Ms. Olivia Yu
Environmental Specialist
New Mexico Oil Conservation Division – District I
1625 N. French Drive
Hobbs, New Mexico 88240

Arcadis U.S., Inc.
101 Creekside Ridge Court
Suite 200
Roseville
California 95678
Tel 916 786 0320
Fax 916 786 0366
www.arcadis.com

ENVIRONMENT

Subject:
2018 Remediation Activities – Scope of Work
2018 HES Transfer Site – Vacuum Glorieta West Unit Satellite 3
NMOCD Case No. 1RP-3648
Lea County, New Mexico

Date:
August 24, 2018

Contact:
Brett Krehbiel

Phone:
916.786.5382

Email:
Brett.Krehbiel@arcadis.com

Our ref:
B0048616

ARCADIS U.S., Inc.
TX Engineering License # F-533

Dear Ms. Yu:

Arcadis U.S., Inc. (Arcadis) has prepared this scope of work (SOW) for Chevron Environmental Management Company (CEMC) to perform environmental services for Vacuum Glorieta West Unit (VGWU) Satellite 3 (VGWU Sat 3; the Site), located in Lea County, New Mexico (Figure 1).

The specific tasks for the proposed scope of work are detailed below.

PROJECT SUMMARY

Pursuant to New Mexico Oil Conservation Division (NMOCD) requirements (NMOCD 1993), a Notification of Release and Correction (Form C-141) detailing the location, volume of release, and initial and planned cleanup efforts taken was submitted for the Site by Chevron Midcontinent Business Unit (MCBU). According to the Form C-141, a release of 11.31 bbls (bbls [42 gallons per bbl]) of produced water occurred at the site on May 16, 2015 due to significant rainfall causing the sump pump to overrun. The Form C-141 is presented in Attachment 1.

RESPONSE ACTIVITIES

Chevron MCBU personnel stopped the release and conducted the initial response activities. On March 29, 2016, Chevron personnel excavated visually affected soil in the area to a depth of approximately 1 foot and collected five discrete confirmation soil samples from the base of the excavation. Soil samples

were submitted for the analysis of benzene, toluene, ethylbenzene, and total xylenes (collectively referred to as BTEX) in accordance with USEPA Method 8021B, Total Petroleum Hydrocarbon (TPH) Gasoline Range Organics (GRO) and Diesel Range Organics (DRO) in accordance with USEPA 8015M, and chloride in accordance with USPEA Method SM45000Cl-B. Information regarding the disposal of the excavated soil was not available to Arcadis. After collecting the soil samples, the excavated area was reportedly backfilled with imported soil.

Arcadis conducted soil investigations in June 2016, September 2016 and August 2017. In 2016, five borings (VGWUSat3-01 through VGWUSat3-05) were advanced to depths ranging from 10 to 60 feet below ground surface (bgs). Two soil borings (VGWUSat3-06 and VGWUSat3-07) were advanced to 30 and 60 feet bgs, respectively, during the August 2017 investigation. Soil samples were submitted for the analysis of chloride in accordance with USEPA Method 300.0. The samples collected from 4 feet bgs at VGWUSat3-06 and VGWUSat3-07 were prioritized over all other samples collected to evaluate whether analysis of the deeper soil samples was necessary.

On December 6 and 7, 2017, Arcadis performed an electromagnetic conductivity survey over accessible areas of the Site covering approximately 3.2 acres to determine background electrical conductivity (EC) response and identify EC anomalies within the surveyed area to assess the lateral extent of possible produced water-related soil and impacts. The particularly high electrical conductivity of oil field production water makes the electromagnetic detection of produced water-related impacts in soil and groundwater a reliable approach.

INVESTIGATION RESULTS

During the initial response activities conducted by Chevron MCBU personnel, TPH DRO was detected in the samples collected from soil samples 3 and 5 at concentrations of 280 and 4,250 milligrams per kilogram (mg/kg), respectively, exceeding NMOCD soil remediation action level (SRAL) of 100 mg/kg. Chloride detections exceeded NMOCD SRAL of 600 mg/kg in the samples collected from soil samples 4 and 5 at concentrations of 60 and 928 mg/kg, respectively.

During the June and September 2016 investigation, chloride was detected at concentrations greater than the NMOCD soil remediation action level (SRAL) of 600 mg/kg for delineation in soil samples collected from all samples collected at 4 feet bgs with the exception of the sample collected from VGWUSat3-03 and VGWUSat3-04.

During the August 2017 investigation, chloride was detected at a concentration greater than the 600 mg/kg NMOCD SRAL in the sample collected at 50 feet bgs from VGWUSat3-07. All other samples were below the respective NMOCD SRAL.

The electromagnetic conductivity survey indicated elevated EC responses within the vicinity of the red outline spill extent and extends to the west (Figure 1). A perched high conductivity zone located throughout the central portion of the spill area extending from approximately 1 to 28 feet bgs, providing some vertical delineation of the elevated EC response suggesting that produced water impacts may not extend to deeper soils. Two confined “perched” high conductivity zones that extend to a maximum depth of 15 feet bgs, suggesting that produced water impacts are shallower in depth at the eastern extent of the spill.

Laboratory analytical reports are presented in Attachment 2.

SCOPE OF WORK

As discussed with yourself and Bradford Billings at the NMOCD on February 13, 2018, a mass removal approach will be exercised, due to the presence of surface and subsurface features/facilities, to remove majority of chloride impacts in soil to 4 feet bgs. Following execution of remedial activities, a letter report will be submitted to the NMOCD summarizing the assessment, electromagnetic conductivity survey and excavation activities.

Utility Determination Survey and Soil Excavation

Arcadis will conduct the following activities associated with utilities identification and excavation activities:

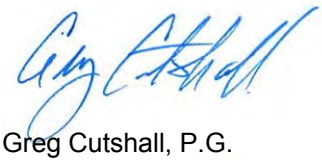
- Coordinating utility clearance activities (e.g. New Mexico State One Call, private locating service, Dig Plan process and wet vac).
- Potholing to expose the buried lines within or in proximity to the proposed area of excavation.
- Sidewall soil samples will be field tested for chloride content and will be used to provide guidance on if additional excavation may be necessary.
- If the field-testing results of sidewall samples are below NMOCD SRAL of 600 mg/kg or where surface or subsurface infrastructure inhibit continued excavation, field personnel will submit confirmation soil samples in laboratory-supplied sample containers, labeled, placed on ice, and provided to a New Mexico certified laboratory under chain of custody protocol. Expedited turnaround time (2 business days) laboratory analysis will be requested for all soil samples. Each sample will be analyzed for chloride by USEPA Method 300.0 or equivalent. Only the excavation sidewall samples will be collected.
- Once chloride impacted soils have been excavated, either to below the regulatory limit or to the extent possible due to the location of subsurface or surface infrastructure, a liner will be placed within the limits of the excavation footprint and clean fill will be used to backfill the excavated areas.
- The excavation will not extend within 10 feet of subsurface lines or 30 feet of surface structures.
- Excavated soil will be characterized and disposed of at regulatory approved/permitted disposal facility.

If you have any questions or comments, please contact Brett Krehbiel at 916.786.5382 or by email at brett.krehbiel@arcadis.co or Greg Cutshall at 859.287.0242 or by e-mail at greg.cutshall@arcadis.com.

Sincerely,

Arcadis U.S., Inc.

Brett Krehbiel
Certified Project Manager



Greg Cutshall, P.G.
Program Manager

Copies:

File

Enclosures:

Attachments

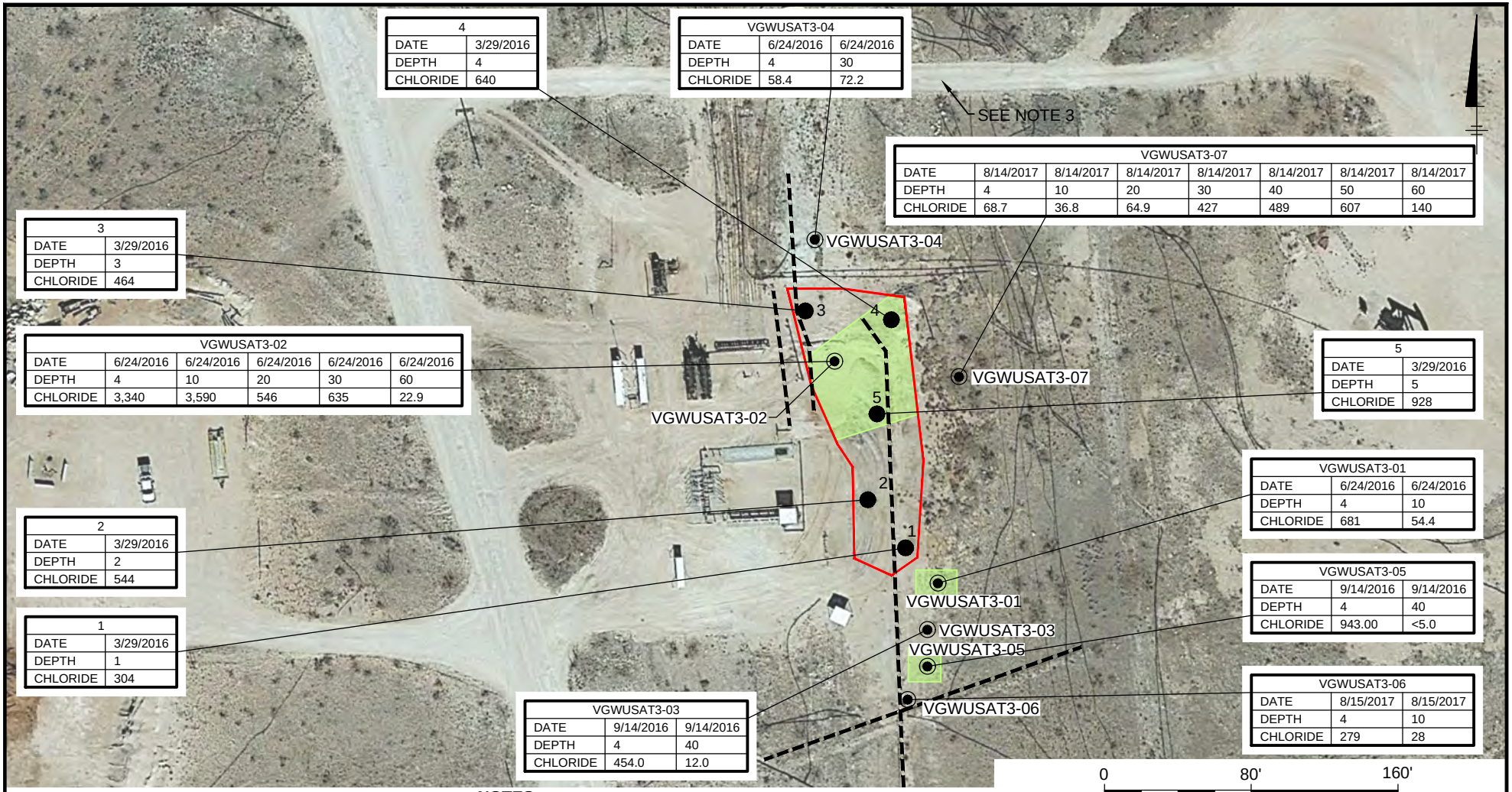
1 Notification of Release and Correction Form (Form C-141)
2 Laboratory Analytical Reports

Figure

1 VGWU Sat 3 Soil Analytical Results

FIGURE

CITY: MANCHESTER DIV/GROUP: ENVCAD DB: B.SMALL PM: TM
C:\Users\BSSmall\OneDrive - ARCADIS\BIM 360 Docs\CHEVRON CORPORATION\VGWU Sat 3\2018\B0048626.1701\01-DWG\P-MW-Data-Fig1.dwg LAYOUT: 1 SAVED: 5/1/2018 3:05 PM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 5/1/2018 3:06 PM BY: SMALL, BRIAN



4	
DATE	3/29/2016
DEPTH	4
CHLORIDE	640

VGWUSAT3-04		
DATE	6/24/2016	6/24/2016
DEPTH	4	30
CHLORIDE	58.4	72.2

VGWUSAT3-07							
DATE	8/14/2017	8/14/2017	8/14/2017	8/14/2017	8/14/2017	8/14/2017	8/14/2017
DEPTH	4	10	20	30	40	50	60
CHLORIDE	68.7	36.8	64.9	427	489	607	140

3	
DATE	3/29/2016
DEPTH	3
CHLORIDE	464

VGWUSAT3-02					
DATE	6/24/2016	6/24/2016	6/24/2016	6/24/2016	6/24/2016
DEPTH	4	10	20	30	60
CHLORIDE	3,340	3,590	546	635	22.9

5	
DATE	3/29/2016
DEPTH	5
CHLORIDE	928

VGWUSAT3-01		
DATE	6/24/2016	6/24/2016
DEPTH	4	10
CHLORIDE	681	54.4

2	
DATE	3/29/2016
DEPTH	2
CHLORIDE	544

VGWUSAT3-05		
DATE	9/14/2016	9/14/2016
DEPTH	4	40
CHLORIDE	943.00	<5.0

1	
DATE	3/29/2016
DEPTH	1
CHLORIDE	304

VGWUSAT3-06		
DATE	8/15/2017	8/15/2017
DEPTH	4	10
CHLORIDE	279	28

VGWUSAT3-03		
DATE	9/14/2016	9/14/2016
DEPTH	4	40
CHLORIDE	454.0	12.0

LEGEND:

- JULY 2015 ASSESSMENT SOIL SAMPLING LOCATION
- SOIL BORING LOCATION
- APPROXIMATE EXTENT OF SPILL
- UNDERGROUND UTILITY LINE
- PROPOSED EXCAVATION AREA

NOTES:

1. AERIAL PHOTOGRAPH FROM GOOGLE EARTH PRO.
2. FMT REQUIRES BORING TO BE AT MINIMUM 10 FEET FROM UNDERGROUND UTILITIES.
3. GROUND IS DISTURBED ALONG THIS CORRIDOR. UNDERGROUND LINES MAY BE PRESENT.
4. ALL RESULTS ARE IN MILLIGRAMS PER KILOGRAM (mg/kg).
5. NEW MEXICO OIL CONSERVATION DIVISION (NMOCD) SOIL REMEDIATION ACTION LEVEL OF 250 mg/kg FOR LATERAL DELINEATION.
6. NMOCD SOIL REMEDIATION ACTION LEVEL OF 600 mg/kg FOR VERTICAL DELINEATION.

0 80' 160'

GRAPHIC SCALE

VACUUM AND SKELLY FUNCTIONAL MANAGEMENT TEAM UNITS
LEA AND EDDY COUNTIES, NEW MEXICO
2018 REMEDIATION ACTIVITIES - SCOPE OF WORK

VGWU SAT 3 SOIL ANALYTICAL RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

ATTACHMENT 1

Notification of Release and Correction Form (Form C-141)

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

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

Form C-141
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☒ Final Report

Name of Company: Chevron USA Inc.	Contact: Edem Sededji
Address: 15 Smith Rd., Midland, TX, 79705	Telephone No. 432-234-4437
Facility Name: VGWU Satellite 3	Facility Type: Satellite

Surface Owner: New Mexico	Mineral Owner: New Mexico	API No. 3002531132

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	1	18S	34E	280	North	2080	East	Lea

Closest well: VGWU 114 **Latitude** 32.7835 **Longitude** -103.5123

NATURE OF RELEASE

Type of Release: Release to land	Volume of Release: 11 bbls of Produced Water	Volume Recovered: 0
Source of Release: Sump pump	Date and Hour of Occurrence: 05/16/2015 09:30 PM	Date and Hour of Discovery 05/16/2015 09:30 PM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom?	
By Whom?	Date and Hour	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

Sump pump overran due to substantial rain fall causing 11.31 bbls of produced water spilled to ground.

Describe Area Affected and Cleanup Action Taken.*

The area affected was around Vacuum Glorietta West Unit Battery. A vacuum truck was called out and cleaned up the spill. The next step is for backhoe to excavate top layer of soil approximate 12" deep and soil samples will be taken to the laboratory to determine TPH, Benzene and Chlorides contaminants levels. In case any of the contaminants levels are still high, the spill location will be turned over to Chevron management Company (EMC) for further remediation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: Edem Sededji	OIL CONSERVATION DIVISION
Printed Name: Edem Sededji	Approved by Environmental Specialist:
Title: HE Specialist	Approval Date: / Expiration Date:
E-mail Address: etpo@chevron.com	Conditions of Approval: / Attached ☐
Date: 05/26/2015 Phone: 432-234-4437	

* Attach Additional Sheets If Necessary

ATTACHMENT 2

Laboratory Analytical Reports

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

April 04, 2016

NICK HAMPTON

Chevron - Lovington

HCR 60 Box 423

Lovington, NM 88260

RE: SOIL SAMPLES

Enclosed are the results of analyses for samples received by the laboratory on 03/29/16 12:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-15-7. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Chevron - Lovington
NICK HAMPTON
HCR 60 Box 423
Lovington NM, 88260
Fax To: None

Received:	03/29/2016	Sampling Date:	03/29/2016
Reported:	04/04/2016	Sampling Type:	Soil
Project Name:	SOIL SAMPLES	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VGWU SAT 3 #1 (H600656-01)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/30/2016	ND	2.11	106	2.00	4.65	
Toluene*	<0.050	0.050	03/30/2016	ND	2.00	99.8	2.00	6.38	
Ethylbenzene*	<0.050	0.050	03/30/2016	ND	1.75	87.7	2.00	6.84	
Total Xylenes*	<0.150	0.150	03/30/2016	ND	5.39	89.8	6.00	6.36	
Total BTEX	<0.300	0.300	03/30/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**304**	16.0	03/30/2016	ND	400	100	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/30/2016	ND	173	86.7	200	2.18	
DRO >C10-C28	<10.0	10.0	03/30/2016	ND	157	78.7	200	2.90	

Surrogate: 1-Chlorooctane *52.4 %* *35-147*

Surrogate: 1-Chlorooctadecane *57.3 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Chevron - Lovington
NICK HAMPTON
HCR 60 Box 423
Lovington NM, 88260
Fax To: None

Received:	03/29/2016	Sampling Date:	03/29/2016
Reported:	04/04/2016	Sampling Type:	Soil
Project Name:	SOIL SAMPLES	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VGWU SAT 3 #2 (H600656-02)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/30/2016	ND	2.11	106	2.00	4.65	
Toluene*	<0.050	0.050	03/30/2016	ND	2.00	99.8	2.00	6.38	
Ethylbenzene*	<0.050	0.050	03/30/2016	ND	1.75	87.7	2.00	6.84	
Total Xylenes*	<0.150	0.150	03/30/2016	ND	5.39	89.8	6.00	6.36	
Total BTEX	<0.300	0.300	03/30/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.8 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**544**	16.0	03/30/2016	ND	400	100	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/30/2016	ND	173	86.7	200	2.18	
DRO >C10-C28	<10.0	10.0	03/30/2016	ND	157	78.7	200	2.90	

Surrogate: 1-Chlorooctane *79.6 %* *35-147*

Surrogate: 1-Chlorooctadecane *89.2 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Chevron - Lovington
NICK HAMPTON
HCR 60 Box 423
Lovington NM, 88260
Fax To: None

Received:	03/29/2016	Sampling Date:	03/29/2016
Reported:	04/04/2016	Sampling Type:	Soil
Project Name:	SOIL SAMPLES	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VGWU SAT 3 #3 (H600656-03)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/30/2016	ND	2.11	106	2.00	4.65	
Toluene*	<0.050	0.050	03/30/2016	ND	2.00	99.8	2.00	6.38	
Ethylbenzene*	<0.050	0.050	03/30/2016	ND	1.75	87.7	2.00	6.84	
Total Xylenes*	<0.150	0.150	03/30/2016	ND	5.39	89.8	6.00	6.36	
Total BTEX	<0.300	0.300	03/30/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**464**	16.0	03/30/2016	ND	400	100	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/30/2016	ND	173	86.7	200	2.18	
DRO >C10-C28	**280**	10.0	03/30/2016	ND	157	78.7	200	2.90	

Surrogate: 1-Chlorooctane *75.9 %* *35-147*

Surrogate: 1-Chlorooctadecane *100 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Chevron - Lovington
NICK HAMPTON
HCR 60 Box 423
Lovington NM, 88260
Fax To: None

Received:	03/29/2016	Sampling Date:	03/29/2016
Reported:	04/04/2016	Sampling Type:	Soil
Project Name:	SOIL SAMPLES	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VGWU SAT 3 #4 (H600656-04)

BTEX 8021B mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/30/2016	ND	2.11	106	2.00	4.65	
Toluene*	<0.050	0.050	03/30/2016	ND	2.00	99.8	2.00	6.38	
Ethylbenzene*	<0.050	0.050	03/30/2016	ND	1.75	87.7	2.00	6.84	
Total Xylenes*	<0.150	0.150	03/30/2016	ND	5.39	89.8	6.00	6.36	
Total BTEX	<0.300	0.300	03/30/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**640**	16.0	03/30/2016	ND	400	100	400	7.69	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/30/2016	ND	173	86.7	200	2.18	
DRO >C10-C28	<10.0	10.0	03/30/2016	ND	157	78.7	200	2.90	

Surrogate: 1-Chlorooctane *71.4 %* *35-147*

Surrogate: 1-Chlorooctadecane *76.3 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Chevron - Lovington
NICK HAMPTON
HCR 60 Box 423
Lovington NM, 88260
Fax To: None

Received:	03/29/2016	Sampling Date:	03/29/2016
Reported:	04/04/2016	Sampling Type:	Soil
Project Name:	SOIL SAMPLES	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	NOT GIVEN		

Sample ID: VGWU SAT 3 #5 (H600656-05)

BTEX 8021B mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	03/30/2016	ND	2.11	106	2.00	4.65	
Toluene*	<0.050	0.050	03/30/2016	ND	2.00	99.8	2.00	6.38	
Ethylbenzene*	**0.050**	0.050	03/30/2016	ND	1.75	87.7	2.00	6.84	
Total Xylenes*	<0.150	0.150	03/30/2016	ND	5.39	89.8	6.00	6.36	
Total BTEX	<0.300	0.300	03/30/2016	ND					

Surrogate: 4-Bromofluorobenzene (PID *107 %* *73.6-140*

Chloride, SM4500Cl-B mg/kg **Analyzed By: AP**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**928**	16.0	03/30/2016	ND	400	100	400	7.69	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<50.0	50.0	03/30/2016	ND	173	86.7	200	2.18	
DRO >C10-C28	**4250**	50.0	03/30/2016	ND	157	78.7	200	2.90	

Surrogate: 1-Chlorooctane *74.8 %* *35-147*

Surrogate: 1-Chlorooctadecane *170 %* *28-171*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside if QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	Chevron	**BILL TO**	
Project Manager:	Nick Hampton	P.O. #:	
Address:	56 Texas Camp Road	Company:	
City:	Lovington State: NM Zip: 88240	Attn:	
Phone #:	Fax #:	Address:	
Project #:	Project Owner:	City:	
Project Name:		State: Zip:	
Project Location:		Phone #:	
Sampler Name:	Nick Hampton	Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	TPH	Benzene	Chlorides
H600656																	
1	VGWU Sat 3 #1	G	1			✓					✓		3/29	11:30am	✓	✓	✓
2	VGWU Sat 3 #2	G	1			✓					✓		3/29		✓	✓	✓
3	VGWU Sat 3 #3	G	1			✓					✓		3/29		✓	✓	✓
4	VGWU Sat 3 #4	G	1			✓					✓		3/29		✓	✓	✓
5	VGWU Sat 3 #5	G	1			✓					✓		3/29		✓	✓	✓

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 3/29/16	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Nick Hampton	Time: 12:30pm	Jodi Henson	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS:
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 2.2°C

Sample Condition	CHECKED BY: (Initials)
Cool: ☑ Yes ☐ No	
Intact: ☑ Yes ☐ No	

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

Analytical Report 532368

for

ARCADIS

Project Manager: Arti Patel

Chevron Sites

713.953.4841

21-JUL-16

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

21-JUL-16

Project Manager: **Arti Patel**
ARCADIS
1004 N. Big Spring St.
Midland, TX 79701

Reference: XENCO Report No(s): **532368**
Chevron Sites
Project Address: Hobbs, NM

Arti Patel:

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) 532368. 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. 532368 will be filed for 60 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
STATEA-10-04 4'	S	06-24-16 00:00	- 4 ft	532368-001
STATEA-10-04 10'	S	06-24-16 00:00	- 10 ft	532368-002
STATEA-10-04 20'	S	06-24-16 00:00	- 20 ft	532368-003
STATEA-10-04 30'	S	06-24-16 00:00	- 30 ft	532368-004
STATEA-10-03 4'	S	06-24-16 00:00	- 4 ft	532368-005
STATEA-10-03 10'	S	06-24-16 00:00	- 10 ft	532368-006
STATEA-10-03 20'	S	06-24-16 00:00	- 20 ft	532368-007
STATEA-10-03 30'	S	06-24-16 00:00	- 30 ft	532368-008
STATEA-10-01 4'	S	06-24-16 00:00	- 4 ft	532368-009
STATEA-10-01 10'	S	06-24-16 00:00	- 10 ft	532368-010
STATEA-10-01 20'	S	06-24-16 00:00	- 20 ft	532368-011
STATEA-10-01 30'	S	06-24-16 00:00	- 30 ft	532368-012
STATEA-10-02 4'	S	06-24-16 00:00	- 4 ft	532368-013
STATEA-10-02 10'	S	06-24-16 00:00	- 10 ft	532368-014
STATEA-10-02 20'	S	06-24-16 00:00	- 20 ft	532368-015
STATEA-10-02 30'	S	06-24-16 00:00	- 30 ft	532368-016
STATEA-10-02 50'	S	06-24-16 00:00	- 50 ft	532368-018
STATEA-10-02 70'	S	06-24-16 00:00	- 70 ft	532368-020
STATEA-10-05 4'	S	06-24-16 00:00	- 4 ft	532368-021
STATEA-10-05 10'	S	06-24-16 00:00	- 10 ft	532368-022
STATEA-10-05 20'	S	06-24-16 00:00	- 20 ft	532368-023
STATEA-10-05 30'	S	06-24-16 00:00	- 30 ft	532368-024
VGWUSAT3-02 4'	S	06-24-16 00:00	- 4 ft	532368-025
VGWUSAT3-02 10'	S	06-24-16 00:00	- 10 ft	532368-026
VGWUSAT3-02 20'	S	06-24-16 00:00	- 20 ft	532368-027
VGWUSAT3-02 30'	S	06-24-16 00:00	- 30 ft	532368-028
VGWUSAT3-02 60'	S	06-24-16 00:00	- 60 ft	532368-031
VGWUSAT3-04 4'	S	06-24-16 00:00	- 4 ft	532368-032
VGWUSAT3-04 30'	S	06-24-16 00:00	- 30 ft	532368-035
VGWUSAT3-01 4'	S	06-24-16 00:00	- 4 ft	532368-036
VGWUSAT3-01 10'	S	06-24-16 00:00	- 10 ft	532368-037
STATEA-10-02 40'	S	06-24-16 00:00	- 40 ft	Not Analyzed
STATEA-10-02 60'	S	06-24-16 00:00	- 60 ft	Not Analyzed
VGWUSAT3-02 40'	S	06-24-16 00:00	- 40 ft	Not Analyzed
VGWUSAT3-02 50'	S	06-24-16 00:00	- 50 ft	Not Analyzed
VGWUSAT3-04 10'	S	06-24-16 00:00	- 10 ft	Not Analyzed
VGWUSAT3-04 20'	S	06-24-16 00:00	- 20 ft	Not Analyzed
VGWUSAT3-01 20'	S	06-24-16 00:00	- 20 ft	Not Analyzed
VGWUSAT3-01 30'	S	06-24-16 00:00	- 30 ft	Not Analyzed

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-997612 Inorganic Anions by EPA 300/300.1
Lab Sample ID 532437-015 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 532368-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -021.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **STATEA-10-04 4'** Matrix : Soil % Moisture : 5.73
Lab Sample Id : 532368-001 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	131	mg/kg	07.06.16 19.22		1

Sample Id : **STATEA-10-04 4'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-001 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.12	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-04 10'** Matrix : Soil % Moisture : 16.89
Lab Sample Id : 532368-002 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 10 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	73.7	mg/kg	07.06.16 19.30		1

Sample Id : **STATEA-10-04 10'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-002 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 10 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.46	SU	07.05.16 11.48		1

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **STATEA-10-04 20'** Matrix : Soil % Moisture : .84
Lab Sample Id : 532368-003 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 20 ft Date Received : 06.25.16 10.30

Analytical Method : TPH By SW8015B Mod Prep Method: TX1005P
Seq Number 997171 Date Prep: 06.28.16 15.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
C6-C10 Gasoline Range Hydrocarbons	C6C10GRO	16.0	mg/kg	06.28.16 22.35		1
Total TPH	PHC635	16.0	mg/kg	06.28.16 22.35		1

Sample Id : **STATEA-10-04 20'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-003 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 20 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.99	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-04 30'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-004 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 30 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.83	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-03 4'** Matrix : Soil % Moisture : 3.94
Lab Sample Id : 532368-005 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	94.3	mg/kg	07.06.16 20.09		1

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **STATEA-10-03 4'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-005 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.63	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-03 10'** Matrix : Soil % Moisture : 6.18
Lab Sample Id : 532368-006 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 10 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	45.9	mg/kg	07.06.16 20.17		1

Sample Id : **STATEA-10-03 10'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-006 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 10 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.97	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-03 20'** Matrix : Soil % Moisture : 9.16
Lab Sample Id : 532368-007 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 20 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.5	mg/kg	07.06.16 20.25		1

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **STATEA-10-03 20'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-007 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 20 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.97	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-03 30'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-008 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 30 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	9.04	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-01 4'** Matrix : Soil % Moisture : 4.23
Lab Sample Id : 532368-009 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	441	mg/kg	07.07.16 07.29		1

Sample Id : **STATEA-10-01 4'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-009 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.22	SU	07.05.16 11.48		1

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **STATEA-10-01 10'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-010 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 10 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	9.08	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-01 20'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-011 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 20 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	9.11	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-01 30'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-012 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 30 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.82	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-02 4'** Matrix : Soil % Moisture : 9.44
Lab Sample Id : 532368-013 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	86.4	mg/kg	07.07.16 08.31		1

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **STATEA-10-02 4'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-013 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	9.41	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-02 10'** Matrix : Soil % Moisture : 9.6
Lab Sample Id : 532368-014 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 10 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	131	mg/kg	07.07.16 08.39		5

Sample Id : **STATEA-10-02 10'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-014 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 10 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	9.69	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-02 20'** Matrix : Soil % Moisture : 12.62
Lab Sample Id : 532368-015 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 20 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	316	mg/kg	07.07.16 08.47		5

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **STATEA-10-02 20'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-015 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 20 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	9.60	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-02 30'** Matrix : Soil % Moisture : 5.72
Lab Sample Id : 532368-016 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 30 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	418	mg/kg	07.07.16 08.55		5

Sample Id : **STATEA-10-02 30'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-016 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 30 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997530

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	9.68	SU	07.05.16 11.48		1

Sample Id : **STATEA-10-02 50'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-018 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 50 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 998310 Date Prep: 07.18.16 14.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1630	mg/kg	07.18.16 20.11		10

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **STATEA-10-02 70'** Matrix : Soil % Moisture : 6.09
Lab Sample Id : 532368-020 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 70 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 998464 Date Prep: 07.20.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	865	mg/kg	07.20.16 16.46		5

Sample Id : **STATEA-10-05 4'** Matrix : Soil % Moisture : 3.84
Lab Sample Id : 532368-021 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997612 Date Prep: 07.06.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	47.5	mg/kg	07.07.16 09.02		1

Sample Id : **STATEA-10-05 4'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-021 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997531

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.92	SU	07.05.16 15.52		1

Sample Id : **STATEA-10-05 10'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-022 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 10 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997531

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	9.04	SU	07.05.16 15.52		1

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **STATEA-10-05 20'** Matrix : Soil % Moisture : 1.61
Lab Sample Id : 532368-023 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 20 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997641 Date Prep: 07.06.16 14.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.2	mg/kg	07.07.16 10.21		1

Sample Id : **STATEA-10-05 20'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-023 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 20 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997531

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	9.27	SU	07.05.16 15.52		1

Sample Id : **STATEA-10-05 30'** Matrix : Soil % Moisture : 8.11
Lab Sample Id : 532368-024 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 30 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997641 Date Prep: 07.06.16 14.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.4	mg/kg	07.07.16 10.28		1

Sample Id : **STATEA-10-05 30'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-024 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 30 ft Date Received : 06.25.16 10.30

Analytical Method : Soil pH by EPA 9045C
Seq Number 997531

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
pH	12408-02-5	8.84	SU	07.05.16 15.52		1

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **VGWUSAT3-02 4'** Matrix : Soil % Moisture : 0
Lab Sample Id : 532368-025 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 998464 Date Prep: 07.20.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3340	mg/kg	07.20.16 17.09		20

Sample Id : **VGWUSAT3-02 10'** Matrix : Soil % Moisture : 0
Lab Sample Id : 532368-026 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 10 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 998464 Date Prep: 07.20.16 12.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3590	mg/kg	07.20.16 17.17		20

Sample Id : **VGWUSAT3-02 20'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-027 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 20 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 998310 Date Prep: 07.18.16 14.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	546	mg/kg	07.18.16 20.18		5

Sample Id : **VGWUSAT3-02 30'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-028 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 30 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 998310 Date Prep: 07.18.16 14.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	635	mg/kg	07.18.16 20.26		5

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **VGWUSAT3-02 60'** Matrix : Soil % Moisture : 7.45
Lab Sample Id : 532368-031 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 60 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997641 Date Prep: 07.06.16 14.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.9	mg/kg	07.07.16 10.36		1

Sample Id : **VGWUSAT3-04 4'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-032 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 998310 Date Prep: 07.18.16 14.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	58.4	mg/kg	07.18.16 20.34		1

Sample Id : **VGWUSAT3-04 30'** Matrix : Soil % Moisture : 7.45
Lab Sample Id : 532368-035 Date Collected : 06.24.16 00.00 Basis : Dry Weight
Sample Depth : 30 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 997641 Date Prep: 07.06.16 14.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	72.2	mg/kg	07.07.16 10.44		1

Sample Id : **VGWUSAT3-01 4'** Matrix : Soil % Moisture :
Lab Sample Id : 532368-036 Date Collected : 06.24.16 00.00 Basis : Wet Weight
Sample Depth : 4 ft Date Received : 06.25.16 10.30

Analytical Method : Inorganic Anions by EPA 300/300.1 Prep Method: E300P
Seq Number 998310 Date Prep: 07.18.16 14.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	681	mg/kg	07.18.16 20.42		5

Hits Summary 532368

ARCADIS, Midland, TX

Chevron Sites

Sample Id : **VGWUSAT3-01 10'**
Lab Sample Id : 532368-037
Sample Depth : 10 ft

Matrix : Soil
Date Collected : 06.24.16 00.00
Date Received : 06.25.16 10.30

% Moisture : 7.45
Basis : Dry Weight

Analytical Method : Inorganic Anions by EPA 300/300.1
Seq Number 997641

Prep Method: E300P
Date Prep: 07.06.16 14.00

Parameter	Cas Number	Result	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	54.4	mg/kg	07.07.16 11.07		1

Certificate of Analysis Summary 532368

ARCADIS, Midland, TX

Project Name: Chevron Sites

Project Id: 713.953.4841
Contact: Arti Patel
Project Location: Hobbs, NM

Date Received in Lab: Sat Jun-25-16 10:30 am
Report Date: 21-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532368-001		532368-002		532368-003		532368-004		532368-005		532368-006	
	Field Id:	STATEA-10-04 4'		STATEA-10-04 10'		STATEA-10-04 20'		STATEA-10-04 30'		STATEA-10-03 4'		STATEA-10-03 10'	
	Depth:	4 ft		10 ft		20 ft		30 ft		4 ft		10 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00	
Percent Moisture	***Extracted:***												
	Analyzed:	Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		5.73	1.00	16.9	1.00	<1.00	1.00	5.06	1.00	3.94	1.00	6.18	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532368

ARCADIS, Midland, TX

Project Name: Chevron Sites

Project Id: 713.953.4841
Contact: Arti Patel
Project Location: Hobbs, NM

Date Received in Lab: Sat Jun-25-16 10:30 am
Report Date: 21-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532368-001		532368-002		532368-003		532368-004		532368-005		532368-006	
	Field Id:	STATEA-10-04 4'		STATEA-10-04 10'		STATEA-10-04 20'		STATEA-10-04 30'		STATEA-10-03 4'		STATEA-10-03 10'	
	Depth:	4 ft		10 ft		20 ft		30 ft		4 ft		10 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-06-16 12:00		Jul-06-16 12:00		Jul-06-16 12:00		Jul-06-16 12:00		Jul-06-16 12:00		Jul-06-16 12:00	
	Analyzed:	Jul-06-16 19:22		Jul-06-16 19:30		Jul-06-16 19:38		Jul-06-16 20:01		Jul-06-16 20:09		Jul-06-16 20:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		131	10.6	73.7	12.0	<10.1	10.1	<10.5	10.5	94.3	10.4	45.9	10.7
Soil pH by EPA 9045C	***Extracted:***												
	Analyzed:	Jul-05-16 11:48		Jul-05-16 11:48		Jul-05-16 11:48		Jul-05-16 11:48		Jul-05-16 11:48		Jul-05-16 11:48	
	Units/RL:	SU	RL	SU	RL	SU	RL	SU	RL	SU	RL	SU	RL
pH		8.12		8.46		8.99		8.83		8.63		8.97	
TPH By SW8015B Mod	***Extracted:***	Jun-28-16 15:00		Jun-28-16 15:00		Jun-28-16 15:00		Jun-28-16 15:00		Jun-28-16 15:00		Jun-28-16 15:00	
	Analyzed:	Jun-28-16 20:53		Jun-28-16 22:10		Jun-28-16 22:35		Jun-28-16 23:01		Jun-28-16 23:27		Jun-28-16 23:55	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		<15.9	15.9	<18.0	18.0	16.0	15.1	<15.8	15.8	<15.6	15.6	<16.0	16.0
C10-C28 Diesel Range Hydrocarbons		<15.9	15.9	<18.0	18.0	<15.1	15.1	<15.8	15.8	<15.6	15.6	<16.0	16.0
Total TPH		<15.9	15.9	<18.0	18.0	16.0	15.1	<15.8	15.8	<15.6	15.6	<16.0	16.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532368

ARCADIS, Midland, TX

Project Name: Chevron Sites

Project Id: 713.953.4841
Contact: Arti Patel
Project Location: Hobbs, NM

Date Received in Lab: Sat Jun-25-16 10:30 am
Report Date: 21-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532368-007		532368-008		532368-009		532368-010		532368-011		532368-012	
	Field Id:	STATEA-10-03 20'		STATEA-10-03 30'		STATEA-10-01 4'		STATEA-10-01 10'		STATEA-10-01 20'		STATEA-10-01 30'	
	Depth:	20 ft		30 ft		4 ft		10 ft		20 ft		30 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00	
Percent Moisture	***Extracted:***												
	Analyzed:	Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		9.16	1.00	6.29	1.00	4.23	1.00	2.90	1.00	3.89	1.00	6.76	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532368

ARCADIS, Midland, TX

Project Name: Chevron Sites

Project Id: 713.953.4841
Contact: Arti Patel
Project Location: Hobbs, NM

Date Received in Lab: Sat Jun-25-16 10:30 am
Report Date: 21-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532368-007		532368-008		532368-009		532368-010		532368-011		532368-012	
	Field Id:	STATEA-10-03 20'		STATEA-10-03 30'		STATEA-10-01 4'		STATEA-10-01 10'		STATEA-10-01 20'		STATEA-10-01 30'	
	Depth:	20 ft		30 ft		4 ft		10 ft		20 ft		30 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-06-16 12:00		Jul-06-16 12:00		Jul-06-16 12:00		Jul-06-16 12:00		Jul-06-16 12:00		Jul-06-16 12:00	
	Analyzed:	Jul-06-16 20:25		Jul-06-16 20:32		Jul-07-16 07:29		Jul-07-16 07:52		Jul-07-16 08:00		Jul-07-16 08:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		29.5	11.0	<10.7	10.7	441	10.4	<10.3	10.3	<10.4	10.4	<10.7	10.7
Soil pH by EPA 9045C	***Extracted:***												
	Analyzed:	Jul-05-16 11:48		Jul-05-16 11:48		Jul-05-16 11:48		Jul-05-16 11:48		Jul-05-16 11:48		Jul-05-16 11:48	
	Units/RL:	SU	RL	SU	RL	SU	RL	SU	RL	SU	RL	SU	RL
pH		8.97		9.04		8.22		9.08		9.11		8.82	
TPH By SW8015B Mod	***Extracted:***	Jun-28-16 15:00		Jun-28-16 15:00		Jun-28-16 15:00		Jun-28-16 15:00		Jun-28-16 15:00		Jun-28-16 15:00	
	Analyzed:	Jun-29-16 00:21		Jun-29-16 00:48		Jun-29-16 01:16		Jun-29-16 01:42		Jun-29-16 02:35		Jun-29-16 02:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
C6-C10 Gasoline Range Hydrocarbons		<16.5	16.5	<16.0	16.0	<15.6	15.6	<15.4	15.4	<15.6	15.6	<16.1	16.1
C10-C28 Diesel Range Hydrocarbons		<16.5	16.5	<16.0	16.0	<15.6	15.6	<15.4	15.4	<15.6	15.6	<16.1	16.1
Total TPH		<16.5	16.5	<16.0	16.0	<15.6	15.6	<15.4	15.4	<15.6	15.6	<16.1	16.1

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532368

ARCADIS, Midland, TX

Project Name: Chevron Sites

Project Id: 713.953.4841
Contact: Arti Patel
Project Location: Hobbs, NM

Date Received in Lab: Sat Jun-25-16 10:30 am
Report Date: 21-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532368-013		532368-014		532368-015		532368-016		532368-018		532368-020	
	Field Id:	STATEA-10-02 4'		STATEA-10-02 10'		STATEA-10-02 20'		STATEA-10-02 30'		STATEA-10-02 50'		STATEA-10-02 70'	
	Depth:	4 ft		10 ft		20 ft		30 ft		50 ft		70 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00	
Percent Moisture	***Extracted:***												
	Analyzed:	Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05	
	Units/RL:	%	RL	%	RL	%	RL	%	RL	%	RL	%	RL
Percent Moisture		9.44	1.00	9.60	1.00	12.6	1.00	5.72	1.00	9.15	1.00	6.09	1.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532368

ARCADIS, Midland, TX

Project Name: Chevron Sites

Project Id: 713.953.4841
Contact: Arti Patel
Project Location: Hobbs, NM

Date Received in Lab: Sat Jun-25-16 10:30 am
Report Date: 21-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532368-013		532368-014		532368-015		532368-016		532368-018		532368-020	
	Field Id:	STATEA-10-02 4'		STATEA-10-02 10'		STATEA-10-02 20'		STATEA-10-02 30'		STATEA-10-02 50'		STATEA-10-02 70'	
	Depth:	4 ft		10 ft		20 ft		30 ft		50 ft		70 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-06-16 12:00		Jul-06-16 12:00		Jul-06-16 12:00		Jul-06-16 12:00		Jul-18-16 14:00		Jul-20-16 12:00	
	Analyzed:	Jul-07-16 08:31		Jul-07-16 08:39		Jul-07-16 08:47		Jul-07-16 08:55		Jul-18-16 20:11		Jul-20-16 16:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		86.4	11.0	131	55.3	316	57.2	418	53.0	1630	100	865	53.2
Soil pH by EPA 9045C	***Extracted:***												
	Analyzed:	Jul-05-16 11:48		Jul-05-16 11:48		Jul-05-16 11:48		Jul-05-16 11:48					
	Units/RL:	SU	RL	SU	RL	SU	RL	SU	RL				
pH		9.41		9.69		9.60		9.68					
TPH By SW8015B Mod	***Extracted:***	Jun-28-16 15:00		Jun-28-16 15:00		Jun-28-16 15:00		Jun-28-16 15:00					
	Analyzed:	Jun-29-16 03:25		Jun-29-16 03:51		Jun-29-16 04:17		Jun-29-16 04:44					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		<16.5	16.5	<16.5	16.5	<17.2	17.2	<15.9	15.9				
C10-C28 Diesel Range Hydrocarbons		<16.5	16.5	<16.5	16.5	<17.2	17.2	<15.9	15.9				
Total TPH		<16.5	16.5	<16.5	16.5	<17.2	17.2	<15.9	15.9				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532368

ARCADIS, Midland, TX

Project Name: Chevron Sites

Project Id: 713.953.4841
Contact: Arti Patel
Project Location: Hobbs, NM

Date Received in Lab: Sat Jun-25-16 10:30 am
Report Date: 21-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532368-021		532368-022		532368-023		532368-024		532368-025		532368-026	
	Field Id:	STATEA-10-05 4'		STATEA-10-05 10'		STATEA-10-05 20'		STATEA-10-05 30'		VGWUSAT3-02 4'		VGWUSAT3-02 10'	
	Depth:	4 ft		10 ft		20 ft		30 ft		4 ft		10 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00	
Percent Moisture	***Extracted:***												
	Analyzed:	Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05		Jul-01-16 17:05					
	Units/RL:	%	RL	%	RL	%	RL	%	RL				
Percent Moisture		3.84	1.00	7.45	1.00	1.61	1.00	8.11	1.00				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532368

ARCADIS, Midland, TX

Project Name: Chevron Sites

Project Id: 713.953.4841
Contact: Arti Patel
Project Location: Hobbs, NM

Date Received in Lab: Sat Jun-25-16 10:30 am
Report Date: 21-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532368-021		532368-022		532368-023		532368-024		532368-025		532368-026	
	Field Id:	STATEA-10-05 4'		STATEA-10-05 10'		STATEA-10-05 20'		STATEA-10-05 30'		VGWUSAT3-02 4'		VGWUSAT3-02 10'	
	Depth:	4 ft		10 ft		20 ft		30 ft		4 ft		10 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-06-16 12:00		Jul-06-16 14:00		Jul-06-16 14:00		Jul-06-16 14:00		Jul-20-16 12:00		Jul-20-16 12:00	
	Analyzed:	Jul-07-16 09:02		Jul-07-16 09:57		Jul-07-16 10:21		Jul-07-16 10:28		Jul-20-16 17:09		Jul-20-16 17:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		47.5	10.4	<10.8	10.8	14.2	10.2	23.4	10.9	3340	200	3590	200
Soil pH by EPA 9045C	***Extracted:***												
	Analyzed:	Jul-05-16 15:52		Jul-05-16 15:52		Jul-05-16 15:52		Jul-05-16 15:52					
	Units/RL:	SU	RL	SU	RL	SU	RL	SU	RL				
pH		8.92		9.04		9.27		8.84					
TPH By SW8015B Mod	***Extracted:***	Jun-29-16 14:00		Jun-29-16 14:00		Jun-29-16 14:00		Jun-29-16 14:00					
	Analyzed:	Jun-29-16 15:39		Jun-29-16 16:59		Jun-29-16 17:26		Jun-29-16 17:53					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
C6-C10 Gasoline Range Hydrocarbons		<15.6	15.6	<16.2	16.2	<15.2	15.2	<16.3	16.3				
C10-C28 Diesel Range Hydrocarbons		<15.6	15.6	<16.2	16.2	<15.2	15.2	<16.3	16.3				
Total TPH		<15.6	15.6	<16.2	16.2	<15.2	15.2	<16.3	16.3				

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532368

ARCADIS, Midland, TX

Project Name: Chevron Sites

Project Id: 713.953.4841
Contact: Arti Patel
Project Location: Hobbs, NM

Date Received in Lab: Sat Jun-25-16 10:30 am
Report Date: 21-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	532368-027		532368-028		532368-031		532368-032		532368-035		532368-036	
	Field Id:	VGWUSAT3-02 20'		VGWUSAT3-02 30'		VGWUSAT3-02 60'		VGWUSAT3-04 4'		VGWUSAT3-04 30'		VGWUSAT3-01 4'	
	Depth:	20 ft		30 ft		60 ft		4 ft		30 ft		4 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00		Jun-24-16 00:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-18-16 14:00		Jul-18-16 14:00		Jul-06-16 14:00		Jul-18-16 14:00		Jul-06-16 14:00		Jul-18-16 14:00	
	Analyzed:	Jul-18-16 20:18		Jul-18-16 20:26		Jul-07-16 10:36		Jul-18-16 20:34		Jul-07-16 10:44		Jul-18-16 20:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		546	50.0	635	50.0	22.9	10.8	58.4	10.0	72.2	10.8	681	50.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 532368

ARCADIS, Midland, TX

Project Name: Chevron Sites

Project Id: 713.953.4841
Contact: Arti Patel
Project Location: Hobbs, NM

Date Received in Lab: Sat Jun-25-16 10:30 am
Report Date: 21-JUL-16
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	532368-037					
	Field Id:	VGWUSAT3-01 10'					
	Depth:	10 ft					
	Matrix:	SOIL					
	Sampled:	Jun-24-16 00:00					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Jul-06-16 14:00					
	Analyzed:	Jul-07-16 11:07					
	Units/RL:	mg/kg	RL				
Chloride		54.4	10.8				

Kelsey Brooks
Project Manager

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

+ NELAC certification not offered for this compound.

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

Form 2 - Surrogate Recoveries

Project Name: Chevron Sites

Work Orders : 532368, 532368 **Project ID:** 713.953.4841

Lab Batch #: 997171 **Sample:** 532368-001 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 20:53

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	99.9	101	70-135	
o-Terphenyl	52.5	50.0	105	70-135	

Lab Batch #: 997171 **Sample:** 532368-002 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 22:10

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.5	99.9	97	70-135	
o-Terphenyl	46.9	50.0	94	70-135	

Lab Batch #: 997171 **Sample:** 532368-003 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 22:35

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.0	99.7	94	70-135	
o-Terphenyl	44.2	49.9	89	70-135	

Lab Batch #: 997171 **Sample:** 532368-004 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 23:01

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	84.2	100	84	70-135	
o-Terphenyl	41.0	50.0	82	70-135	

Lab Batch #: 997171 **Sample:** 532368-005 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 23:27

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	87.9	99.8	88	70-135	
o-Terphenyl	42.4	49.9	85	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Sites

Work Orders : 532368, 532368 **Project ID:** 713.953.4841

Lab Batch #: 997171 **Sample:** 532368-006 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 23:55

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.0	99.8	92	70-135	
o-Terphenyl	44.9	49.9	90	70-135	

Lab Batch #: 997171 **Sample:** 532368-007 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 00:21

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	86.0	99.7	86	70-135	
o-Terphenyl	42.2	49.9	85	70-135	

Lab Batch #: 997171 **Sample:** 532368-008 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 00:48

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	89.9	99.7	90	70-135	
o-Terphenyl	43.7	49.9	88	70-135	

Lab Batch #: 997171 **Sample:** 532368-009 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 01:16

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.3	99.7	93	70-135	
o-Terphenyl	45.0	49.9	90	70-135	

Lab Batch #: 997171 **Sample:** 532368-010 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 01:42

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	85.9	99.9	86	70-135	
o-Terphenyl	41.6	50.0	83	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Sites

Work Orders : 532368, 532368 **Project ID:** 713.953.4841

Lab Batch #: 997171 **Sample:** 532368-011 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 02:35

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.8	99.8	93	70-135	
o-Terphenyl	45.9	49.9	92	70-135	

Lab Batch #: 997171 **Sample:** 532368-012 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 02:59

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	99.9	99.9	100	70-135	
o-Terphenyl	50.1	50.0	100	70-135	

Lab Batch #: 997171 **Sample:** 532368-013 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 03:25

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	96.4	99.9	96	70-135	
o-Terphenyl	48.3	50.0	97	70-135	

Lab Batch #: 997171 **Sample:** 532368-014 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 03:51

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.5	99.7	95	70-135	
o-Terphenyl	46.7	49.9	94	70-135	

Lab Batch #: 997171 **Sample:** 532368-015 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 04:17

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	101	100	101	70-135	
o-Terphenyl	49.6	50.0	99	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Sites

Work Orders : 532368, 532368 **Project ID:** 713.953.4841

Lab Batch #: 997171 **Sample:** 532368-016 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 04:44

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	97.7	99.8	98	70-135	
o-Terphenyl	48.7	49.9	98	70-135	

Lab Batch #: 997250 **Sample:** 532368-021 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 15:39

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.0	99.7	92	70-135	
o-Terphenyl	46.1	49.9	92	70-135	

Lab Batch #: 997250 **Sample:** 532368-022 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 16:59

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	91.6	99.8	92	70-135	
o-Terphenyl	45.7	49.9	92	70-135	

Lab Batch #: 997250 **Sample:** 532368-023 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 17:26

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	92.4	99.7	93	70-135	
o-Terphenyl	44.7	49.9	90	70-135	

Lab Batch #: 997250 **Sample:** 532368-024 / SMP **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 17:53

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	94.9	99.9	95	70-135	
o-Terphenyl	47.1	50.0	94	70-135	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Sites

Work Orders : 532368, 532368 **Project ID:** 713.953.4841

Lab Batch #: 997171 **Sample:** 710455-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/28/16 19:37

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	51.6	50.0	103	70-135	

Lab Batch #: 997250 **Sample:** 710500-1-BLK / BLK **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/29/16 14:19

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	103	100	103	70-135	
o-Terphenyl	52.2	50.0	104	70-135	

Lab Batch #: 997171 **Sample:** 710455-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/28/16 20:02

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	56.5	50.0	113	70-135	

Lab Batch #: 997250 **Sample:** 710500-1-BKS / BKS **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/29/16 14:45

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	124	100	124	70-135	
o-Terphenyl	58.7	50.0	117	70-135	

Lab Batch #: 997171 **Sample:** 710455-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/28/16 20:27

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod

Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	121	100	121	70-135	
o-Terphenyl	55.3	50.0	111	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Form 2 - Surrogate Recoveries

Project Name: Chevron Sites

Work Orders : 532368, 532368 **Project ID:** 713.953.4841

Lab Batch #: 997250 **Sample:** 710500-1-BSD / BSD **Batch:** 1 **Matrix:** Solid

Units: mg/kg **Date Analyzed:** 06/29/16 15:12

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	130	100	130	70-135	
o-Terphenyl	59.2	50.0	118	70-135	

Lab Batch #: 997171 **Sample:** 532368-001 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 21:19

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	115	99.9	115	70-135	
o-Terphenyl	51.1	50.0	102	70-135	

Lab Batch #: 997250 **Sample:** 532368-021 S / MS **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 16:05

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	110	99.9	110	70-135	
o-Terphenyl	45.1	50.0	90	70-135	

Lab Batch #: 997171 **Sample:** 532368-001 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/28/16 21:45

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	123	99.8	123	70-135	
o-Terphenyl	54.4	49.9	109	70-135	

Lab Batch #: 997250 **Sample:** 532368-021 SD / MSD **Batch:** 1 **Matrix:** Soil

Units: mg/kg **Date Analyzed:** 06/29/16 16:32

SURROGATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1-Chlorooctane	109	99.7	109	70-135	
o-Terphenyl	46.1	49.9	92	70-135	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

BS / BSD Recoveries

Project Name: Chevron Sites

Work Order #: 532368, 532368 **Project ID:** 713.953.4841

Analyst: MNR **Date Prepared:** 07/06/2016 **Date Analyzed:** 07/06/2016

Lab Batch ID: 997612 **Sample:** 710654-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	236	94	250	228	91	3	90-110	20	

Analyst: MNR **Date Prepared:** 07/06/2016 **Date Analyzed:** 07/07/2016

Lab Batch ID: 997641 **Sample:** 710669-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	231	92	250	233	93	1	90-110	20	

Analyst: MNR **Date Prepared:** 07/18/2016 **Date Analyzed:** 07/18/2016

Lab Batch ID: 998310 **Sample:** 711075-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	246	98	250	250	100	2	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: Chevron Sites

Work Order #: 532368, 532368 **Project ID:** 713.953.4841

Analyst: MNR **Date Prepared:** 07/20/2016 **Date Analyzed:** 07/20/2016

Lab Batch ID: 998464 **Sample:** 711178-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	257	103	250	268	107	4	90-110	20	

Analyst: ARM **Date Prepared:** 06/28/2016 **Date Analyzed:** 06/28/2016

Lab Batch ID: 997171 **Sample:** 710455-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	918	92	1000	899	90	2	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	965	97	1000	963	96	0	70-135	35	

Analyst: ARM **Date Prepared:** 06/29/2016 **Date Analyzed:** 06/29/2016

Lab Batch ID: 997250 **Sample:** 710500-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.0	1000	991	99	1000	1040	104	5	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15.0	1000	1100	110	1000	1080	108	2	70-135	35	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS Recoveries

Project Name: Chevron Sites

Work Order #: 532368

Lab Batch #: 997612 **Project ID:** 713.953.4841

Date Analyzed: 07/07/2016 **Date Prepared:** 07/06/2016 **Analyst:** MNR

QC- Sample ID: 532368-009 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	441	261	635	74	80-120	X

Lab Batch #: 997612

Date Analyzed: 07/06/2016 **Date Prepared:** 07/06/2016 **Analyst:** MNR

QC- Sample ID: 532437-015 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	529	1250	1620	87	80-120	

Lab Batch #: 997641

Date Analyzed: 07/07/2016 **Date Prepared:** 07/06/2016 **Analyst:** MNR

QC- Sample ID: 532368-022 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	<10.8	270	231	86	80-120	

Lab Batch #: 997641

Date Analyzed: 07/07/2016 **Date Prepared:** 07/06/2016 **Analyst:** MNR

QC- Sample ID: 532413-005 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	2150	2500	4800	106	80-120	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Form 3 - MS Recoveries

Project Name: Chevron Sites

Work Order #: 532368

Lab Batch #: 998310 **Project ID:** 713.953.4841

Date Analyzed: 07/18/2016 **Date Prepared:** 07/18/2016 **Analyst:** MNR

QC- Sample ID: 532328-017 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	28.7	250	258	92	80-120	

Lab Batch #: 998310

Date Analyzed: 07/18/2016 **Date Prepared:** 07/18/2016 **Analyst:** MNR

QC- Sample ID: 533521-001 S **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300 Analytes	MATRIX / MATRIX SPIKE RECOVERY STUDY					
	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	%R [D]	Control Limits %R	Flag
Chloride	<10.0	250	274	110	80-120	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

BRL - Below Reporting Limit

Form 3 - MS / MSD Recoveries

Project Name: Chevron Sites

Work Order # : 532368 **Project ID:** 713.953.4841

Lab Batch ID: 998464 **QC- Sample ID:** 533505-007 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 07/20/2016 **Date Prepared:** 07/20/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	717	1250	2040	106	1250	2010	103	1	80-120	20	

Lab Batch ID: 997171 **QC- Sample ID:** 532368-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/28/2016 **Date Prepared:** 06/28/2016 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.9	1060	904	85	1060	1090	103	19	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15.9	1060	977	92	1060	1080	102	10	70-135	35	

Lab Batch ID: 997250 **QC- Sample ID:** 532368-021 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 06/29/2016 **Date Prepared:** 06/29/2016 **Analyst:** ARM

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

TPH By SW8015B Mod Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
C6-C10 Gasoline Range Hydrocarbons	<15.6	1040	887	85	1040	880	85	1	70-135	35	
C10-C28 Diesel Range Hydrocarbons	<15.6	1040	1010	97	1040	1010	97	0	70-135	35	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Project Name: Chevron Sites

Work Order #: 532368

Lab Batch #: 997612 **Project ID:** 713.953.4841
Date Analyzed: 07/07/2016 07:37 **Date Prepared:** 07/06/2016 **Analyst:** MNR
QC- Sample ID: 532368-009 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300/300.1 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	441	440	0	20	

Lab Batch #: 997612
Date Analyzed: 07/06/2016 18:51 **Date Prepared:** 07/06/2016 **Analyst:** MNR
QC- Sample ID: 532437-015 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300/300.1 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	529	502	5	20	

Lab Batch #: 997641
Date Analyzed: 07/07/2016 10:05 **Date Prepared:** 07/06/2016 **Analyst:** MNR
QC- Sample ID: 532368-022 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300/300.1 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	<10.8	<10.8	0	20	U

Lab Batch #: 997641
Date Analyzed: 07/07/2016 11:54 **Date Prepared:** 07/06/2016 **Analyst:** MNR
QC- Sample ID: 532413-005 D **Batch #:** 1 **Matrix:** Soil
Reporting Units: mg/kg

Inorganic Anions by EPA 300/300.1 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	2150	2280	6	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.
BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Chevron Sites

Work Order #: 532368

Lab Batch #: 998310 **Project ID:** 713.953.4841

Date Analyzed: 07/18/2016 20:57 **Date Prepared:** 07/18/2016 **Analyst:** MNR

QC- Sample ID: 532328-017 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300/300.1 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	28.7	25.5	12	20	

Lab Batch #: 998310

Date Analyzed: 07/18/2016 19:08 **Date Prepared:** 07/18/2016 **Analyst:** MNR

QC- Sample ID: 533521-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: mg/kg

Inorganic Anions by EPA 300/300.1 Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Chloride	<10.0	<10.0	0	20	U

Lab Batch #: 997489

Date Analyzed: 07/01/2016 17:05 **Date Prepared:** 07/01/2016 **Analyst:** WRU

QC- Sample ID: 532368-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	5.73	5.48	4	20	

Lab Batch #: 997489

Date Analyzed: 07/01/2016 17:05 **Date Prepared:** 07/01/2016 **Analyst:** WRU

QC- Sample ID: 532368-011 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY				
	Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.89	3.66	6	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

Sample Duplicate Recovery

Project Name: Chevron Sites

Work Order #: 532368

Lab Batch #: 997493 **Project ID:** 713.953.4841

Date Analyzed: 07/01/2016 17:05 **Date Prepared:** 07/01/2016 **Analyst:** WRU

QC- Sample ID: 532368-021 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: %

Percent Moisture Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
Percent Moisture	3.84	3.95	3	20	

Lab Batch #: 997530

Date Analyzed: 07/05/2016 11:48 **Date Prepared:** 07/05/2016 **Analyst:** WRU

QC- Sample ID: 532585-001 D **Batch #:** 1 **Matrix:** Soil

Reporting Units: SU

Soil pH by EPA 9045C Analyte	SAMPLE / SAMPLE DUPLICATE RECOVERY Parent Sample Result [A]	Sample Duplicate Result [B]	RPD	Control Limits %RPD	Flag
pH	7.78	7.77	0	20	

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

BRL - Below Reporting Limit

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: ARCADIS

Date/ Time Received: 06/25/2016 10:30:00 AM

Work Order #: 532368

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)?	4.5
#2 *Shipping container in good condition?	**N/A**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**No**
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Mary Alexis Negron
Mary Negron
Date: 06/27/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks
Date: 06/28/2016

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of ___

Lab Work Order # 532368

Send Results to:

Contact & Company Name: Arti Patel

Telephone: 713 853 4841

Address:

Fax:

City State Zip

E-mail Address: Arti.Patel@arcadis.com

Project Name/Location (City, State):

Project #:

Sampler's Printed Name:

Sampler's Signature:

Preservative							
Filtered (✓)							
# of Containers							
Container Information							

PARAMETER ANALYSIS & METHOD

Chloride 24

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	REMARKS
A-10 SB-4 4	6-24			✓	SOL	test
10						hold
20						hold
30						hold
SB-3 4						Test
10						hold
20						hold
30						hold
SB-1 4						test
10						hold
20						hold
30						hold
SB-2 4						test hold
10						hold

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name:

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Shipping Tracking #:

Cooler Custody Seal (✓)
☑ Intact ☐ Not Intact

Sample Receipt:
Condition/Cooler Temp: 4.5°C

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ken Wicas	Printed Name:	Printed Name:	Printed Name: Julian Martinez
Signature:	Signature:	Signature:	Signature:
Firm: Arcadis	Firm/Courier: MS	Firm/Courier:	Firm: Xenco
Date/Time: 6/24 1700	Date/Time: 6/24	Date/Time:	Date/Time: 6-25-16 10:30

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by Arcadis

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ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 2 of ___

Lab Work Order # 532368

Send Results to:

Contact & Company Name: Arti puri

Telephone: 713.953.4841

Address:

Fax:

City State Zip

E-mail Address: Arti.puri@arcadis.com

Project Name/Location (City, State):

Project #:

Sampler's Printed Name:

Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix
A-10 SB-2 20	6-24			✓	Soil
30					
40					
50					
60					
70					
SB-5 4					
10					
20					
30					
SAT-3 SB-3 4					
10					
20					
30					

Preservative								
Filtered (✓)								
# of Containers								
Container Information								

PARAMETER ANALYSIS & METHOD

Chlorides

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil | SE - Sediment | NL - NAPL/Oil
W - Water | SL - Sludge | SW - Sample Wipe
T - Tissue | A - Air | Other: _____

REMARKS

hold
hold
hold
hold
hold
hold
test
hold
hold
hold
test
hold
hold
hold

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name:

Cooler Custody Seal (✓)

☐ Cooler packed with ice (✓)

☐ Intact ☐ Not Intact

Specify Turnaround Requirements:

Sample Receipt:

Shipping Tracking #:

Condition/Cooler Temp: _____

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ken Wicks	Printed Name:	Printed Name:	Printed Name:
Signature:	Signature:	Signature:	Signature:
Firm: Arcadis	Firm/Courier:	Firm/Courier:	Firm:
Date/Time: 6/24 1700	Date/Time: 6/24/16	Date/Time:	Date/Time:

20730826 CofC AR Form 08.27.2015

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by Arcadis

Final 1.000

Page 44 of 57

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 3 of ___

Lab Work Order # 532368

Send Results to:

Contact & Company Name: Arti PuHi	Telephone: 713.953.4841
Address:	Fax:
City State Zip	E-mail Address: APti.PuHi@arcadis.com
Project Name/Location (City, State):	Project #:
Sampler's Printed Name:	Sampler's Signature:

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil | SE - Sediment | NL - NAPL/Oil
W - Water | SL - Sludge | SW - Sample Wipe
T - Tissue | A - Air | Other: _____

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	REMARKS
SB-3	6-24			✓	SOL	Chlorinity		4		hold ✓
SB-2								10		hold ✓
								20		hold ✓
								30		hold ✓
								40		hold ✓
								50		hold ✓
								60		hold ✓
SB-4								4		~~hold~~ test ✓
								10		hold ✓
								20		hold ✓
								30		hold ✓
								3		test ✓

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓) ☐ Intact ☐ Not Intact	Printed Name: Ken Wicks	Printed Name: K Butler	Printed Name:	Printed Name:
☐ Cooler packed with ice (✓)		Signature:	Signature:	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm: Arcadis	Firm/Courier:	Firm/Courier:	Firm:
Shipping Tracking #:	Condition/Cooler Temp: _____	Date/Time: 6/24 1700	Date/Time: 6/24/16	Date/Time:	Date/Time:

20730826 CofC AR Form 08.27.2015

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ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 4 of ___

Lab Work Order #: 532308

Send Results to:

Contact & Company Name: Arti patel

Telephone: 713.953.4841

Address:

Fax:

City State Zip

E-mail Address: Arti.patel@arcadis.com

Project Name/Location (City, State):

Project #:

Sampler's Printed Name:

Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	Chlorides	REMARKS
Sat 3 SB4 4	6-24			✓	Soil						Hold
10	↓			↓	↓						~~Hold~~ test
20											Hold
30											~~Dup~~ Hold

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil, SE - Sediment, NL - NAPL/Oil, W - Water, SL - Sludge, SW - Sample Wipe, T - Tissue, A - Air, Other: _____

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name:

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Shipping Tracking #:

Cooler Custody Seal (✓) ☐ Intact ☐ Not Intact

Sample Receipt:

Condition/Cooler Temp: _____

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ken Wicks	Printed Name: K Butler	Printed Name:	Printed Name:
Signature:	Signature:	Signature:	Signature:
Firm: Arcadis	Firm/Courier: MS	Firm/Courier:	Firm:
Date/Time: 6/24 1700	Date/Time: 6/24/16	Date/Time:	Date/Time:

20730826 CofC AR Form 08.27.2015

Distribution: WHITE – Laboratory returns with results; YELLOW – Lab copy; PINK – Retained by Arcadis

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Page 46 of 57

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ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 4

Lab Work Order #

Send Results to:

Contact & Company Name: Arti Patil

Telephone: 713 853 4841

Address:

Fax:

City: State: Zip:

E-mail Address: Arti.patil@arcadis.com

Project Name/Location (City, State):

Project #

Sampler's Printed Name:

Sampler's Signature:

Preservative

Filtered (Y)

# of Containers

Container Information

PARAMETER ANALYSIS & METHOD

Sample ID			Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Chloride	TPH-GRO	TPH-DRO	Percent moisture	PH	REMARKS
A-10	SB-4	4	6/24			✓	SOIL	X	X	X	X	X	test
		10											hold
		20											hold
		30											hold
	SB-3	4											Test
		10											hold
		20											hold
		30											hold
	SB-1	4											test
		10											hold
		20											hold
		30											hold
	SB-2	4											test
		10											hold

Run all Samples

Keys

Preservation Key: A - H_2SO_4, B - HCL, C - HNO_3, D - NaOH, E - None, F - Other, G - Other, H - Other

Container Information Key: 1 - 40 ml Vial, 2 - 1 L Amber, 3 - 250 ml Plastic, 4 - 500 ml Plastic, 5 - Encore, 6 - 2 oz. Glass, 7 - 4 oz. Glass, 8 - 8 oz. Glass, 9 - Other, 10 - Other

Matrix Key: SO - Soil, W - Water, T - Tissue, SE - Sediment, SL - Sludge, A - Air, ML - NAPL/Oil, SW - Sample Wipe, Other

Special Instructions/Comments:

Corrections made by A. Patil 06/24/16 18:22

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓)	Printed Name:	Printed Name:	Printed Name:	Printed Name:
☐ Cooler packed with ice (✓)	☐ Intact ☐ Not Intact	Signature:	Signature:	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm:	Firm/Courier:	Firm/Courier:	Firm:
Shipping Tracking #	Condition/Cooler Temp:	Date/Time:	Date/Time:	Date/Time:	Date/Time:

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 2 of 4

Lab Work Order #

Send Results to:

Contact & Company Name: Arti Patil

Address:

City: State: Zip:

Telephone: 713.953.4841

Fax:

E-mail Address: Arti.Patil@arcadis.com

Project Name/Location (City, State):

Project #:

Sampler's Printed Name:

Sampler's Signature:

Preservative

Filtered (Y)

# of Containers

Container Information

PARAMETER ANALYSIS & METHOD

Chlorides

TPH-GRO

TPH-DRO

Percent moisture

pH

Keys

Preservation Key: A. H_2SO_4 B. HCl C. HNO_3 D. NaOH E. None F. Other: G. Other: H. Other:

Container Information Key: 1. 40 ml Vial 2. 1 L Amber 3. 250 ml Plastic 4. 500 ml Plastic 5. Encore 6. 2 oz. Glass 7. 4 oz. Glass 8. 8 oz. Glass 9. Other: 10. Other:

Matrix Key: SO - Soil SE - Sediment NL - NAPL/Oil W - Water SL - Sludge SW - Sample Wipe T - Tissue A - Air Other:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix
A-10	6-24			✓	Soil
SB-2 20					
30					
40					
50					
60					
70					
SB-5 4					
10					
20					
30					
SAT-3 SB-3 4					
10					
20					
30					

REMARKS

hold
hold
hold
hold
hold
hold
test
hold
hold
hold
test
hold
hold
hold

RUN all

Special Instructions/Comments:

Corrections by A Patil 6/24/16 1822

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name:

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Shipping Tracking #:

Cooler Custody Seal (✓) ☐ Intact ☐ Not Intact

Sample Receipt:

Condition/Cooler Temp:

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name:	Printed Name:	Printed Name:	Printed Name:
Signature:	Signature:	Signature:	Signature:
Firm:	Firm/Courier:	Firm/Courier:	Firm:
Date/Time:	Date/Time:	Date/Time:	Date/Time:

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 3 of 4

Lab Work Order #:

Send Results to:

Contact & Company Name: Arti Patil

Address:

City: State: Zip:

Telephone: 713-953-4841

Fax:

E-mail Address: APatil@arcadis.com

Project Name/Location (City, State):

Project #:

Sampler's Printed Name:

Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	PARAMETER ANALYSIS & METHOD: Chloride	REMARKS
Sct-3	6-24			✓	SOL			4		X	hold
SB-2								10			hold
								20			hold
								30			hold
								40			hold
								50			hold
								60			hold
SB-4								4			~~hold~~ test
								10			hold
								20			hold
								30			hold
								9			test

Keys

Preservation Key: A. H_2SO_4 B. HCL C. HNO_3 D. NaOH E. None F. Other: G. Other: H. Other:

Container Information Key: 1. 40 ml Vial 2. 1 L Amber 3. 250 ml Plastic 4. 500 ml Plastic 5. Encore 6. 2 oz. Glass 7. 4 oz. Glass 8. 8 oz. Glass 9. Other: 10 Other:

Matrix Key: SO - Soil, SE - Sediment, NL - NAPL/Oil, W - Water, SL - Sludge, SW - Sample Wipe, T - Tissue, A - Air, Other:

Special Instructions/Comments:

Corrections made by Arti 06/24/16 18:20

☐ Special QA/QC Instructions (✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓)	Printed Name:	Printed Name:	Printed Name:	Printed Name:
☐ Cooler packed with ice (✓)	☐ Intact ☐ Not Intact	Signature:	Signature:	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm:	Firm/Courier:	Firm/Courier:	Firm:
Shipping Tracking #:	Condition/Cooler Temp:	Date/Time:			

Final 1.000

Page 49 of 57

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 4 of 4

Lab Work Order #:

Send Results to:

Contact & Company Name: Arti patel

Telephone: 713.953.4841

Address:

Fax:

City: State: Zip:

E-mail Address: Arti.patel@arcadis.com

Project Name/Location (City, State):

Project #:

Sampler's Printed Name:

Sampler's Signature:

Preservative / Filtered (✓) / # of Containers / Container Information

PARAMETER ANALYSIS & METHOD

Keys

Preservation Key: A. H_2SO_4 B. HCL C. HNO_3 D. NaOH E. None F. Other G. Other H. Other

Container Information Key: 1. 40 ml Vial 2. 1 L Amber 3. 250 ml Plastic 4. 500 ml Plastic 5. Encore 6. 2 oz. Glass 7. 4 oz. Glass 8. 8 oz. Glass 9. Other 10. Other

Matrix Key: SO - Soil W - Water T - Tissue SE - Sediment SL - Sludge A - Air NL - NAPL/Oil SW - Sample Wipe Other:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Chlorides								REMARKS
Sat 3 SB-1 4	6-24			✓	soil	X								hold
↓ 10	↓			↓	↓	↓								~~hold~~ test
20														hold
30														~~Test~~ hold

Special Instructions/Comments:

Corrections made by A Patel 06/24/16 18:20

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓)	Printed Name:	Printed Name:	Printed Name:	Printed Name:
☐ Cooler packed with ice (✓)	☐ Intact ☐ Not Intact	Signature:	Signature:	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm:	Firm/Courier:	Firm/Courier:	
Shipping Tracking #:	Condition/Cooler Temp:	Date/Time:	Date/Time:		

20736826 CofC AR Form 05.27.2015

Distribution: WHITE – Laboratory returns with results

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of ___

Lab Work Order # 532368

Send Results to:

Contact & Company Name: Arti Patel

Telephone: 713 853 4841

Address:

Fax:

City State Zip

E-mail Address: Arti.Patel@arcadis.com

Project Name/Location (City, State)

Project #

Sampler's Printed Name:

Sampler's Signature:

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	PARAMETER ANALYSIS & METHOD: Chloride	REMARKS
A-10 SB-4 4	6-24			✓	SOL					STATEA10-04 (4')	test
10										(10')	hold
20										(20')	hold
30										(30')	hold
SB-3 4										STATEA10-03 (4')	Test
10										(10')	hold
20										(20')	hold
30										(30')	hold
SB-1 4										STATEA10-01 (4')	test
10										(10')	hold
20										(20')	hold
30										(30')	hold
SB-2 4										STATEA10-02 (4')	~~test~~ hold
10										(10')	hold

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Sample Name Corrections A. Patel 07/12/16

Laboratory Information and Receipt

Lab Name:

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Shipping Tracking #:

Cooler Custody Seal (✓) ☑ Intact ☐ Not Intact

Sample Receipt:

Condition/Cooler Temp: 4.5°C

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ken Wicus	Printed Name:	Printed Name:	Printed Name: Julian Martinez
Signature:	Signature:	Signature:	Signature:
Firm: Arcadis	Firm/Courier: MS	Firm/Courier:	Firm: Xenco
Date/Time: 6/24 1700	Date/Time: 6/24	Date/Time:	Date/Time: 6-25-16 10:30

20730826 CofC AR Form 08.27.2015

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by Arcadis

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 2 of ___

Lab Work Order #: 532368

Send Results to:

Contact & Company Name: Arti Patel

Address:

City / State / Zip:

Telephone: 713.953.4841

Fax:

E-mail Address: Arti.patel@arcadis.com

Project Name/Location (City, State):

Project #:

Sampler's Printed Name:

Sampler's Signature:

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil | SE - Sediment | NL - NAPL/Oil
W - Water | SL - Sludge | SW - Sample Wipe
T - Tissue | A - Air | Other: _____

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	PARAMETER ANALYSIS & METHOD: Chlorides	REMARKS
A-10 SB-2 20	6-24			✓	SO					STATEA10-02(20')	hold
30										(30')	hold
40										(40')	hold
50										(50')	hold
60										(60')	hold
70										(70')	hold
SB-5 4										STATEA10-05(4')	hold
10										(10')	test
20										(20')	hold
30										(30')	hold
SAT-3 SB-3 4											hold
10											test
20											hold
30											hold

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Sample name corrections J. Patel 07/12/16

Laboratory Information and Receipt

Lab Name:

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Shipping Tracking #:

Cooler Custody Seal (✓): ☐ Intact ☐ Not Intact

Sample Receipt:

Condition/Cooler Temp: _____

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ken Wicks	Printed Name:	Printed Name:	Printed Name:
Signature:	Signature:	Signature:	Signature:
Firm: Arcadis	Firm/Courier:	Firm/Courier:	Firm:
Date/Time: 6/24 1700	Date/Time: 6/24/16	Date/Time:	Date/Time:

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Page 52 of 57

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 3 of ___

Lab Work Order #: 532368

Send Results to:

Contact & Company Name: Arti Patel

Telephone: 713.953.4841

Address:

Fax:

City State Zip

E-mail Address: APatel@arcadis.com

Project Name/Location (City, State):

Project #:

Sampler's Printed Name:

Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix
~~SB-3~~	6-24			✓	SOIL
SB-2 4					
10					
20					
30					
40					
50					
60					
~~SB-4~~ 4					
10					
20					
30					
4					

Preservative / Filtered (✓) / # of Containers / Container Information

PARAMETER ANALYSIS & METHOD

Chlorides

VOA VOA USA T3-02 (4')
(10')
(20')
(30')
(40')
(50')
(60')

VOA VOA USA T3-04 (4')
(10')
(20')
(30')

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: ___
G. Other: ___
H. Other: ___

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: ___
10. Other: ___

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: ___

REMARKS

hold
hold
hold
hold
hold
hold
~~hold~~ test
hold
hold
hold
test

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Sample Name Corrections A Patel 07/12/16

Laboratory Information and Receipt

Lab Name:

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Shipping Tracking #:

Cooler Custody Seal (✓) ☐ Intact ☐ Not Intact

Sample Receipt:

Condition/Cooler Temp: ___

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ken Wicks	Printed Name:	Printed Name:	Printed Name:
Signature:	Signature:	Signature:	Signature:
Firm: Arcadis	Firm/Courier:	Firm/Courier:	Firm:
Date/Time: 6/24 1700	Date/Time: 6/24/16	Date/Time:	Date/Time:

20730826 CofC AR Form 08.27.2015

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Page 53 of 57

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 4 of __

Lab Work Order # 53238

Send Results to:

Contact & Company Name: Arti patel	Telephone: 713.953.4841
Address:	Fax:
City / State / Zip	E-mail Address: Arti.patel@arcadis.com
Project Name/Location (City, State):	Project #:
Sampler's Printed Name:	Sampler's Signature:

Preservative							
Filtered (✓)							
# of Containers							
Container Information							

PARAMETER ANALYSIS & METHOD: Chlorides

Keys

Preservation Key: A. H_2SO_4 B. HCL C. HNO_3 D. NaOH E. None F. Other: ____ G. Other: ____ H. Other: ____

Container Information Key: 1. 40 ml Vial 2. 1 L Amber 3. 250 ml Plastic 4. 500 ml Plastic 5. Encore 6. 2 oz. Glass 7. 4 oz. Glass 8. 8 oz. Glass 9. Other: ____ 10. Other: ____

Matrix Key: SO - Soil, W - Water, T - Tissue, SE - Sediment, SL - Sludge, A - Air, NL - NAPL/Oil, SW - Sample Wipe, Other: ____

Sample ID	Collection Date	Collection Time	Type Comp	Type Grab	Matrix	Chlorides	REMARKS
Sat 3 SB-1 4	6-24			✓	soil	VGWU Sat 3 (4')	hold
10	↓			↓	↓	(10')	~~hold~~ test
20	↓			↓	↓	(20')	hold
30	↓			↓	↓	(30')	~~test~~ hold

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Sample Name corrections A. Patel 27/12/16

Laboratory Information and Receipt

Lab Name:

Cooler Custody Seal (✓) ☐ Intact ☐ Not Intact

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Sample Receipt:

Shipping Tracking #:

Condition/Cooler Temp: ____

	Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name	Ken Wicks	KBulla		
Signature	[signature]			
Firm/Courier	Arcadis	MS		
Date/Time	6/24 1700	6/24/16		

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ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 3 of ___

Lab Work Order #: 532368

Send Results to:

Contact & Company Name: Arti Patil

Address:

City / State / Zip:

Telephone: 713-953-4841

Fax:

E-mail Address: APatil@arcadis.com

Project Name/Location (City, State):

Project #:

Sampler's Printed Name:

Sampler's Signature:

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: ___
G. Other: ___
H. Other: ___

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: ___
10. Other: ___

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: ___

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	Chlorides	REMARKS
~~SB-3~~	6-24			✓	SO						
~~SB-2~~											
4										VGWUSAT3-02(4')	hold
10										(10')	hold
20										(20')	hold
30										(30')	hold
40										(40')	hold
50										(50')	hold
60										(60')	hold
~~SB-4~~											~~hold~~ test
4										VGWUSAT3-04(4')	hold
10										(10')	hold
20										(20')	hold
30										(30')	test
5											

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Sample Name Corrections A Patil 07/12/16

Laboratory Information and Receipt

Lab Name:

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Shipping Tracking #:

Cooler Custody Seal (✓)
☐ Intact ☐ Not Intact

Sample Receipt:
Condition/Cooler Temp: ___

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ken Wicks	Printed Name: N Butler	Printed Name:	Printed Name:
Signature:	Signature:	Signature:	Signature:
Firm: ARCADIS	Firm/Courier:	Firm/Courier:	Firm:
Date/Time: 6/24 1700	Date/Time: 6/24/16	Date/Time:	Date/Time:

20130826 CofC AR Form 08.27.2015

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by Arcadis

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Page 55 of 57

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 4 of ___

Lab Work Order #
532308

Send Results to:

Contact & Company Name: Artipatel

Telephone: 713.953.4841

Address:

Fax:

City State Zip

E-mail Address: Arti.Patel@arcadis.com

Project Name/Location (City, State):

Project #:

Sampler's Printed Name:

Sampler's Signature:

Preservative							
Filtered (✓)							
# of Containers							
Container Information							

PARAMETER ANALYSIS & METHOD

Chloroform

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil, SE - Sediment, NL - NAPL/Oil
W - Water, SL - Sludge, SW - Sample Wipe
T - Tissue, A - Air, Other: _____

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	REMARKS
Sat 3 5131 4	6-24			✓	SO	VGW0Sat 3 (4') hold
10	↓			↓	↓	(10') ~~test~~ test
20						(20') hold
30						(30') ~~DUP~~ hold

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Sample Name corrections A. Patel 6/24/16

Laboratory Information and Receipt

Lab Name:

☐ Cooler packed with ice (✓)

Specify Turnaround Requirements:

Shipping Tracking #:

Cooler Custody Seal (✓) ☐ Intact ☐ Not Intact

Sample Receipt:

Condition/Cooler Temp: _____

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ken Wicks	Printed Name: KBurton	Printed Name:	Printed Name:
Signature:	Signature:	Signature:	Signature:
Firm: ARCADIS	Firm/Courier: UPS	Firm/Courier:	Firm:
Date/Time: 6/24 1700	Date/Time: 6/24/16	Date/Time:	Date/Time:

20730826 CoIC AR Form 08.27.2015

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by Arcadis

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: ARCADIS

Date/ Time Received: 06/25/2016 10:30:00 AM

Work Order #: 532368

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)?	4.5
#2 *Shipping container in good condition?	**N/A**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**No**
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Mary Alexis Negron
Mary Negron
Date: 06/27/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks
Date: 06/28/2016

Analytical Report 536864

for

Arcadis - Houston

Project Manager: Jonathan Olsen

HES Transfer

11-OCT-16

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Table of Contents

11-OCT-16

Project Manager: **Jonathan Olsen**
Arcadis - Houston
2929 Briarpark Dr., Ste 300
Houston, TX 77042

Reference: XENCO Report No(s): **536864**
HES Transfer
Project Address: Lovington NM

Jonathan Olsen:

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) 536864. 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. 536864 will be filed for 60 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 536864

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VGWUO40-12 (2')	S	09-13-16 08:50		536864-001
VGWUO40-12 (4')	S	09-13-16 08:55		536864-002
VGWUO40-17 (2')	S	09-13-16 10:30		536864-003
VGWUO40-17 (4')	S	09-13-16 10:34		536864-004
VGWUO40-16 (2')	S	09-13-16 09:58		536864-005
VGWUO40-16 (4')	S	09-13-16 10:00		536864-006
VGWUO40-16 (50')	S	09-13-16 10:48		536864-007
VGWUO40-19 (2')	S	09-13-16 11:46		536864-008
VGWUO40-19 (4')	S	09-13-16 11:50		536864-009
VGWUO40-18 (2')	S	09-13-16 12:14		536864-010
VGWUO40-18 (4')	S	09-13-16 12:16		536864-011
VGWUO40-18 (70')	S	09-13-16 13:23		536864-012
VGWU85-06 (2')	S	09-13-16 14:41		536864-013
VGWU85-06 (4')	S	09-13-16 14:42		536864-014
VGWU85-06 (10')	S	09-13-16 14:44		536864-016
VGWU85-06 (50')	S	09-13-16 15:27		536864-017
VGWU85-11 (2')	S	09-13-16 16:00		536864-018
VGWU85-11 (4')	S	09-13-16 16:01		536864-019
VGWUSAT3-03 (4')	S	09-14-16 09:49		536864-023
VGWUSAT3-03 (40')	S	09-14-16 10:40		536864-024
VGWUSAT3-05 (4')	S	09-14-16 11:11		536864-025
VGWUSAT3-05 (40')	S	09-14-16 11:55		536864-026
VGWU118-15 (2')	S	09-14-16 14:00		536864-027
VGWU118-15 (4')	S	09-14-16 14:01		536864-028
VGWU118-18 (2')	S	09-14-16 14:30		536864-031
VGWU118-18 (4')	S	09-14-16 14:31		536864-032
VGWU118-18 (7')	S	09-14-16 14:32		536864-033
VGWU118-18 (10')	S	09-14-16 14:33		536864-034
VGWU85-06 (7')	S	09-13-16 14:43		Not Analyzed
VGWU85-11 (7')	S	09-13-16 16:02		Not Analyzed
VGWU85-11 (10')	S	09-13-16 16:05		Not Analyzed
VGWU85-11 (11')	S	09-13-16 16:21		Not Analyzed
VGWU118-15 (7')	S	09-14-16 14:02		Not Analyzed
VGWU118-15 (10')	S	09-14-16 14:03		Not Analyzed

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 536864

Arcadis - Houston, Houston, TX

Project Name: HES Transfer

Project Id:

Contact: Jonathan Olsen

Project Location: Lovington NM

Date Received in Lab: Thu Sep-15-16 11:30 am

Report Date: 11-OCT-16

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	536864-001		536864-002		536864-003		536864-004		536864-005		536864-006	
	Field Id:	VGWUO40-12 (2')		VGWUO40-12 (4')		VGWUO40-17 (2')		VGWUO40-17 (4')		VGWUO40-16 (2')		VGWUO40-16 (4')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-13-16 08:50		Sep-13-16 08:55		Sep-13-16 10:30		Sep-13-16 10:34		Sep-13-16 09:58		Sep-13-16 10:00	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-20-16 08:00		Sep-20-16 08:00		Sep-20-16 08:00		Sep-20-16 08:00		Sep-20-16 08:00		Sep-20-16 08:00	
	Analyzed:	Sep-20-16 14:44		Sep-20-16 14:51		Sep-20-16 14:59		Sep-20-16 15:07		Sep-20-16 15:15		Sep-20-16 15:23	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		86.6	10.0	54.0	10.0	52.8	10.0	34.8	10.0	329	10.0	881	10.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 536864

Arcadis - Houston, Houston, TX

Project Name: HES Transfer

Project Id:

Contact: Jonathan Olsen

Project Location: Lovington NM

Date Received in Lab: Thu Sep-15-16 11:30 am

Report Date: 11-OCT-16

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	536864-007		536864-008		536864-009		536864-010		536864-011		536864-012	
	Field Id:	VGWUO40-16 (50')		VGWUO40-19 (2')		VGWUO40-19 (4')		VGWUO40-18 (2')		VGWUO40-18 (4')		VGWUO40-18 (70')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-13-16 10:48		Sep-13-16 11:46		Sep-13-16 11:50		Sep-13-16 12:14		Sep-13-16 12:16		Sep-13-16 13:23	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-30-16 09:00		Sep-21-16 10:00		Sep-21-16 10:00		Sep-21-16 10:00		Sep-21-16 10:00		Sep-30-16 09:00	
	Analyzed:	Sep-30-16 13:18		Sep-21-16 12:10		Sep-21-16 12:33		Sep-21-16 12:41		Sep-21-16 12:49		Sep-30-16 13:26	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		16.4	5.00	54.2	10.0	59.6	10.0	65.3	10.0	318	10.0	142	5.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 536864

Arcadis - Houston, Houston, TX

Project Name: HES Transfer

Project Id:
Contact: Jonathan Olsen
Project Location: Lovington NM

Date Received in Lab: Thu Sep-15-16 11:30 am
Report Date: 11-OCT-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	536864-013		536864-014		536864-016		536864-017		536864-018		536864-019	
	Field Id:	VGWU85-06 (2')		VGWU85-06 (4')		VGWU85-06 (10')		VGWU85-06 (50')		VGWU85-11 (2')		VGWU85-11 (4')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-13-16 14:41		Sep-13-16 14:42		Sep-13-16 14:44		Sep-13-16 15:27		Sep-13-16 16:00		Sep-13-16 16:01	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-21-16 10:00		Sep-21-16 10:00		Sep-30-16 09:00		Oct-10-16 09:35		Sep-21-16 10:00		Sep-21-16 10:00	
	Analyzed:	Sep-21-16 12:57		Sep-21-16 17:46		Sep-30-16 13:47		Oct-10-16 19:19		Sep-21-16 13:28		Sep-21-16 13:36	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6120	100	2540	50.0	3760	50.0	37.8	5.00	14.0	10.0	31.1	10.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 536864

Arcadis - Houston, Houston, TX

Project Name: HES Transfer

Project Id:

Contact: Jonathan Olsen

Project Location: Lovington NM

Date Received in Lab: Thu Sep-15-16 11:30 am

Report Date: 11-OCT-16

Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	536864-023		536864-024		536864-025		536864-026		536864-027		536864-028	
	Field Id:	VGWUSAT3-03 (4')		VGWUSAT3-03 (40')		VGWUSAT3-05 (4')		VGWUSAT3-05 (40')		VGWU118-15 (2')		VGWU118-15 (4')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-14-16 09:49		Sep-14-16 10:40		Sep-14-16 11:11		Sep-14-16 11:55		Sep-14-16 14:00		Sep-14-16 14:01	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-21-16 10:00		Sep-30-16 09:00		Sep-30-16 09:00		Oct-10-16 09:35		Sep-21-16 10:00		Sep-21-16 10:00	
	Analyzed:	Sep-21-16 13:44		Sep-30-16 13:54		Sep-30-16 14:01		Oct-10-16 19:26		Sep-21-16 13:51		Sep-21-16 13:59	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		454	10.0	12.0	5.00	943	5.00	ND	5.00	18.5	10.0	ND	10.0

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 536864

Arcadis - Houston, Houston, TX

Project Name: HES Transfer

Project Id:
Contact: Jonathan Olsen
Project Location: Lovington NM

Date Received in Lab: Thu Sep-15-16 11:30 am
Report Date: 11-OCT-16
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	536864-031		536864-032		536864-033		536864-034					
	Field Id:	VGWU118-18 (2')		VGWU118-18 (4')		VGWU118-18 (7')		VGWU118-18 (10')					
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Sep-14-16 14:30		Sep-14-16 14:31		Sep-14-16 14:32		Sep-14-16 14:33					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-21-16 10:00		Sep-21-16 10:00		Sep-30-16 09:00		Oct-10-16 09:35					
	Analyzed:	Sep-21-16 14:23		Sep-21-16 14:46		Sep-30-16 14:08		Oct-10-16 19:33					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		91.4	10.0	355	10.0	307	5.00	41.3	5.00				

Kelsey Brooks
Project Manager

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

+ NELAC certification not offered for this compound.

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

BS / BSD Recoveries

Project Name: HES Transfer

Work Order #: 536864 **Project ID:**

Analyst: MNR **Date Prepared:** 09/20/2016 **Date Analyzed:** 09/20/2016

Lab Batch ID: 3000344 **Sample:** 713949-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	250	100	250	257	103	3	90-110	20	

Analyst: MNR **Date Prepared:** 09/21/2016 **Date Analyzed:** 09/21/2016

Lab Batch ID: 3000445 **Sample:** 713999-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	246	98	250	250	100	2	90-110	20	

Analyst: MNR **Date Prepared:** 09/30/2016 **Date Analyzed:** 09/30/2016

Lab Batch ID: 3001120 **Sample:** 714399-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	233	93	250	234	94	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: HES Transfer

Work Order #: 536864 **Project ID:**

Analyst: MNR **Date Prepared:** 10/10/2016 **Date Analyzed:** 10/10/2016

Lab Batch ID: 3001741 **Sample:** 714723-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	250	100	250	262	105	5	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: HES Transfer

Work Order # : 536864 **Project ID:**

Lab Batch ID: 3000344 **QC- Sample ID:** 536602-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/20/2016 **Date Prepared:** 09/20/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	2780	1250	4000	98	1250	4030	100	1	90-110	20	

Lab Batch ID: 3000344 **QC- Sample ID:** 536660-002 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/20/2016 **Date Prepared:** 09/20/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	1970	1250	3230	101	1250	3210	99	1	90-110	20	

Lab Batch ID: 3000445 **QC- Sample ID:** 536864-008 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/21/2016 **Date Prepared:** 09/21/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	54.2	250	298	98	250	294	96	1	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: HES Transfer

Work Order # : 536864 **Project ID:**

Lab Batch ID: 3000445 **QC- Sample ID:** 536864-028 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/21/2016 **Date Prepared:** 09/21/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<10.0	250	250	100	250	244	98	2	90-110	20	

Lab Batch ID: 3001120 **QC- Sample ID:** 536657-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/30/2016 **Date Prepared:** 09/30/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	920	250	1160	96	250	1150	92	1	90-110	20	

Lab Batch ID: 3001120 **QC- Sample ID:** 537439-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/30/2016 **Date Prepared:** 09/30/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	4120	2500	6760	106	2500	6650	101	2	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: HES Transfer

Work Order # : 536864 **Project ID:**

Lab Batch ID: 3001741 **QC- Sample ID:** 538189-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/10/2016 **Date Prepared:** 10/10/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	1720	250	1980	104	250	1970	100	1	90-110	20	

Lab Batch ID: 3001741 **QC- Sample ID:** 538316-006 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 10/10/2016 **Date Prepared:** 10/10/2016 **Analyst:** MNR

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	258	250	501	97	250	493	94	2	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable
N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

HES transfer sites
Chevron PM Rob Spear

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 3

Lab Work Order # 53698 64

Send Results to:

Contact & Company Name: Jonathan Olsen Arcadis
Telephone: 713.953.4877
Address: 2929 Briarpark Dr Suite 300
Fax:
City: Houston State: TX Zip: 77042
E-mail Address: Jonathan.Olsen@arcadis.com
Project Name/Location (City, State): Lovington, NM (HES)
Project #:
Sampler's Printed Name: Melisa Phan
Sampler's Signature:

Preservative	E							
Filtered (✓)	NA							
# of Containers	1							
Container Information	7							

PARAMETER ANALYSIS & METHOD

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Chloride	REMARKS
VGWU040-12(2')	9/13/16	850		X	SO	X	
VGWU040-12(4')	9/13/16	855		X	SO	X	
VGWU040-17(2')	9/13/16	1030		X	SO	X	
VGWU040-17(4')	9/13/16	1034		X	SO	X	
VGWU040-16(2')	9/13/16	958		X	SO	X	
VGWU040-16(4')	9/13/16	1000		X	SO	X	
VGWU040-16(58')	9/13/16	1048		X	SO	X	HOLD
VGWU040-19(2')	9/13/16	1146		X	SO	X	
VGWU040-19(4')	9/13/16	1150		X	SO	X	
VGWU040-18(2')	9/13/16	1214		X	SO	X	
VGWU040-18(4')	9/13/16	1216		X	SO	X	
VGWU040-18(70')	9/13/16	1323		X	SO	X	HOLD
~~VGWU040-85'~~ (4)							
VGWU85-06(2')	9/13/16	1441		X	SO	X	

Special Instructions/Comments:
Standard TAT

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓)	Printed Name: Melisa Phan	Printed Name: Desiree Cross	Printed Name:	Printed Name: J KRAMER
☒ Cooler packed with ice (✓)	☒ Intact ☐ Not Intact	Signature:	Signature: Desiree Cross	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm: Arcadis	Firm/Courier: MS.	Firm/Courier:	Firm: Xenco
Shipping Tracking #:	Condition/Cooler Temp: 12 °C	Date/Time: 9/14/16 1600	Date/Time: 9/14/16 4:00 pm	Date/Time:	Date/Time: 9.15.16 1130

20730826 CofC AR Form 08.27.2015

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by Arcadis

Received 6.3°C

Chevron PM - Rob Speer
HES Transfer Sites

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 2 of 3

Lab Work Order # 5368864

Send Results to:

Contact & Company Name: Jonathan Olsen Arcadis
Address: 2929 Briarpark Dr Suite 300
City: Houston State: TX Zip: 77092
Telephone: 713.953.4874
Fax:
E-mail Address: Jonathan.Olsen@arcadis.com
Project Name/Location (City, State): Lovington, NM (HES)
Project #:
Sampler's Printed Name: Melisa Pham
Sampler's Signature:

Preservative	E/C								
Filtered (Y)	NA								
# of Containers	1								
Container Information	7								

PARAMETER ANALYSIS & METHOD

Keys

Preservation Key: A. H_2SO_4 B. HCL C. HNO_3 D. NaOH E. None F. Other: _____ G. Other: _____ H. Other: _____

Container Information Key: 1. 40 ml Vial 2. 1 L Amber 3. 250 ml Plastic 4. 500 ml Plastic 5. Encore 6. 2 oz. Glass 7. 4 oz. Glass 8. 8 oz. Glass 9. Other: _____ 10. Other: _____

Matrix Key: SO - Soil, SE - Sediment, NL - NAPL/Oil, W - Water, SL - Sludge, SW - Sample Wipe, T - Tissue, A - Air, Other: _____

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Chloride	REMARKS
VGWU85-06(4')	9/13/16	1442		X	SO	X	
VGWU85-06(7')	9/13/16	1443		X	SO	X	HOLD
VGWU85-06(10')	9/13/16	1444		X	SO	X	HOLD
VGWU85-06(50')	9/13/16	1527		X	SO	X	HOLD
VGWU85-11(2')	9/13/16	1600		X	SO	X	~~HOLD~~
VGWU85-11(4')	9/13/16	1601		X	SO	X	
VGWU85-11(7')	9/13/16	1602		X	SO	X	HOLD
VGWU85-11(18')	9/13/16	1605		X	SO	X	HOLD
VGWU85-11(40')	9/13/16	1621		X	SO	X	HOLD
VGWUSAT3-03(4')	9/14/16	949		X	SO	X	
VGWUSAT3-03(40')	9/14/16	1040		X	SO	X	HOLD
VGWUSAT3-05(4')	9/14/16	1111		X	SO	X	HOLD
VGWUSAT3-05(40')	9/14/16	1155		X	SO	X	HOLD
VGWU118-15(2')	9/14/16	~~1300~~ 1400		X	SO	X	

Special Instructions/Comments: Standard TAT

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓)	Printed Name: Melisa Pham	Printed Name: Dessirae Coon	Printed Name:	Printed Name: KRAMER
X Cooler packed with ice (✓)	X Intact ☐ Not Intact	Signature:	Signature: Dessirae Coon	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm: Arcadis	Firm/Courier: MS	Firm/Courier:	Firm: Xenco
Shipping Tracking #:	Condition/Cooler Temp: 12°C	Date/Time: 9/14/16 1600	Date/Time: 9/14/16 4:00pm	Date/Time:	Date/Time: 9/15/16 1138

20730826 CofC AR Form 06.27.2015

Distribution: 6.3°C

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HES Transfer Sites
Chevron PM Rob Speer

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 3 of 3

Lab Work Order # 53608604

Send Results to:

Contact & Company Name: Jonathan Olsen Arcadis
Telephone: 713_953.4874
Address: 2929 Briarpark Dr Suite 300
Fax:
City: Houston State: TX Zip: 77042
E-mail Address: Jonathan.Olsen@arcadis.com
Project Name/Location (City, State): (HES) Lovington, NM
Project #:
Sampler's Printed Name: Melisa Phan
Sampler's Signature:

Preservative	E
Filtered (✓)	NA
# of Containers	1
Container Information	7

PARAMETER ANALYSIS & METHOD

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
SE - Sediment
NL - NAPL/Oil
W - Water
SL - Sludge
SW - Sample Wipe
T - Tissue
A - Air
Other: _____

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Chloride	REMARKS
VGWM118-15(4')	9/14/16	1401					
VGWM118-15(7')	9/14/16	1402					HOLD
VGWM118-15(10')	9/14/16	1403					HOLD
VGWM118-18(2')	9/14/16	1430					
VGWM118-18(4')	9/14/16	1431					
VGWM118-18(7')	9/14/16	1432					HOLD
VGWM118-18(10')	9/14/16	1433					HOLD

Special Instructions/Comments:

Standard TAT

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓)	Printed Name: Melisa Phan	Printed Name: Dessirae Cobos	Printed Name:	Printed Name: J Kramer
☒ Cooler packed with ice (✓)	☒ Intact ☐ Not Intact	Signature:	Signature: Dessirae Cobos	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm: Arcadis	Firm/Courier: MS.	Firm/Courier:	Firm: Xenco
Shipping Tracking #:	Condition/Cooler Temp: 12°C	Date/Time: 9/14/16 1600	Date/Time: 9/14/16 4:00pm	Date/Time:	Date/Time: 9-15-16 1130

20730826 CofC AR Form 08.27.2015

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by Arcadis

6.0-3°C


ORIGIN ID:HOBA (575) 392-7550
MAIL SERVICES ETC, LLC
4008 N GRIMES
HOBBS, NM 88240
UNITED STATES US
SHIP DATE: 14SEP16
ACTWGT: 27.0 LB MAN
CAD: 0909328/CAFE2915
DIMS: 29x18x13 IN
BILL RECIPIENT
TO XENCO LABORATORIES
XENCO LABORATORIES
1211 W FLORIDA AVE
MIDLAND TX 79701
(432) 563-1800
REF:
DEPT:
INV:
PO:
FedEx
Express
THU - 15 SEP 3:00P
STANDARD OVERNIGHT
TRK# 6586 3912 4936
0201
79701
TX-US LBB
41 MAFA

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis - Houston

Date/ Time Received: 09/15/2016 11:30:00 AM

Work Order #: 536864

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)?	6.3
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**Yes**
#5 *Custody Seals intact on shipping container/ cooler?	**Yes**
#6 Custody Seals intact on sample bottles?	**Yes**
#7 *Custody Seals Signed and dated?	**Yes**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**N/A**
#21 VOC samples have zero headspace (less than 1/4 inch bubble)?	**N/A**
#22 <2 for all samples preserved with HNO3,HCL, H2SO4? Except for samples for the analysis of HEM or HEM-SGT which are verified by the analysts.	**N/A**
#23 >10 for all samples preserved with NaAsO2+NaOH, ZnAc+NaOH?	**N/A**

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

Analyst:

PH Device/Lot#:

Checklist completed by: Jessica Kramer
Jessica Kramer
Date: 09/15/2016

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks
Date: 09/16/2016

Analytical Report 560294

for

Arcadis - Houston

Project Manager: Jonathan Olsen

HES Transfer Sites

14-SEP-17

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):
Texas (T104704215), Arizona (AZ0765), Florida (E871002), Louisiana (03054)
Oklahoma (9218)

Xenco-Dallas (EPA Lab code: TX01468): Texas (T104704295)
Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400)
Xenco-San Antonio: Texas (T104704534)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona(AZ0757)
Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

14-SEP-17

Project Manager: **Jonathan Olsen**
Arcadis - Houston
10205 Westheimer Rd., Suite 800
Houston, TX 77042

Reference: XENCO Report No(s): **560294**
HES Transfer Sites
Project Address: Buckeye NM

Jonathan Olsen:

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) 560294. 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. 560294 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,

Kelsey Brooks
Project Manager

Sample Cross Reference 560294

Arcadis - Houston, Houston, TX

HES Transfer Sites

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VGWUSAT3-07(4')	S	08-14-17 13:56		560294-001
VGWUSAT3-07(10')	S	08-14-17 14:00		560294-002
VGWUSAT3-07(20')	S	08-14-17 14:13		560294-003
VGWUSAT3-07(30')	S	08-14-17 14:20		560294-004
VGWUSAT3-07(60')	S	08-14-17 15:55		560294-005
VGWUSAT3-06(4')	S	08-15-17 08:25		560294-006
VGWUSAT3-06(10')	S	08-15-17 08:30		560294-007
VGWUSAT3-07(40')	S	08-15-17 15:04		560294-010
VGWUSAT3-07(50')	S	08-15-17 15:30		560294-011
VGWUSAT3-06(20')	S	08-15-17 08:36		Not Analyzed
VGWUSAT3-06(30')	S	08-15-17 08:44		Not Analyzed

Sample receipt non conformances and comments:

Samples 560294-007 and 560294-010 released from hold per Melisa Darrow e-mail 08/24/17-- KB

VGWUSAT3-07 (50') released from hold 09/05/17 per Melisa Darrow E-mail-- KB
VGWUSAT3-07 (60') released from hold 09/12/17 per Melisa Darrow E-mail-- KB

Sample receipt non conformances and comments per sample:

None

Certificate of Analysis Summary 560294

Arcadis - Houston, Houston, TX

Project Name: HES Transfer Sites

Project Id:
Contact: Jonathan Olsen
Project Location: Buckeye NM

Date Received in Lab: Wed Aug-16-17 10:00 am
Report Date: 14-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	560294-001		560294-002		560294-003		560294-004		560294-005		560294-006	
	Field Id:	VGWUSAT3-07(4')		VGWUSAT3-07(10')		VGWUSAT3-07(20')		VGWUSAT3-07(30')		VGWUSAT3-07(60')		VGWUSAT3-06(4')	
	Depth:												
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-14-17 13:56		Aug-14-17 14:00		Aug-14-17 14:13		Aug-14-17 14:20		Aug-14-17 15:55		Aug-15-17 08:25	
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-22-17 10:30		Aug-22-17 10:30		Aug-22-17 10:30		Aug-22-17 10:30		Sep-12-17 17:15		Aug-22-17 10:30	
	Analyzed:	Aug-22-17 18:55		Aug-22-17 19:03		Aug-22-17 19:10		Aug-22-17 19:18		Sep-13-17 00:45		Aug-22-17 19:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		68.7	4.99	36.8	5.00	64.9	4.87	427	4.98	140	4.91	279	4.94

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 560294

Arcadis - Houston, Houston, TX

Project Name: HES Transfer Sites

Project Id:

Contact: Jonathan Olsen

Project Location: Buckeye NM

Date Received in Lab: Wed Aug-16-17 10:00 am

Report Date: 14-SEP-17

Project Manager: Kelsey Brooks

Analysis Requested											
	Lab Id:	560294-007		560294-010		560294-011					
	Field Id:	VGWUSAT3-06(10')		VGWUSAT3-07(40')		VGWUSAT3-07(50')					
	Depth:										
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Aug-15-17 08:30		Aug-15-17 15:04		Aug-15-17 15:30					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-30-17 14:25		Aug-30-17 14:25		Sep-11-17 14:15					
	Analyzed:	Aug-30-17 18:22		Aug-30-17 18:53		Sep-11-17 21:45					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		27.8	5.00	489	5.00	607	4.99				

Kelsey Brooks
Project Manager

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

+ NELAC certification not offered for this compound.

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

	Phone	Fax
4147 Greenbriar Dr, Stafford, TX 77477	(281) 240-4200	(281) 240-4280
9701 Harry Hines Blvd , Dallas, TX 75220	(214) 902 0300	(214) 351-9139
5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr. - Suite 102, Tempe AZ 85282	(602) 437-0330	

BS / BSD Recoveries

Project Name: HES Transfer Sites

Work Order #: 560294 **Project ID:**

Analyst: MGO **Date Prepared:** 08/22/2017 **Date Analyzed:** 08/22/2017

Lab Batch ID: 3025725 **Sample:** 729750-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<4.90	245	228	93	248	236	95	3	90-110	20	

Analyst: MNV **Date Prepared:** 08/30/2017 **Date Analyzed:** 08/30/2017

Lab Batch ID: 3026341 **Sample:** 730135-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	241	96	250	241	96	0	90-110	20	

Analyst: MNV **Date Prepared:** 09/11/2017 **Date Analyzed:** 09/11/2017

Lab Batch ID: 3027337 **Sample:** 730721-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	246	98	250	246	98	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

BS / BSD Recoveries

Project Name: HES Transfer Sites

Work Order #: 560294 **Project ID:**

Analyst: MNV **Date Prepared:** 09/12/2017 **Date Analyzed:** 09/12/2017

Lab Batch ID: 3027464 **Sample:** 730807-1-BKS **Batch #:** 1 **Matrix:** Solid

Units: mg/kg

BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Blank Sample Result [A]	Spike Added [B]	Blank Spike Result [C]	Blank Spike %R [D]	Spike Added [E]	Blank Spike Duplicate Result [F]	Blk. Spk Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	<5.00	250	254	102	250	253	101	0	90-110	20	

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|
Blank Spike Recovery [D] = 100*(C)/[B]
Blank Spike Duplicate Recovery [G] = 100*(F)/[E]
All results are based on MDL and Validated for QC Purposes

Form 3 - MS / MSD Recoveries

Project Name: HES Transfer Sites

Work Order # : 560294 **Project ID:**

Lab Batch ID: 3025725 **QC- Sample ID:** 560112-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/22/2017 **Date Prepared:** 08/22/2017 **Analyst:** MGO

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	697	246	924	92	246	917	89	1	90-110	20	X

Lab Batch ID: 3025725 **QC- Sample ID:** 560113-004 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/22/2017 **Date Prepared:** 08/22/2017 **Analyst:** MGO

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	14.2	246	279	108	246	277	107	1	90-110	20	

Lab Batch ID: 3026341 **QC- Sample ID:** 561557-003 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 08/30/2017 **Date Prepared:** 08/30/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	265	250	529	106	250	529	106	0	90-110	20	

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: HES Transfer Sites

Work Order # : 560294 **Project ID:**

Lab Batch ID: 3027337 **QC- Sample ID:** 562386-013 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/11/2017 **Date Prepared:** 09/11/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	24.4	250	258	93	250	258	93	0	90-110	20	

Lab Batch ID: 3027337 **QC- Sample ID:** 562386-023 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/11/2017 **Date Prepared:** 09/11/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	12000	249	11800	0	250	11900	0	1	90-110	20	X

Lab Batch ID: 3027464 **QC- Sample ID:** 562543-001 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/13/2017 **Date Prepared:** 09/12/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	4270	250	4380	44	250	4370	40	0	90-110	20	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

Form 3 - MS / MSD Recoveries

Project Name: HES Transfer Sites

Work Order # : 560294 **Project ID:**

Lab Batch ID: 3027464 **QC- Sample ID:** 562543-011 S **Batch #:** 1 **Matrix:** Soil

Date Analyzed: 09/13/2017 **Date Prepared:** 09/12/2017 **Analyst:** MNV

Reporting Units: mg/kg

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY

Inorganic Anions by EPA 300/300.1 Analytes	Parent Sample Result [A]	Spike Added [B]	Spiked Sample Result [C]	Spiked Sample %R [D]	Spike Added [E]	Duplicate Spiked Sample Result [F]	Spiked Dup. %R [G]	RPD %	Control Limits %R	Control Limits %RPD	Flag
Chloride	7440	249	7550	44	249	7530	36	0	90-110	20	X

Matrix Spike Percent Recovery [D] = 100*(C-A)/B

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

Relative Percent Difference RPD = 200*|(C-F)/(C+F)|

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not Applicable

N = See Narrative, EQL = Estimated Quantitation Limit, NC = Non Calculable - Sample amount is > 4 times the amount spiked.

ARCADIS

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

Lab Work Order # 560294

Send Results to:

Contact & Company Name: Jonathan Olson / Arcadis

Telephone: 713-953-4874

Address: 10205 Westheimer Road Suite 800

Fax: NA

City: Houston State: TX Zip: 77042

E-mail Address: jonathan.olson@arcadis.com

Project Name/Location (City, State): HES Transfer Sites / Buckeye, NM

Project #: B0048626.1701

Sampler's Printed Name: Ryan Nunn

Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	PARAMETER ANALYSIS & METHOD: Chlorides	REMARKS
						E	—	11	7		
VGWUSAT3-07(4')	8-14-17	1356		✓	SO			1		1	
VGWUSAT3-07(10')	8-14-17	1400		✓	SO			1		1	
VGWUSAT3-07(20')	8-14-17	1413		✓	SO			1		1	
VGWUSAT3-07(30')	8-14-17	1420		✓	SO			1		1	
VGWUSAT3-07(60')	8-14-17	1555		✓	SO			1		1	Hold Sample.
VGWUSAT3-06(4')	8-15-17	0825		✓	SO			1		1	
VGWUSAT3-06(10')	8-15-17	0830		✓	SO			1		1	Hold Sample.
VGWUSAT3-06(20')	8-15-17	0836		✓	SO			1		1	Hold Sample.
VGWUSAT3-06(30')	8-15-17	0844		✓	SO			1		1	Hold Sample.
VGWUSAT3-07(40')	8-14-17	1504		✓	SO			1		1	Hold Sample.
VGWUSAT3-07(50')	8-14-17	1530		✓	SO			1		1	Hold Sample.

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil
W - Water
T - Tissue
SE - Sediment
SL - Sludge
A - Air
NL - NAPL/Oil
SW - Sample Wipe
Other: _____

Temp: 1.4 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.2

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name: Xenco

☑ Cooler packed with ice (✓)

Cooler Custody Seal (✓) ☐ Intact ☐ Not Intact

Specify Turnaround Requirements: Standard TAT

Shipping Tracking #:

Sample Receipt:

Condition/Cooler Temp: 2.6.0

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ryan Nunn	Printed Name: Karine Dunz	Printed Name: Karine Dunz	Printed Name: Shawnee Smith
Signature:	Signature:	Signature:	Signature: Shawnee Smith
Firm: Arcadis	Firm/Courier:	Firm/Courier:	Firm: Xenco
Date/Time: 8-15-17 / 1600	Date/Time:	Date/Time:	Date/Time: 8-16-17 10:00

20730826 CofC AR Form 08.27.2015

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by Arcadis

Final 1.003

Page 13 of 14

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis - Houston

Date/ Time Received: 08/16/2017 10:00:00 AM

Work Order #: 560294

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)?	1.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seal present on shipping container/ cooler?	**N/A**
#5 *Custody Seals intact on shipping container/ cooler?	**N/A**
#6 Custody Seals intact on sample bottles?	**N/A**
#7 *Custody Seals Signed and dated?	**N/A**
#8 *Chain of Custody present?	**Yes**
#9 Sample instructions complete on Chain of Custody?	**Yes**
#10 Any missing/extra samples?	**No**
#11 Chain of Custody signed when relinquished/ received?	**Yes**
#12 Chain of Custody agrees with sample label(s)?	**Yes**
#13 Container label(s) legible and intact?	**Yes**
#14 Sample matrix/ properties agree with Chain of Custody?	**Yes**
#15 Samples in proper container/ bottle?	**Yes**
#16 Samples properly preserved?	**Yes**
#17 Sample container(s) intact?	**Yes**
#18 Sufficient sample amount for indicated test(s)?	**Yes**
#19 All samples received within hold time?	**Yes**
#20 Subcontract of sample(s)?	**No**
#21 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: Shawnee Smith Date: 08/16/2017
Shawnee Smith

Checklist reviewed by: Kelsey Brooks Date: 08/16/2017
Kelsey Brooks