSD Sample Id: 598984-063 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	271	264	546	104	547	105	90-110	0	20	mg/kg	09.17.18 01:29	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063564 — Matrix: Soil — Date Prep: 09.16.18
Parent Sample Id: 598984-073 — MS Sample Id: 598984-073 S — MSD Sample Id: 598984-073 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	291	271	571	103	572	104	90-110	0	20	mg/kg	09.17.18 03:54	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 598984

GHD Services, INC- Midland

CEMC LPU-60

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063515 — Matrix: Soil — Date Prep: 09.17.18
Parent Sample Id: 598984-083 — MS Sample Id: 598984-083 S — MSD Sample Id: 598984-083 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	84.8	266	351	100	352	100	90-110	0	20	mg/kg	09.17.18 10:04	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3063515 — Matrix: Soil — Date Prep: 09.17.18
Parent Sample Id: 598984-093 — MS Sample Id: 598984-093 S — MSD Sample Id: 598984-093 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	49.5	269	307	96	307	96	90-110	0	20	mg/kg	09.17.18 12:29	

Analytical Method: Percent Moisture
Seq Number: 3063183 — Matrix: Solid
MB Sample Id: 3063183-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	<	%	09.13.18 18:30	

Analytical Method: Percent Moisture
Seq Number: 3063186 — Matrix: Solid
MB Sample Id: 3063186-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	<	%	09.13.18 18:30	

Analytical Method: Percent Moisture
Seq Number: 3063242 — Matrix: Solid
MB Sample Id: 3063242-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Percent Moisture	<	%	09.14.18 12:30	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 598984

GHD Services, INC- Midland

CEMC LPU-60

Analytical Method: **Percent Moisture**
Seq Number: 3063244 Matrix: Solid
MB Sample Id: 3063244-1-BLK

Parameter	MB Result		Units	Analysis Date	Flag
Percent Moisture	<		%	09.14.18 12:30	

Analytical Method: **Percent Moisture**
Seq Number: 3063245 Matrix: Solid
MB Sample Id: 3063245-1-BLK

Parameter	MB Result		Units	Analysis Date	Flag
Percent Moisture	<		%	09.14.18 12:30	

Analytical Method: **Percent Moisture**
Seq Number: 3063183 Matrix: Soil
Parent Sample Id: 598984-001 MD Sample Id: 598984-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	19.8	19.8	0	20	%	09.13.18 18:30	

Analytical Method: **Percent Moisture**
Seq Number: 3063183 Matrix: Soil
Parent Sample Id: 598984-011 MD Sample Id: 598984-011 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	18.9	18.4	3	20	%	09.13.18 18:30	

Analytical Method: **Percent Moisture**
Seq Number: 3063186 Matrix: Soil
Parent Sample Id: 598984-021 MD Sample Id: 598984-021 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	5.55	5.55	0	20	%	09.13.18 18:30	

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

QC Summary 598984

GHD Services, INC- Midland

CEMC LPU-60

Analytical Method: **Percent Moisture**
Seq Number: 3063186 Matrix: Soil
Parent Sample Id: 598984-031 MD Sample Id: 598984-031 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	6.90	7.23	5	20	%	09.13.18 18:30	

Analytical Method: **Percent Moisture**
Seq Number: 3063242 Matrix: Soil
Parent Sample Id: 598984-041 MD Sample Id: 598984-041 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	5.54	5.39	3	20	%	09.14.18 12:30	

Analytical Method: **Percent Moisture**
Seq Number: 3063242 Matrix: Soil
Parent Sample Id: 598984-051 MD Sample Id: 598984-051 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	4.31	4.24	2	20	%	09.14.18 12:30	

Analytical Method: **Percent Moisture**
Seq Number: 3063244 Matrix: Soil
Parent Sample Id: 598984-061 MD Sample Id: 598984-061 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	4.29	4.17	3	20	%	09.14.18 12:30	

Analytical Method: **Percent Moisture**
Seq Number: 3063244 Matrix: Soil
Parent Sample Id: 598984-071 MD Sample Id: 598984-071 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	3.83	3.78	1	20	%	09.14.18 12:30	

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

QC Summary 598984

GHD Services, INC- Midland

CEMC LPU-60

Analytical Method: **Percent Moisture**

Seq Number: 3063245 Matrix: Soil

Parent Sample Id: 598984-081 MD Sample Id: 598984-081 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	8.68	8.62	1	20	%	09.14.18 12:30	

Analytical Method: **Percent Moisture**

Seq Number: 3063245 Matrix: Soil

Parent Sample Id: 598984-091 MD Sample Id: 598984-091 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Percent Moisture	5.14	5.24	2	20	%	09.14.18 12:30	

MS/MSD Percent Recovery	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

XENCO LABORATORIES

Setting the Standard since 1990

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Norcross, Georgia (770-449-8800)
Lakeland, Florida (863-646-8526)
Tampa, Florida (813-620-2000)

Xenco Quote # | **Xenco Job #** 5989847

Client / Reporting information

Company Name / Branch: GHD-Midland
Company Address: 2135 S Loop 250 W, Midland, TX 79703
Email: william.foord@ghd.com, Christopher.Knight@ghd.com
Phone No: 713-734-3090, 512-506-8803
Project Contact: Scott Foord
Samplers's Name

Project Information

Project Name/Number: CEMCLPU-60/ 073817-2018-001
Project Location: Lovington, NM
Invoice To: Cenergy Partners c/o Jason Michaelson, Chevron Enviromental Management Company, 1400 Smith Street, Office 07084 Houston, Texas 77002
PO Number:

Analytical Information

Matrix Codes

S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
W = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	% Moisture	Field Comments
1	MW2-4-080918	4	9/8/18	0705	S	1								✓	✓	✓	
2	MW2-10-080918	10	9/8/18	0706	S	1								✓	✓	✓	
3	MW2-20-080918	20	9/8/18	0707	S	1								✓	✓	✓	
4	MW2-30-080918	30	9/8/18	0710	S	1								✓	✓	✓	
5	MW2-40-080918	40	9/8/18	0715	S	1								✓	✓	✓	
6	MW2-50-080918	50	9/8/18	0725	S	1								✓	✓	✓	
7	MW2-60-080918	60	9/8/18	0740	S	1								✓	✓		
8	MW2-70-080918	70	9/8/18	0745	S	1								✓	✓		
9	MW2-80-080918	80	9/8/18	0750	S	1								✓	✓	✓	
10	MW2-90-080918	90	9/8/18	0755	S	1								✓	✓	✓	

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking # 7731 1825 7015

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		9/12/18 5:00			9/13/18 1300	
2						
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice ✓

Cooler Temp. 3.8 RP Thermo. Corr. Factor 0.0

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Lakeland, Florida (863-646-8526)
Tampa, Florida (813-620-2000)
www.xenco.com

Xenco Quote #
Xenco Job # 598984

Client / Reporting Information

Company Name / Branch: GHD-Midland
Company Address: 2135 S Loop 250 W, Midland, TX 79703
Email: william.foord@ghd.com; Christopher.Knight@ghd.com
Phone No: 713-734-3090; 512-506-8803
Project Contact: Scott Foord
Samplers's Name

Project Information

Project Name/Number: CEMCLPU-60/ 073817-2018-001
Project Location: Lovington, NM
Invoice To: Cenergy Partners c/o Jason Michaelson; Chevron Enviromental Management Company; 1400 Smith Street, Office 07084 Houston, Texas 77002
PO Number:

Analytical Information

Matrix Codes

S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
W = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	% Moisture	Field Comments
1	SB12-4-080918	4	9/8/18	0855	S	1											
2	SB12-10-080918	10	9/8/18	0900	S	1											
3	SB12-20-080918	20	9/8/18	0905	S	1											
4	SB12-30-080918	30	9/8/18	0910	S	1											
5	SB12-40-080918	40	9/8/18	0915	S	1											
6	SB12-50-080918	50	9/8/18	0920	S	1											
7	SB12-60-080918	60	9/8/18	0925	S	1											
8	SB12-70-080918	70	9/8/18	0930	S	1											
9	SB12-80-080918	80	9/8/18	0935	S	1											
10	SB12-90-080918	90	9/8/18	0940	S	1											

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- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

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	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		9/12/18 5:00	1	2	9/13/18 1300	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: ✓ Cooler Temp. 3.8 R8 Thermo. Corr. Factor 0.0

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Project Contact: Scott Foord
Samplers's Name

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No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	% Moisture	Field Comments
1	SB13-4-080918	4	9/18/18	1000	S	1											
2	SB13-10-080918	10	9/18/18	1005													
3	SB13-20-080918	20	9/18/18	1010													
4	SB13-30-080918	30	9/18/18	1015													
5	SB13-40-080918	40	9/18/18	1020													
6	SB13-50-080918	50	9/18/18	1025													
7	SB13-60-080918	60	9/18/18	1030													
8	SB13-70-080918	70	9/18/18	1032													
9	SB13-80-080918	80	9/18/18	1035													
10	SB13-90-080918	90	9/18/18	1037													

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- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
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1		9/12/18 5:00	1	2	9/13/18 1300	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ✓ Cooler Temp. 3.8 Thermo. Corr. Factor RO-0

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Email: william.foord@ghd.com, Christopher.Knight@ghd.com
Phone No: 713-734-3090, 512-506-8803
Project Contact: Scott Foord
Samplers's Name: Sean Parry

Project Information

Project Name/Number: CEMCLPU-60/ 073817-2018-001
Project Location: Lovington, NM
Invoice To: Cenergy Partners c/o Jason Michaelson, Chevron Enviromental Management Company, 1400 Smith Street, Office 07084 Houston, Texas 77002
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Analytical Information

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No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	% Moisture	Field Comments
1	SBIS-4-110918	4	9/4/18	0855	S	1											
2	SBIS-10-110918	10		0857		1											
3	SBIS-20-110918	20		0900		1											
4	SBIS-30-110918	30		0902		1											
5	SBIS-40-110918	40		0905		1											
6	SBIS-50-110918	50		0907		1											
7	SBIS-60-110918	60		0910		1											
8	SBIS-70-110918	70		0912		1											
9	SBIS-80-110918	80		0915		1											
10	SBIS-90-110918	90		0917		1											

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2						
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
						✓ 3.8 R8 0.0

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Company Name / Branch: GHD-Midland

Company Address: 2135 S Loop 250 W, Midland, TX 79703

Email: william.foord@ghd.com; Christopher.Knight@ghd.com

Phone No: 713-734-3090; 512-506-8803

Project Contact: Scott Foord

Samplers's Name Sean Parry

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No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	% Moisture	Field Comments
1	SB16-4-110918	4	9/11/18	0947	S	1											
2	SB16-10-110918	10	9/11/18	0950		1											
3	SB16-20-110918	20		0952		1											
4	SB16-30-110918	30		0955		1											
5	SB16-40-110918	40		0957		1											
6	SB16-50-110918	50		1000		1											
7	SB16-60-110918	60		1002		1											
8	SB16-70-110918	70		1005		1											
9	SB16-80-110918	80		1007		1											
10	SB16-90-110918	90		1010		1											

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Notes:

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SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		9/12/18 5:04			9/13/18 1300	
2						
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
						✓ 3.8 R8 0.0

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to XENCO Laboratories and its affiliates, subcontractors and assigns XENCO's standard terms and conditions of service unless previously negiotiated under a fully executed client contract.

XENCO LABORATORIES

Setting the Standard since 1990

CHAIN OF CUSTODY

Page 6 Of 10

Stafford,Texas (281-240-4200)
Dallas Texas (214-902-0300)
Service Center - San Antonio, Texas (210-509-3334)
Odessa, Texas (432-563-1800)
Norcross, Georgia (770-449-8800)
Lakeland, Florida (863-646-8526)
Tampa, Florida (813-620-2000)
www.xenco.com

Xenco Quote # | Xenco Job # 598984

Client / Reporting Information

Company Name / Branch: GHD-Midland
Company Address: 2135 S Loop 250 W, Midland, TX 79703
Email: william.foord@ghd.com, Christopher.Knight@ghd.com
Phone No: 713-734-3090, 512-506-8803
Project Contact: Scott Foord
Samplers's Name: Sean Perry

Project Information

Project Name/Number: CEMCLPU-60/ 073817-2018-001
Project Location: Lovington, NM
Invoice To: Cenergy Partners c/o Jason Michaelson, Chevron Enviromental Management Company, 1400 Smith Street, Office 07084 Houston, Texas 77002
PO Number:

Analytical Information

Matrix Codes

S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
W = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	% Moisture	Field Comments
1	SB17-4-110918	4	9/11/18	1017	S	1											
2	SB17-10-110918	10		1020		1											
3	SB17-20-110918	20		1022		1											
4	SB17-30-110918	30		1025		1											
5	SB17-40-110918	40		1027		1											
6	SB17-50-110918	50		1030		1											
7	SB17-60-110918	60		1032		1											
8	SB17-70-110918	70		1035		1											
9	SB17-80-110918	80		1037		1											
10	SB17-90-110918	90		1040		1											

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level III Std QC+ Forms
- [ ] Level 3 (CLP Forms)
- [ ] TRRP Checklist
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] TRRP Level IV
- [ ] UST / RG -411

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		9/12/18 5:00		2	9/13/18 1300	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: ✓

Cooler Temp. 3.8 | Thermo. Corr. Factor 0.0

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CHAIN OF CUSTODY

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Stafford,Texas (281-240-4200)

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Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

www.xenco.com

Xenco Quote #

Xenco Job # 5989984

Client / Reporting Information

Company Name / Branch: GHD-Midland

Company Address: 2135 S Loop 250 W, Midland, TX 79703

Email: william.foord@ghd.com; Christopher.Knight@ghd.com

Phone No: 713-734-3090; 512-506-8803

Project Contact: Scott Foord

Samplers's Name: Sean Parry

Project Information

Project Name/Number: CEMCLPU-60/ 073817-2018-001

Project Location: Lovington, NM

Invoice To: Cenergy Partners c/o Jason Michaelson; Chevron Enviromental Management Company; 1400 Smith Street, Office 07084 Houston, Texas 77002

PO Number:

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GW =Ground Water
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P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
W = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	% Moisture	Field Comments
1	SB18-4-110918	4	9/11/18	1045	S	1											
2	SB18-10-110918	10		1047		1											
3	SB18-20-110918	20		1050		1											
4	SB18-30-110918	30		1052		1											
5	SB18-40-110918	40		1055		1											
6	SB18-50-110918	50		1057		1											
7	SB18-60-110918	60		1100		1											
8	SB18-70-110918	70		1102		1											
9	SB18-80-110918	80		1105		1											
10	SB18-90-110918	90		1107		1											

Turnaround Time (Business days)

- [ ] Same Day TAT
- [x] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

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- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

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SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		9/12/18 5:04	1	2	9/13/18 1320	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ✓ Cooler Temp. 3.8 Thermo. Corr. Factor R8 0.0

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Page 8 of 10

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www.xenco.com

Xenco Quote #
Xenco Job # 598984

Client / Reporting Information

Company Name / Branch: GHD-Midland
Company Address: 2135 S Loop 250 W, Midland, TX 79703
Email: william.foord@ghd.com; Christopher.Knight@ghd.com
Phone No: 713-734-3090; 512-506-8803
Project Contact: Scott Foord
Samplers's Name: Sean Perry

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PO Number:

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SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
W = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	% Moisture	Field Comments
1	SB19-4-110918	4	9/11/18	1105	S	1								X	X	X	
2	SB19-10-110918	10	9/10/18	1107		1								X	X	X	
3	SB19-20-110918	20		1110		1								X	X	X	
4	SB19-30-110918	30		1112		1								X	X	X	
5	SB19-40-110918	40		1115		1								X	X	X	
6	SB19-50-110918	50		1117		1								X	X	X	
7	SB19-60-110918	60		1120		1								X	X	X	
8	SB19-70-110918	70		1122		1								X	X	X	
9	SB19-80-110918	80		1125		1								X	X	X	
10	SB19-90-110918	90		1127		1								X	X	X	

Turnaround Time (Business days)

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- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1		9/12/18 5:00		2	9/13/18 1300	2
3			3	4		4
5			5	Custody Seal #	Preserved where applicable	On Ice: ✓ Cooler Temp. 3.8 Thermo. Corr. Factor 0.0

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Stafford,Texas (281-240-4200)
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Lakeland, Florida (863-646-8526)
Tampa, Florida (813-620-2000)
www.xenco.com

Xenco Quote # | Xenco Job # 5989184

Client / Reporting Information

Company Name / Branch: GHD-Midland
Company Address: 2135 S Loop 250 W, Midland, TX 79703
Email: william.foord@ghd.com, Christopher.Knight@ghd.com
Phone No: 713-734-3090, 512-506-8803
Project Contact: Scott Foord
Samplers's Name: Sean Parry

Project Information

Project Name/Number: CEMCLPU-60/ 073817-2018-001
Project Location: Lovington, NM
Invoice To: Cenergy Partners c/o Jason Michaelson, Chevron Enviromental Management Company, 1400 Smith Street, Office 07084 Houston, Texas 77002
PO Number:

Analytical Information

Matrix Codes: S = Soil/Sed/Solid; GW =Ground Water; DW = Drinking Water; P = Product; SW = Surface water; SL = Sludge; OW =Ocean/Sea Water; W = Wipe; O = Oil; WW= Waste Water; A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	% Moisture	Field Comments
1	SB20-4-110918	4	9/11/18	1142	S	1								X	X	X	
2	SB20-10-110918	10		1145		1								X	X	X	
3	SB20-20-110918	20		1147		1								X	X	X	
4	SB20-30-110918	30		1150		1								X	X	X	
5	SB20-40-110918	40		1152		1								X	X	X	
6	SB20-50-110918	50		1157		1								X	X	X	
7	SB20-60-110918	60		1200		1								X	X	X	
8	SB20-70-110918	70		1202		1								X	X	X	
9	SB20-80-110918	80		1205		1								X	X	X	
10	SB20-90-110918	90		1207		1								X	X	X	

Turnaround Time (Business days)

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- [ ] Level 3 (CLP Forms)
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SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		9/12/18 5:06	1			
2					9/13/18 1300	2
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ✓

Cooler Temp. 3.8 R8 Thermo. Corr. Factor 0.0

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www.xenco.com

Xenco Quote # | Xenco Job # 598984

Client / Reporting Information

Company Name / Branch: GHD-Midland
Company Address: 2135 S Loop 250 W, Midland, TX 79703
Email: william.foord@ghd.com, Christopher.Knight@ghd.com
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W = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chloride	% Moisture	Field Comments
1	SB14 - 4 - 110918	4	9/11/18	0752	S	1											
2	SB14 - 10 - 110918	10		0755		1											
3	SB14 - 20 - 110918	20		0757		1											
4	SB14 - 30 - 110918	30		0800		1											
5	SB14 - 40 - 110918	40		0802		1											
6	SB14 - 50 - 110918	50		0805		1											
7	SB14 - 60 - 110918	60		0807		1											
8	SB14 - 70 - 110918	70		0810		1											
9	SB14 - 80 - 110918	80		0812		1											
10	SB14 - 90 - 110918	90		0815		1											

Turnaround Time (Business days)

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- [ ] Level 3 (CLP Forms)
- [ ] TRRP Checklist
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] TRRP Level IV
- [ ] UST / RG -411

Notes:

FED-EX / UPS: Tracking # 773118257015

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler: 1		Date Time: 9/12/18 5:06	Received By: 1	Relinquished By: 2	Date Time: 9/13/18 1300	Received By: 2	
Relinquished by: 3		Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4	
Relinquished by: 5		Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ✓	Cooler Temp. 3.8 Thermo. Corr. Factor RS 0.0

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After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: GHD Services, INC- Midland

Date/ Time Received: 09/13/2018 01:00:24 PM

Work Order #: 598984

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.8
#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?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#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: Katie Lowe Date: 09/13/2018

Checklist reviewed by: Debbie Simmons Date: 09/18/2018

Debbie Simmons

Certificate of Analysis Summary 604310

GHD Services, INC- Midland, Midland, TX

Project Name: CEMC LPU-60

Project Id: 073817-2018-001
Contact: Scott Foord
Project Location:

Date Received in Lab: Fri Nov-02-18 11:15 am
Report Date: 13-NOV-18
Project Manager: Debbie Simmons

Analysis Requested											
	Lab Id:	604310-001		604310-002		604310-003					
	Field Id:	MW-1-W-181031		MW-2-W-181031		DUP-1-W-181031					
	Depth:										
	Matrix:	GROUND WATER		GROUND WATER		GROUND WATER					
	Sampled:	Oct-31-18 09:50		Oct-31-18 08:55		Oct-31-18 00:00					
Chloride by EPA 300	***Extracted:***	Nov-07-18 11:00		Nov-07-18 11:00		Nov-07-18 11:00					
	Analyzed:	Nov-07-18 18:42		Nov-07-18 18:52		Nov-07-18 19:23					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Chloride		59.5	2.50	39.2	2.50	59.9	2.50				
TDS by SM2540C	***Extracted:***										
	Analyzed:	Nov-06-18 09:00		Nov-06-18 09:00		Nov-06-18 09:00					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL				
Total Dissolved Solids		429	5.00	386	5.00	449	5.00				

Debbie Simmons
Project Manager

Final 1.000

Analytical Report 604310

for

GHD Services, INC- Midland

Project Manager: Scott Foord

CEMC LPU-60

073817-2018-001

13-NOV-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-28), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-18)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

13-NOV-18

Project Manager: **Scott Foord**
GHD Services, INC- Midland
2135 S Loop 250 W
Midland, TX 79703

Reference: XENCO Report No(s): **604310**
CEMC LPU-60
Project Address:

Scott Foord:

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 XENCO Report Number(s) 604310. 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 XENCO Laboratories. 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. 604310 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 XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

Debbie Simmons

Debbie Simmons
Project Manager

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.
Certified and approved by numerous States and Agencies.
A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

Sample Cross Reference 604310

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-1-W-181031	W	10-31-18 09:50		604310-001
MW-2-W-181031	W	10-31-18 08:55		604310-002
DUP-1-W-181031	W	10-31-18 00:00		604310-003

CASE NARRATIVE

Client Name: GHD Services, INC- Midland

Project Name: CEMC LPU-60

Project ID: *073817-2018-001*
Work Order Number(s): *604310*

Report Date: *13-NOV-18*
Date Received: *11/02/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 604310

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id: **MW-1-W-181031** Matrix: Ground Water Date Received:11.02.18 11.15

Lab Sample Id: 604310-001 Date Collected: 10.31.18 09.50

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 11.07.18 11.00

Seq Number: 3069122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**59.5**	2.50	mg/L	11.07.18 18.42		5

Analytical Method: TDS by SM2540C

Tech: OJS % Moisture:

Analyst: OJS

Seq Number: 3068878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total Dissolved Solids	1642222	**429**	5.00	mg/L	11.06.18 09.00		1

Certificate of Analytical Results 604310

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id: **MW-2-W-181031** Matrix: Ground Water Date Received:11.02.18 11.15

Lab Sample Id: 604310-002 Date Collected: 10.31.18 08.55

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 11.07.18 11.00

Seq Number: 3069122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.2**	2.50	mg/L	11.07.18 18.52		5

Analytical Method: TDS by SM2540C

Tech: OJS % Moisture:

Analyst: OJS

Seq Number: 3068878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total Dissolved Solids	1642222	**386**	5.00	mg/L	11.06.18 09.00		1

Certificate of Analytical Results 604310

GHD Services, INC- Midland, Midland, TX

CEMC LPU-60

Sample Id: **DUP-1-W-181031** Matrix: Ground Water Date Received:11.02.18 11.15

Lab Sample Id: 604310-003 Date Collected: 10.31.18 00.00

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: CHE % Moisture:

Analyst: CHE Date Prep: 11.07.18 11.00

Seq Number: 3069122

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**59.9**	2.50	mg/L	11.07.18 19.23		5

Analytical Method: TDS by SM2540C

Tech: OJS % Moisture:

Analyst: OJS

Seq Number: 3068878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Total Dissolved Solids	1642222	**449**	5.00	mg/L	11.06.18 09.00		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.

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

QC Summary 604310

GHD Services, INC- Midland

CEMC LPU-60

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3069122 Matrix: Water Date Prep: 11.07.18
MB Sample Id: 7665651-1-BLK LCS Sample Id: 7665651-1-BKS LCSD Sample Id: 7665651-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	24.3	97	24.3	97	90-110	0	20	mg/L	11.07.18 17:29	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3069122 Matrix: Drinking Water Date Prep: 11.07.18
Parent Sample Id: 604626-001 MS Sample Id: 604626-001 S MSD Sample Id: 604626-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.8	25.0	38.5	103	38.5	103	90-110	0	20	mg/L	11.07.18 18:00	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3069122 Matrix: Drinking Water Date Prep: 11.08.18
Parent Sample Id: 604789-001 MS Sample Id: 604789-001 S MSD Sample Id: 604789-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.500	25.0	64.7	259	63.7	255	90-110	2	20	mg/L	11.08.18 11:58	X

Analytical Method: **TDS by SM2540C**
Seq Number: 3068878 Matrix: Water
MB Sample Id: 3068878-1-BLK LCS Sample Id: 3068878-1-BKS LCSD Sample Id: 3068878-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	<5.00	1000	963	96	959	96	80-120	0	10	mg/L	11.06.18 09:00	

Analytical Method: **TDS by SM2540C**
Seq Number: 3068878 Matrix: Ground Water
Parent Sample Id: 604307-001 MD Sample Id: 604307-001 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	1080	1190	10	10	mg/L	11.06.18 09:00	

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 604310

GHD Services, INC- Midland

CEMC LPU-60

Analytical Method: **TDS by SM2540C**

Seq Number: 3068878 Matrix: Ground Water

Parent Sample Id: 604310-003 MD Sample Id: 604310-003 D

Parameter	Parent Result	MD Result	%RPD	RPD Limit	Units	Analysis Date	Flag
Total Dissolved Solids	449	448	0	10	mg/L	11.06.18 09:00	

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

Work Order No: 604310

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com Page 1 of 1

Project Manager:	Scott Foord	Bill to: (if different)	Jason Michaelson
Company Name:	GHD	Company Name:	Chevron Enviromental Management Company
Address:	2135 S. Loop 250 West	Address:	1400 Smith Street, Office 07094
City, State ZIP:	Midland, TX. 79703	City, State ZIP:	Houston, TX. 77002
Phone:	713-734-3090 or 281-725-7477	Email:	William.Foord@ghd.com & Christopher.Knight@ghd.com & Megan.Willis@ghd.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☑ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	CEMC LPU-60	Turn Around	
Project Number:	073817-2018-001	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:	Justin Nixon	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	4.5	Thermometer ID	D8
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	0.0
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Chloride	TDS
MW-1-W-181031	GW	10-31-18	950		1	X	X
MW-2-W-181031	GW	10-31-18	855		1	X	X
DUP-1-W-181031	GW	10-31-18	—		1	X	X

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

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 Tl 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 Tl 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
1		11-2-18 1515	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: GHD Services, INC- Midland

Date/ Time Received: 11/02/2018 11:15:00 AM

Work Order #: 604310

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	.5
#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?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#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)?	**N/A**
#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: BT

PH Device/Lot#: A032690

Checklist completed by: Katie Lowe Date: 11/02/2018

Checklist reviewed by: Debbie Simmons Date: 11/02/2018

Debbie Simmons

Appendix C
2019 Remediation Work Plan

January 18, 2019 Reference No. 073817

Ms. Christina Hernandez
Environmental Specialist
New Mexico Oil Conservation Division – District 1
1625 N. French Drive
Hobbs, New Mexico 88240

Dear Ms. Hernandez:

Re: 2019 Remediation Work Plan
Lovington Paddock Unit 60 – Produced Water Release (RP-1498)
Lea County, New Mexico

1. Project Information

The Site is located in Unit F, Section 1, Township 17 South, Range 36 East, approximately 5 miles southeast of the City of Lovington (COL) in Lea County, New Mexico. Remediation Permit (RP) Number 1498 (RP-1498) was assigned by the New Mexico Oil Conservation Division (NMOCD) District I, Hobbs, New Mexico office.

2. NMOCD Closure Requirement Criteria for Soils

Soil

Historical subsurface investigation activities were completed in accordance with the Guidelines for Remediation of Leaks, Spills, and Releases Rule 19.15.29 New Mexico Administrative Code (NMAC) from the New Mexico Oil Conservation Division (NMOCD) dated August 13, 1993. The historic site-specific Recommended Remediation Action Levels (RRALs) previously applied to this location by the NMOCD were 10 milligrams per kilogram (mg/kg) for benzene, 50 mg/kg for total BTEX, 100 mg/kg for total TPH, and 600 mg/kg for chloride.

Rule 19.15.29 was revised and reissued on August 14, 2018. The following criteria (below) from Table 1 within NMAC 19.15.29.12 was utilized to determine site-specific screening limits

Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/l TDS	Constituent	Limit*
>100 Feet	Chloride**	20,000 mg/kg
	TPH (GRO+DRO+MRO	2,500 mg/kg
	GRO+DRO	1,000 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

* Numerical limits or natural background level, whichever is greater.

** This applies to release of produced water or other fluids which may contain chloride.

Localized depth to groundwater was confirmed to be approximately 107 feet below ground surface (bgs) in 2018 based on the information from monitoring well MW-1 as well as MW-2. Additionally, information available from various sources including the Petroleum Recovery Research Center (PRRC) Mapping Portal, currently managed groundwater site(s) data by GHD, and the United States Geological Survey (USGS) Current Water Database for the Nation, concludes:

a) the depth to groundwater at the Site is greater than 100-feet bgs;

b) the site is not within 300 feet of any continuously flowing watercourse;

c) the site is not within 200 feet of any lakebed, sinkhole or playa lake;

d) the site is not within 300 feet of an occupied permanent residence, school, etc.;

e) the site is not within 500 feet of a spring or private, domestic fresh water well;

f) the site is not within 1,000 feet of any fresh water well or spring;

g) the site is not within incorporated municipal boundaries or within a defined municipal fresh water well field;

h) the site is not within 300 feet of a wetland;

i) the site is not within an area overlying a subsurface mine;

j) the site is not within an unstable area; and

k) the site is not within a 100-year floodplain.

Consequently, the anticipated site-specific screening limits to be applied to this location by the NMOCD based on the revised Rule are 10 mg/kg for benzene, 50 mg/kg for total BTEX, 2,500 mg/kg for total TPH, and 20,000 mg/kg for chloride.

Per 19.15.29.13, Restoration, Reclamation, and Re-vegetation, the impacted area must be remediated a minimum of 4-feet bgs with non-waste containing, uncontaminated, earthen material with chloride concentrations less than 600 mg/kg. Soil cover must consist of topsoil at a thickness comparable to background topsoil thicknesses, or one foot of suitable earthen material capable of establishing and maintaining vegetation at the site. Reclamation is considered complete when all disturbed areas have established vegetative cover with a life-form ratio of plus or minus 50 percent of pre-remedial levels, and plant cover of a minimum of 70 percent of previous levels, excluding noxious weeds.

Evaluation of the analytical data obtained from soil assessment and delineation activities performed from 2014 through 2018 indicate horizontal and vertical delineation of chloride impacts has been achieved at the Site to support remediation activities (excavation).

Groundwater

The NMOCD provides guidance for remediation of contaminants of oil field wastes or products in Guidelines for Remediation of Leaks, Spills, and Releases (August 13, 1993). The guidance requires remediation of groundwater to the human health standards of the New Mexico Water Quality Control Commission (NMWQCC) set forth in New Mexico Administrative Code 20.6.2.3103. Standards for chloride and total dissolved solids (TDS) are listed below. Results from recent groundwater samples collected from MW-1 and MW-2 confirm no impact to groundwater above NMWQCC standards.

Analyte	NMWQCC Standard for Groundwater (mg/L)
Chloride	250
TDS	1,000

3. 2019 Scope of Work

The scope of work for this project in 2019 will involve soil remediation activities inclusive of excavation, sampling, lining the excavation, backfilling, and restoration (re-seeding of off-pad areas) of the impacted area (see Figure 1 – Proposed Excavation Area).

Chloride impacted caliche well pad material and soil will be excavated accompanied by confirmation soil sample analysis. Field screening of soils for chloride will be performed in order to guide excavation activities. Subsequently, the excavation will be lined, backfilled with clean caliche material and soil, graded and contoured to ensure proper surface area drainage, and the soil (off-pad areas) fertilized and re-seeded. The following outlines basic project details that will be completed by GHD and GHD subcontractors.

Field Program

- Prior to mobilizing excavation equipment to the Site, a New Mexico 811 utility notification will be made at least 48-hours prior to mobilization.
- In addition to the utility locate, data from the geophysical survey conducted prior to 2018 drilling activities will be re-evaluated for the proposed excavation area.
- Following all utility clearance activities, a Chevron Dig Plan will be prepared and approved by Chevron prior to performing any excavation activities.
- Underground utilities in proximity to the proposed excavation area will be day-lighted via hydroexcavation prior to remedial excavation activities.
- GHD anticipates that pipeline operators will not allow excavation within 10 feet of any pipelines, therefore remediation within these areas will be deferred until operations of the pipelines cease.
- Approximately 700 cubic yards (cy) of shallow sub-surface area consisting of caliche well pad materials and off-pad soil areas will be excavated (Figure 1 – Proposed Excavation Area). Impacted

soil in the affected area will be excavated until field screening indicates that the soil is below the limit for chloride (600 mg/kg) specified in NMMAC 19.15.29.13 D (1), or until a depth of 4 feet bgs is reached.

- Soils will be field screened for chloride during excavation activities utilizing Hach® chloride test strips. Soils with field test results greater than 3,000 mg/kg chloride will be transported to an approved disposal facility. If field screening indicates that soils are below 3,000 mg/kg chloride, it will be segregated into 50-100 cy stockpiles and a 5-point composite sample will be collected and analyzed for chloride by EPA Method 300. Soils with analytical results above 600 mg/kg will be transported to the R360 facility located in Hobbs, New Mexico for disposal. Stockpiled soils with analytical results below 600 mg/kg will be further consolidated on-site for use as backfill.
- Five-point composite confirmation soil samples will be collected from the excavation floor and sidewalls at 200 square foot intervals for analysis of chloride by EPA Method 300. Lateral limits of the excavation will halt once confirmation sample analytical results are 600 mg/kg chloride or less.
- If impacts appear to extend past four feet bgs, the sides of the excavation will be sloped and a 20-mil polyethylene liner will be placed in the bottom of the excavation. Liner seams will be overlapped a minimum of 24 inches. Each liner will be placed without rips or tears.
- The excavation will be backfilled with caliche and soil from an off-site borrow pit to grade.
- The disturbed off-pad area will be fertilized and re-seeded with a Bureau of Land Management-approved seed mix.

Quality Assurance/ Quality Control

Confirmation soil sampling will be completed in accordance with our standard Quality Assurance/ Quality Control procedures designed to minimize cross-contamination between samples and to provide reliable laboratory results.

Reporting

A report summarizing remediation activities will be submitted. The report will include a Site description, project history, description of field events, a discussion of results, and recommendations (if any).

The report will include:

- A scaled Site plan showing the locations of the excavation and other Site features;
- Tabulation of field screening and laboratory analytical results; and
- Geotagged photographic documentation of field activities.

Vegetation Monitoring

Following completion of soil remediation activities at the Site, and as required by the New Mexico State Land Office (NMSLO), GHD will conduct vegetation monitoring visits to the Site. The status of vegetative

growth within the remediated area will be documented with photographs and in field notes during each visit. A closure request report will be completed following one year of monitoring for submittal to NMSLO.

4. Work Plan Approval Request

GHD is prepared to initiate the scope of work immediately upon approval by the NMOCD. If you have any questions or comments with regards to this work plan, please do not hesitate to contact our Houston office at (713) 734-3090. Your timely response to this correspondence is appreciated.

Sincerely,

GHD

Paige A. Hall

Paige Hall
Project Manager

PH/mss/1

Encl.

Attachment: Figure 1 - Proposed Excavation Map

Source: Microsoft Product Screen shot(s) Reprinted with permission from Microsoft Corporation

Lat/Long: 32.866167° North, 103.309028° West

0 20 40ft

Coordinate System:
NAD 1983 StatePlane-
New Mexico East (US Feet)

Sample ID — SB-10 — 10/24/17 — Sample Date
Depth — 0.5-1' — Sample Depth (ft)
Chloride — 1190 — Sample Result (mg/kg)

CEMC
LEA COUNTY, NEW MEXICO
LPU-60 RELEASE

073817-00

Jan 2, 2019

PROPOSED EXCAVATION AREA

FIGURE 1

CAD File: I:\CAD\Files\07----\073---\073817-CEMC-LPU #60\Proposal\073817-00(Proposal-03)GN-DL001.dwg

about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
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

CONDITIONS

Action 145470

CONDITIONS

Operator: CHEVRON U S A INC 6301 Deauville Blvd Midland, TX 79706	OGRID: 4323
	Action Number: 145470
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Remediation plan is approved under the following conditions; 1.Required to include missing site characterization supporting documentation within final remediation closure report. 2. OCD approves the plug and abandonment of MW 1 and MW 2. Please complete per NMOSE requirements and provide documentation within final remediation closure report. 3. Chevron has 90-days (June 6, 2024) to submit its appropriate or final remediation closure report.	3/8/2024