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

Subject:
2018 Remediation Activities – Scope of Work and Cost Estimate
2018 HES Transfer Site –Vacuum Glorieta West Unit 61

Lea County, New Mexico

ENVIRONMENT

Date:
September 13, 2018

Contact:
Brett Krehbiel

Phone:
916.786.5382
Email:
Brett.Krehbiel@arcadis.com
Our ref:
B0048616

Dear Ms. Yu:

Arcadis U.S., Inc. (Arcadis) has prepared this scope of services to Chevron Environmental Management Company (CEMC) to perform environmental consulting services for Vacuum Glorieta West Unit (VGWU) 61 (the Site), located in Lea County, New Mexico.

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 Josie DeLeon (Chevron Mid Continent Business Unit [MCBU]). A release of approximately 121.8 bbls (bbls [42 gallons per bbls]) of produced water and 0.45 bbls of oil occurred at the Site on October 16, 2012 due to the failure of a water injection station pump. The Form C-141 is presented in Attachment 1.

RESPONSE ACTIVITIES

Chevron personnel stopped the release and recovered approximately 60 bbls of fluids using a vacuum truck. Chevron MCBU personnel excavated visually impacted soil in the area to a depth of approximately 2 feet below ground surface

(bgs) and collected four discrete confirmation soil samples from the base of the excavation on January 22, 2013. Soil samples were submitted for the analysis of benzene, toluene, ethylbenzene, and total xylenes (collectively referred to as BTEX) in accordance with United States Environmental Protection Agency (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.

In November 2013, Arcadis collected soil samples to characterize the lateral and vertical extents of potential soil impacts at the Site. Soil boring locations were selected based on the results of confirmation soil sampling completed at the Site in January 2013, locations of pipelines and other equipment at the site, and the extent of the release as documented by Chevron personnel during the initial response activities. Nine soil borings (VGWU61-01 through VGWU61-09) were installed on November 5 and 6, 2013. Six soil samples were collected from each boring location (for a total of 54 soil samples) beginning at a depth of 2 feet bgs (the approximate depth of the soil excavation in the initial release response activities) and continuing at 5-foot intervals from 5 to 25 feet bgs. Soil samples were submitted for analysis of chloride in accordance with USEPA Method 9056 and percent moisture in accordance with ASTM International Method D2216.

In September 2016, two groundwater monitoring wells (VGWU61-MW1 and VGWU61-MW2) were installed and groundwater samples were submitted for chloride analysis in accordance with USEPA Method 300.0 in September 2016, June 2017, August 2017 and July 2018.

In September and October 2017, Arcadis completed excavated impacted soils. The dimensions of the excavations were limited due to both natural and industrial features. The borders of both excavation areas were bound by underground utilities on two or more sides. Additionally, maintaining the structural integrity of facility equipment limited the excavation boundaries. The excavation depths were impacted by maintaining structural integrity of facility equipment and cap rock. A total of 19 soil samples were collected at depths between 2 and 3 feet bgs. A liner was placed at approximately 4 feet bgs and the excavated area was backfilled with clean soil. Additionally in 2017, Arcadis performed an electromagnetic (EM) conductivity survey over accessible areas of the Site covering approximately 3.2 acres on December 6 and 7 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

Before January 2018, all delineation activities were targeting a remediation/delineation goal of under 600 mg/kg. Pursuant to NMED Rule 29, monitoring wells installed in September 2016 (VGWU61-MW1 and VGWU61-MW2) were sampled and submitted for chloride analysis in accordance with USEPA Method 300.0 in September 2016, June 2017, and July 2018. The highest chloride concentrations detected

were; 293 mg/l at VGWU61-MW1 in June 2017 and 98.9 mg/l at VGWU61-MW2 in July 2018. During the July 2018 groundwater sampling event the static water level at VGWU61-MW1 was 128.78' and 128.45 at VGWU61-MW2. Referencing Table I from NMED Rule 29, the closure release limit for chloride concentration using EPA 300.0 method for release to groundwater less than 10,000 mg/l TDS greater than 100 feet is 20,000 mg/kg.

During the initial response activities in October 2012, chloride was detected below NMOCD soil remediation action levels (SRAL) of 20,000 mg/kg at the soil samples collected from VGWU #61 Sample #1 and VGWU #61 Sample #3. TPH GRO, TPH DRO and BTEX were not detected above laboratory reporting limits.

During the 2013 investigation, chloride was detected in all soil samples at concentrations ranging from 14 mg/kg (VGWU61-02 at 25 feet bgs) to 8,200 mg/kg (VGWU61-05 at 5 feet bgs). Chloride concentrations did not exceed NMOCD SRAL of 20,000 mg/kg in any of the 54 soil samples.

Groundwater samples from the three groundwater sampling events in 2016, 2017 and 2018 were below NMOCD SRAL for chlorides.

Chloride concentrations did not exceed NMOCD SRAL of 20,000mg/kg in any of the 19 soil samples collected during the September and October 2017 events.

Based on the EM survey conducted in December 2017, several zones of moderate-high EC are present within and surrounding the Site; these zones are primarily located outside of the spill area to the east and north of the spill area. The EM Survey identified four distinct perched moderate-high conductivity zones underly the Site and surrounding area and generally occur from 6 to 15 feet bgs.

Figures 1 and 2 present soil and groundwater analytical data. Laboratory reports are presented in Attachment 2.

SCOPE OF WORK

Utility Locate and Well Abandonment

Arcadis proposes abandoning the two groundwater monitoring wells (VGWU61-MW1 and VGWU61-MW2). Monitoring well abandonment will include:

- Coordinating utility clearance activities (e.g. New Mexico State One Call, private locating service and Dig Plan process).
- Submit required documentation to the appropriate State of New Mexico agencies prior to and following abandonment activities.
- Destruction and removal of aboveground features of the well including stovepipe and concrete pad.
- After the removal of the aboveground features, the well casing will be cut to 3 feet bgs using a pneumatic tool in order minimize damage to equipment that may operate in this area in the future.
- The wells will be pressure grouted with a bentonite or concrete slurry.
- As necessary, the work area will be backfilled with clean fill to ground surface.

- Debris including poly vinyl chloride well casing, concrete, and well monuments will be disposed of at a Chevron approved waste facility, as construction debris.

Data Analysis and Report Preparation

Arcadis will prepare a letter report to summarize field activities to date, as well as the analytical data and findings from the EM survey for submittal to the NMOCD. The report will include boring logs, data tables, sampling/survey location figures.

If you have any questions or comments, please contact Brett Krehbiel at 916.786.5382 or by email at brett.krehbiel@arcadis.com 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, PG
Program Manager

Copies:
File

Figure

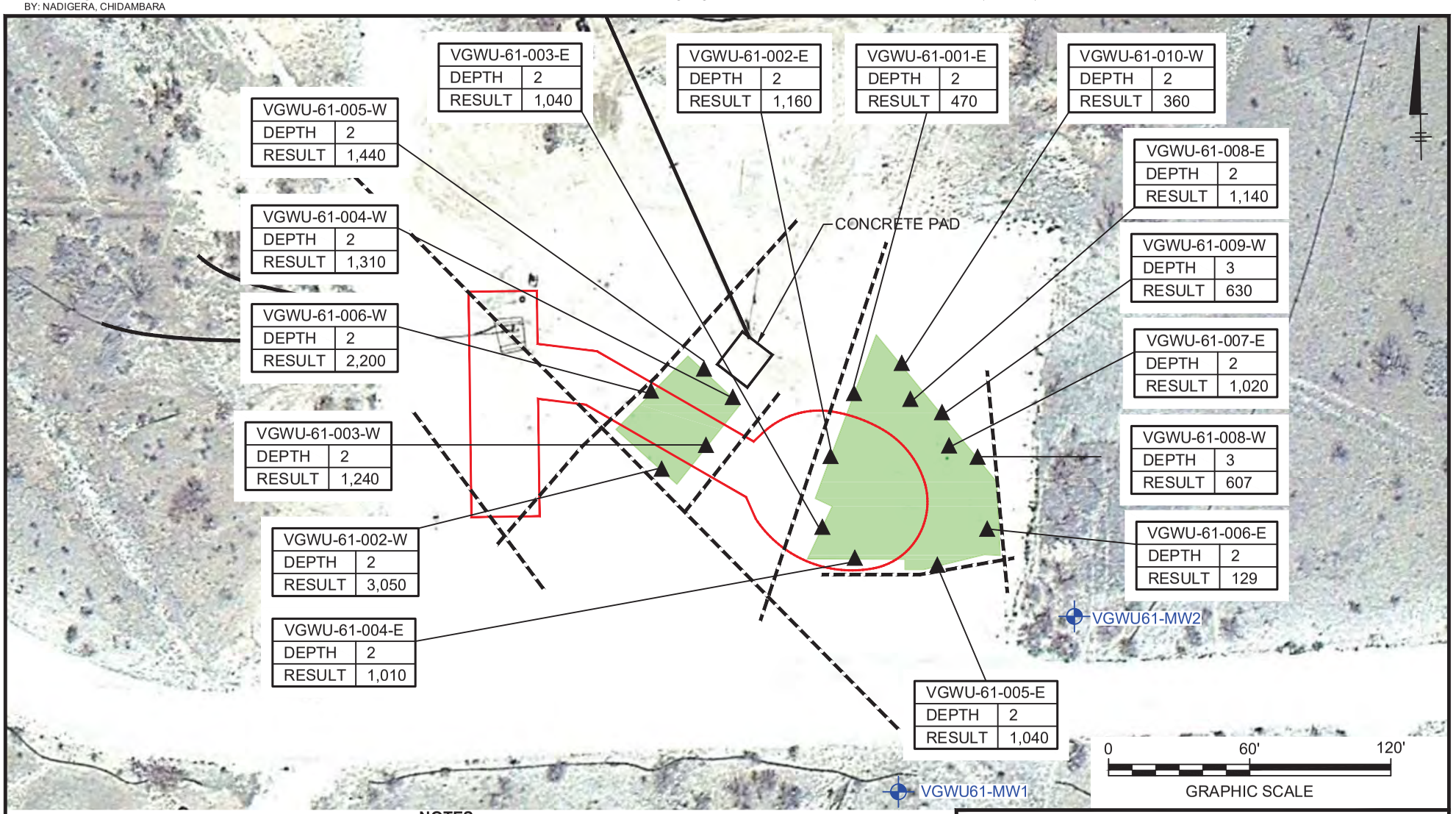
1 VGWU 61 Soil Analytical Results
2 VGWU 61 Groundwater Analytical Results

Attachments

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

FIGURES

CITY: MANCHESTER DIV/GROUP: ENVCAD DB: B.SMALL PM: TM
C:\Users\nadigerc8191\OneDrive - ARCADIS\BIM 360 Docs\CHEVRON CORPORATION\HES\VGWU-61\2018\B0048787.0002\01-DWG\SoilData-Fig2.dwg LAYOUT: 2 SAVED: 8/7/2018 5:37 PM ACADVER: 21.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/7/2018 7:09 PM
BY: NADIGERA, CHIDAMBARA



LEGEND:

- OCTOBER 2017 SOIL SAMPLE LOCATION
- MONITORING WELL LOCATION
- APPROXIMATE EXTENT OF RELEASE
- POLY LINE
- UNDERGROUND UTILITY LINE
- EXCAVATION AREA

NOTES:

1. AERIAL PHOTOGRAPH FROM GOOGLE EARTH PRO.
2. UTILITIES WERE IDENTIFIED USING GROUND PENETRATING RADAR, RADIO FREQUENCY SURVEY OR VISUAL MEANS.
3. ALL RESULTS ARE IN MILLIGRAMS PER KILOGRAM (mg/kg).
4. SAMPLES WERE COLLECTED AT 2 FEET BELOW GROUND SURFACE.
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.

VACUUM/LOVINGTON FUNCTIONAL MANAGEMENT TEAM UNITS
LEA COUNTY, NEW MEXICO

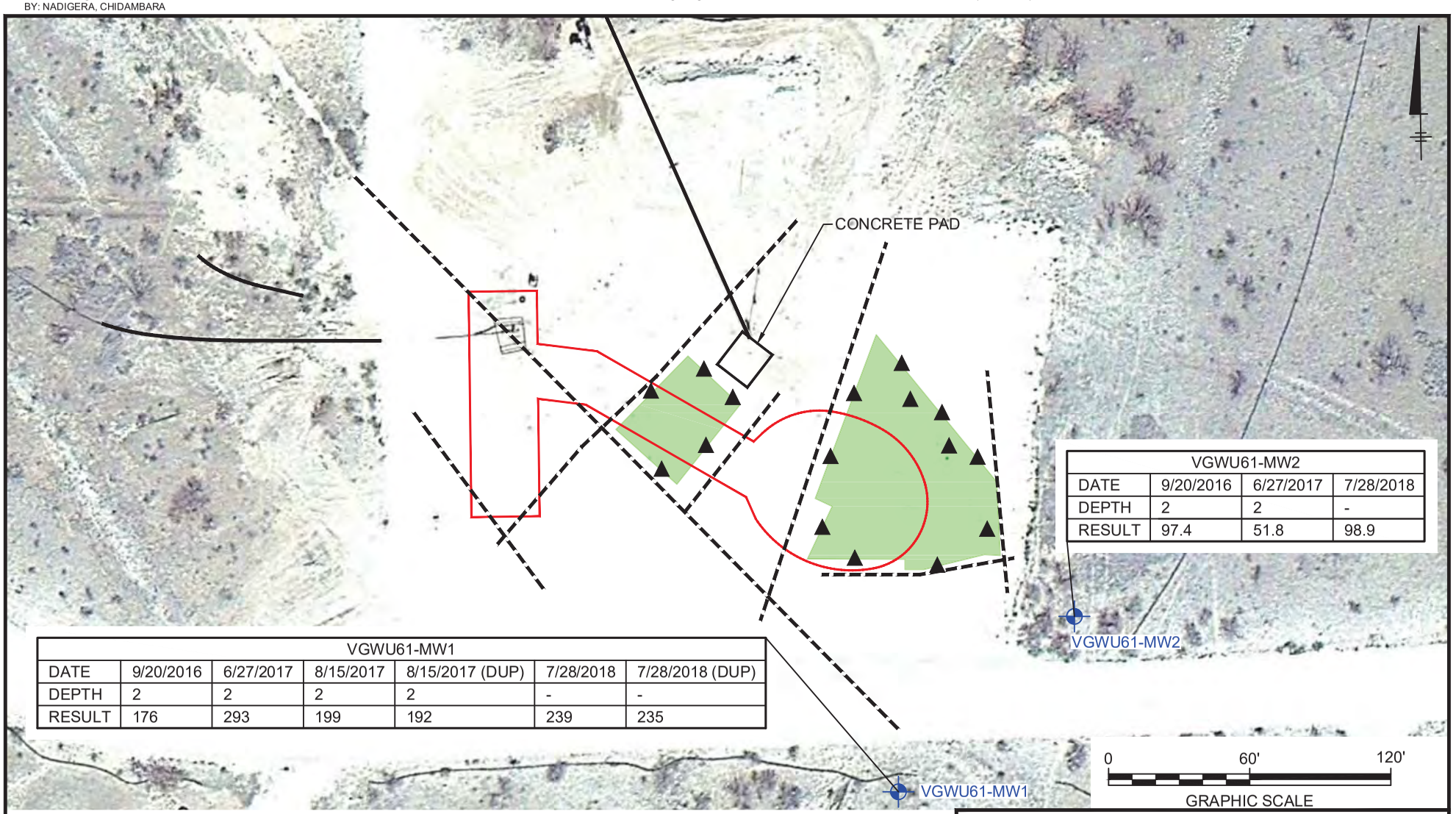
2018 REMEDIATION ACTIVITIES SCOPE OF WORK

VGWU 61 SOIL ANALYTICAL RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

CITY: MANCHESTER DIV/GROUP: ENVCAD DB: B.SMALL PM: TM
C:\Users\nadigerc8191\OneDrive - ARCADIS\BIM 360 Docs\CHEVRON CORPORATION\HES\VGWU-61\2018\B0048787.0002\01-DWG\GWAM-Fig3.dwg LAYOUT: 3 SAVED: 8/7/2018 5:37 PM ACADVER: 21.0S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/7/2018 7:08 PM
BY: NADIGERA, CHIDAMBARA



VGWU61-MW2			
DATE	9/20/2016	6/27/2017	7/28/2018
DEPTH	2	2	-
RESULT	97.4	51.8	98.9

VGWU61-MW1						
DATE	9/20/2016	6/27/2017	8/15/2017	8/15/2017 (DUP)	7/28/2018	7/28/2018 (DUP)
DEPTH	2	2	2	2	-	-
RESULT	176	293	199	192	239	235

LEGEND:

- OCTOBER 2017 SOIL SAMPLE LOCATION
- MONITORING WELL LOCATION
- APPROXIMATE EXTENT OF RELEASE
- POLY LINE
- UNDERGROUND UTILITY LINE
- EXCAVATION AREA

NOTES:

1. AERIAL PHOTOGRAPH FROM GOOGLE EARTH PRO.
2. UTILITIES WERE IDENTIFIED USING GROUND PENETRATING RADAR, RADIO FREQUENCY SURVEY OR VISUAL MEANS.
3. ALL RESULTS ARE IN MILLIGRAMS PER LITER (mg/L).
4. NEW MEXICO OIL CONSERVATION DIVISION (NMOCD) GROUNDWATER REMEDIATION ACTION LEVEL OF 250 mg/L.

VACUUM/LOVINGTON FUNCTIONAL MANAGEMENT TEAM UNITS
LEA COUNTY, NEW MEXICO
2018 REMEDIATION ACTIVITIES SCOPE OF WORK

VGWU 61 GROUNDWATER ANALYTICAL RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

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 U.S.A Inc.	Contact: Josie DeLeon
Address 56 Texas Camp Road, Lovington, NM 88260	Telephone No. Office: 575-396-4414 ext 275 Cellular: 505-787-9816
Facility Name Vacuum Glorietta West Unit #61	Facility Type Submersible Production Well

Surface Owner State of New Mexico	Mineral Owner State of New Mexico	API No. 3002521432

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	36	17.0S	34.0E					Lea

Latitude 32.79698832 **Longitude** -103.5079993

NATURE OF RELEASE

Type of Release Crude Oil and Produced Water Spill	Volume of Release 121.8bbls of pw & 0.45bbl of oil	Volume Recovered 60bbls
Source of Release Water Injection Station Pump	Date and Hour of Occurrence 10/16/12 8:50 PM	Date and Hour of Discovery 10/16/12 10:20 PM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mr. Leking via voicemail	
By Whom? Josie DeLeon	Date and Hour 8/17/12 2:00PM	
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.*

Check valve failed on well head leading to release.

Describe Area Affected and Cleanup Action Taken.*

Majority of fluids stayed on the well pad with a small pasture area east of the pad impacted. On discovery vacuum truck contacted and vacuumed up the standing fluids which were sent to disposal. 60bbls of fluids recovered. Visually contaminated soil has been excavated and sent off for disposal.

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:	OIL CONSERVATION DIVISION	
Printed Name: David Pagano	Approved by Environmental Specialist:	
Title: Health & Environmental Specialist	Approval Date:	Expiration Date:
E-mail Address: dpgn@chevron.com	Conditions of Approval:	Attached ☐
Date: 10/23/12 Phone: 505-787-9816		

* Attach Additional Sheets If Necessary

ATTACHMENT 2

Laboratory Analytical Reports

CARDINAL Laboratories

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

January 29, 2013

DAVID PAGANO

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 01/22/13 16:56.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. 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
DAVID PAGANO
HCR 60 Box 423
Lovington NM, 88260
Fax To: None

Received:	01/22/2013	Sampling Date:	01/22/2013
Reported:	01/29/2013	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 #61 SAMPLE #1 (H300181-01)

BTEX 8021B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/28/2013	ND	1.76	88.2	2.00	25.1	
Toluene*	<0.050	0.050	01/28/2013	ND	1.89	94.6	2.00	24.5	
Ethylbenzene*	<0.050	0.050	01/28/2013	ND	1.95	97.6	2.00	24.5	
Total Xylenes*	<0.150	0.150	01/28/2013	ND	5.97	99.6	6.00	24.0	
Total BTEX	<0.300	0.300	01/28/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *89.4-126*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**14400**	16.0	01/28/2013	ND	400	100	400	0.00	

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	01/26/2013	ND	152	76.0	200	12.7	
DRO >C10-C28	<10.0	10.0	01/26/2013	ND	142	70.9	200	15.1	

Surrogate: 1-Chlorooctane *72.7 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *81.4 %* *63.6-154*

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
DAVID PAGANO
HCR 60 Box 423
Lovington NM, 88260
Fax To: None

Received:	01/22/2013	Sampling Date:	01/22/2013
Reported:	01/29/2013	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 #61 SAMPLE #2 (H300181-02)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/28/2013	ND	1.76	88.2	2.00	25.1	
Toluene*	<0.050	0.050	01/28/2013	ND	1.89	94.6	2.00	24.5	
Ethylbenzene*	<0.050	0.050	01/28/2013	ND	1.95	97.6	2.00	24.5	
Total Xylenes*	<0.150	0.150	01/28/2013	ND	5.97	99.6	6.00	24.0	
Total BTEX	<0.300	0.300	01/28/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *89.4-126*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	01/28/2013	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS** **S-04**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	01/28/2013	ND	152	76.0	200	12.7	
DRO >C10-C28	<10.0	10.0	01/28/2013	ND	142	70.9	200	15.1	

Surrogate: 1-Chlorooctane *55.0 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *63.9 %* *63.6-154*

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
DAVID PAGANO
HCR 60 Box 423
Lovington NM, 88260
Fax To: None

Received:	01/22/2013	Sampling Date:	01/22/2013
Reported:	01/29/2013	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 #61 SAMPLE #3 (H300181-03)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/28/2013	ND	1.76	88.2	2.00	25.1	
Toluene*	<0.050	0.050	01/28/2013	ND	1.89	94.6	2.00	24.5	
Ethylbenzene*	<0.050	0.050	01/28/2013	ND	1.95	97.6	2.00	24.5	
Total Xylenes*	<0.150	0.150	01/28/2013	ND	5.97	99.6	6.00	24.0	
Total BTEX	<0.300	0.300	01/28/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *89.4-126*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**9400**	16.0	01/28/2013	ND	400	100	400	0.00	

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	01/26/2013	ND	152	76.0	200	12.7	
DRO >C10-C28	<10.0	10.0	01/26/2013	ND	142	70.9	200	15.1	

Surrogate: 1-Chlorooctane *70.9 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *84.9 %* *63.6-154*

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
DAVID PAGANO
HCR 60 Box 423
Lovington NM, 88260
Fax To: None

Received:	01/22/2013	Sampling Date:	01/22/2013
Reported:	01/29/2013	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 #61 SAMPLE #4 (H300181-04)

BTEX 8021B mg/kg Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	01/28/2013	ND	1.76	88.2	2.00	25.1	
Toluene*	<0.050	0.050	01/28/2013	ND	1.89	94.6	2.00	24.5	
Ethylbenzene*	<0.050	0.050	01/28/2013	ND	1.95	97.6	2.00	24.5	
Total Xylenes*	<0.150	0.150	01/28/2013	ND	5.97	99.6	6.00	24.0	
Total BTEX	<0.300	0.300	01/28/2013	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *89.4-126*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**288**	16.0	01/28/2013	ND	400	100	400	0.00	

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	01/28/2013	ND	152	76.0	200	12.7	
DRO >C10-C28	<10.0	10.0	01/28/2013	ND	142	70.9	200	15.1	

Surrogate: 1-Chlorooctane *97.6 %* *65.2-140*

Surrogate: 1-Chlorooctadecane *106 %* *63.6-154*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
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

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
Project Manager:	David Pagano
Address:	56 Texas Camp Rd.
City:	Lovington State: NM Zip: 88260
Phone #:	505-781-9816 Fax #:
Project #:	Project Owner:
Project Name:	
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	
Company:	Chevron
Attn:	Nick Moschetti
Address:	56 Texas Camp Rd
City:	Lovington
State: NM Zip:	88260
Phone #:	575-396-4414 x201
Fax #:	

ANALYSIS REQUEST: TPH 8015 | BTEX | Chlorides

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
H300181														
1	V6004 #61 Sample #1	C				✓					✓		1/22/13	3:50PM
2	V6004 #61 Sample #2	C				✓					✓		1/22/13	3:55PM
3	V6004 #61 Sample #3	C				✓					✓		1/22/13	3:56PM
4	V6004 #61 Sample #4	C				✓					✓		1/22/13	4:05PM

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: 1/23/13 Time: 9:56	Received By:	Jodi Henson
Relinquished By:	Date: Time:	Received By:	
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	5°C	Sample Condition: Cool: Yes / No; Intact: Yes / No	CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:
REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

#26

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

TestAmerica Job ID: 600-82342-1
Client Project/Site: HES Transfer Sites, Lea County NM

For:
ARCADIS U.S., Inc.
2929 Briarpark Drive
Suite 300
Houston, Texas 77042

Attn: Mr. Jonathan Olsen

S Kudchadkar

Authorized for release by:
11/21/2013 5:53:15 PM

Sachin Kudchadkar, Senior Project Manager
(713)690-4444
sachin.kudchadkar@testamericainc.com

Table of Contents

Job ID: 600-82342-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-82342-1

Comments
No additional comments.

Receipt
The samples were received on 11/8/2013 7:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 1.2º C, 1.4º C, 1.5º C, 1.5º C, 1.7º C, 1.8º C and 2.6º C.

General Chemistry
Method(s) 9056: Thematrix spike duplicate (MSD) recovery for batch 120998 were outside control limits for Chloride. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Industrial Hygiene
No analytical or quality issues were noted.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Method	Method Description	Protocol	Laboratory
9056	Anions, Ion Chromatography	SW846	TAL HOU
Moisture	Percent Moisture	EPA	TAL HOU

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-82342-1	VGWU61-02-02	Solid	11/05/13 14:20	11/08/13 07:00
600-82342-2	VGWU61-02-05	Solid	11/05/13 14:22	11/08/13 07:00
600-82342-3	VGWU61-02-10	Solid	11/05/13 14:24	11/08/13 07:00
600-82342-4	VGWU61-02-15	Solid	11/05/13 14:26	11/08/13 07:00
600-82342-5	VGWU61-02-25	Solid	11/05/13 14:30	11/08/13 07:00
600-82342-6	VGWU61-01-02	Solid	11/05/13 14:48	11/08/13 07:00
600-82342-7	VGWU61-01-05	Solid	11/05/13 14:50	11/08/13 07:00
600-82342-8	VGWU61-01-10	Solid	11/05/13 14:52	11/08/13 07:00
600-82342-9	VGWU61-01-15	Solid	11/05/13 14:54	11/08/13 07:00
600-82342-10	VGWU61-01-20	Solid	11/05/13 14:56	11/08/13 07:00
600-82342-11	VGWU61-01-25	Solid	11/05/13 14:58	11/08/13 07:00
600-82342-12	VGWU61-03-02	Solid	11/05/13 15:15	11/08/13 07:00
600-82342-13	VGWU61-03-05	Solid	11/05/13 15:17	11/08/13 07:00
600-82342-14	VGWU61-03-10	Solid	11/05/13 15:19	11/08/13 07:00
600-82342-15	VGWU61-03-15	Solid	11/05/13 15:21	11/08/13 07:00
600-82342-16	VGWU61-03-20	Solid	11/05/13 15:23	11/08/13 07:00
600-82342-17	VGWU61-03-25	Solid	11/05/13 15:25	11/08/13 07:00
600-82342-18	VGWU61-04-02	Solid	11/05/13 16:02	11/08/13 07:00
600-82342-19	VGWU61-04-05	Solid	11/05/13 16:04	11/08/13 07:00
600-82342-20	VGWU61-04-10	Solid	11/05/13 16:06	11/08/13 07:00
600-82342-21	VGWU61-04-15	Solid	11/05/13 16:08	11/08/13 07:00
600-82342-22	VGWU61-04-20	Solid	11/05/13 16:10	11/08/13 07:00
600-82342-23	VGWU61-02-20	Solid	11/05/13 14:28	11/08/13 07:00
600-82342-24	VGWU61-04-25	Solid	11/05/13 16:12	11/08/13 07:00
600-82342-25	VGWU61-05-02	Solid	11/06/13 09:05	11/08/13 07:00
600-82342-26	VGWU61-05-05	Solid	11/06/13 09:07	11/08/13 07:00
600-82342-27	VGWU61-05-10	Solid	11/06/13 09:09	11/08/13 07:00
600-82342-28	VGWU61-05-15	Solid	11/06/13 09:11	11/08/13 07:00
600-82342-29	VGWU61-05-20	Solid	11/06/13 09:13	11/08/13 07:00
600-82342-30	VGWU61-05-25	Solid	11/06/13 09:15	11/08/13 07:00
600-82342-31	VGWU61-06-02	Solid	11/06/13 10:00	11/08/13 07:00
600-82342-32	VGWU61-06-05	Solid	11/06/13 10:02	11/08/13 07:00
600-82342-33	VGWU61-06-10	Solid	11/06/13 10:04	11/08/13 07:00
600-82342-34	VGWU61-07-02	Solid	11/06/13 10:30	11/08/13 07:00
600-82342-35	VGWU61-07-05	Solid	11/06/13 10:32	11/08/13 07:00
600-82342-36	VGWU61-07-10	Solid	11/06/13 10:34	11/08/13 07:00
600-82342-37	VGWU61-07-15	Solid	11/06/13 10:36	11/08/13 07:00
600-82342-38	VGWU61-07-20	Solid	11/06/13 10:38	11/08/13 07:00
600-82342-39	VGWU61-07-25	Solid	11/06/13 10:40	11/08/13 07:00
600-82342-40	VGWU61-06-15	Solid	11/06/13 10:06	11/08/13 07:00
600-82342-41	VGWU61-06-20	Solid	11/06/13 10:08	11/08/13 07:00
600-82342-42	VGWU61-06-25	Solid	11/06/13 10:10	11/08/13 07:00
600-82342-43	VGWU61-08-02	Solid	11/06/13 11:30	11/08/13 07:00
600-82342-44	VGWU61-08-05	Solid	11/06/13 11:32	11/08/13 07:00
600-82342-45	VGWU61-08-10	Solid	11/06/13 11:34	11/08/13 07:00
600-82342-46	VGWU61-08-15	Solid	11/06/13 11:36	11/08/13 07:00
600-82342-47	VGWU61-08-20	Solid	11/06/13 11:38	11/08/13 07:00
600-82342-48	VGWU61-08-25	Solid	11/06/13 11:40	11/08/13 07:00
600-82342-49	VGWU61-09-02	Solid	11/06/13 11:10	11/08/13 07:00
600-82342-50	VGWU61-09-05	Solid	11/06/13 11:12	11/08/13 07:00
600-82342-51	VGWU61-09-10	Solid	11/06/13 11:14	11/08/13 07:00
600-82342-52	VGWU61-09-15	Solid	11/06/13 11:16	11/08/13 07:00
600-82342-53	VGWU61-09-20	Solid	11/06/13 11:18	11/08/13 07:00

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-82342-54	VGWU61-09-25	Solid	11/06/13 11:20	11/08/13 07:00

Client Sample ID: VGWU61-02-02

Lab Sample ID: 600-82342-1

Date Collected: 11/05/13 14:20

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.8		1.0		%			11/10/13 12:08	1
Percent Solids	93		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300		21		mg/Kg	☼		11/19/13 20:18	5

Client Sample ID: VGWU61-02-05

Lab Sample ID: 600-82342-2

Date Collected: 11/05/13 14:22

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.0		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	340		8.4		mg/Kg	☼		11/19/13 21:05	2

Client Sample ID: VGWU61-02-10

Lab Sample ID: 600-82342-3

Date Collected: 11/05/13 14:24

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15		1.0		%			11/10/13 12:08	1
Percent Solids	85		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	63		4.7		mg/Kg	☼		11/19/13 21:51	1

Client Sample ID: VGWU61-02-15

Lab Sample ID: 600-82342-4

Date Collected: 11/05/13 14:26

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.7		1.0		%			11/10/13 12:08	1
Percent Solids	91		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		4.4		mg/Kg	☼		11/19/13 22:07	1

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Client Sample ID: VGWU61-02-25

Lab Sample ID: 600-82342-5

Date Collected: 11/05/13 14:30
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.7		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	14		4.2		mg/Kg	☼		11/19/13 22:22	1

Client Sample ID: VGWU61-01-02

Lab Sample ID: 600-82342-6

Date Collected: 11/05/13 14:48
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.3		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	830		21		mg/Kg	☼		11/19/13 22:38	5

Client Sample ID: VGWU61-01-05

Lab Sample ID: 600-82342-7

Date Collected: 11/05/13 14:50
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.9		1.0		%			11/10/13 12:08	1
Percent Solids	96		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	400		8.3		mg/Kg	☼		11/19/13 22:53	2

Client Sample ID: VGWU61-01-10

Lab Sample ID: 600-82342-8

Date Collected: 11/05/13 14:52
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	20		1.0		%			11/10/13 12:08	1
Percent Solids	80		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	170		5.0		mg/Kg	☼		11/19/13 23:09	1

Client Sample ID: VGWU61-01-15

Lab Sample ID: 600-82342-9

Date Collected: 11/05/13 14:54

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.7		1.0		%			11/10/13 12:08	1
Percent Solids	92		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	41		4.3		mg/Kg	☼		11/19/13 23:24	1

Client Sample ID: VGWU61-01-20

Lab Sample ID: 600-82342-10

Date Collected: 11/05/13 14:56

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.0		1.0		%			11/10/13 12:08	1
Percent Solids	96		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	42		4.2		mg/Kg	☼		11/20/13 00:42	1

Client Sample ID: VGWU61-01-25

Lab Sample ID: 600-82342-11

Date Collected: 11/05/13 14:58

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.1		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	25		4.2		mg/Kg	☼		11/20/13 01:28	1

Client Sample ID: VGWU61-03-02

Lab Sample ID: 600-82342-12

Date Collected: 11/05/13 15:15

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.1		1.0		%			11/10/13 12:08	1
Percent Solids	94		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500		21		mg/Kg	☼		11/20/13 01:44	5

Client Sample ID: VGWU61-03-05

Lab Sample ID: 600-82342-13

Date Collected: 11/05/13 15:17

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.5		1.0		%			11/10/13 12:08	1
Percent Solids	93		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	550		8.6		mg/Kg	☼		11/20/13 01:59	2

Client Sample ID: VGWU61-03-10

Lab Sample ID: 600-82342-14

Date Collected: 11/05/13 15:19

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.9		1.0		%			11/10/13 12:08	1
Percent Solids	97		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	190		4.1		mg/Kg	☼		11/20/13 02:15	1

Client Sample ID: VGWU61-03-15

Lab Sample ID: 600-82342-15

Date Collected: 11/05/13 15:21

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.8		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		4.2		mg/Kg	☼		11/20/13 02:30	1

Client Sample ID: VGWU61-03-20

Lab Sample ID: 600-82342-16

Date Collected: 11/05/13 15:23

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.2		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	240		4.2		mg/Kg	☼		11/20/13 03:17	1

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Client Sample ID: VGWU61-03-25

Lab Sample ID: 600-82342-17

Date Collected: 11/05/13 15:25
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.9		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	330		8.4		mg/Kg	☼		11/20/13 04:03	2

Client Sample ID: VGWU61-04-02

Lab Sample ID: 600-82342-18

Date Collected: 11/05/13 16:02
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	17		1.0		%			11/10/13 12:08	1
Percent Solids	83		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4100		240		mg/Kg	☼		11/20/13 04:19	50

Client Sample ID: VGWU61-04-05

Lab Sample ID: 600-82342-19

Date Collected: 11/05/13 16:04
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	23		1.0		%			11/10/13 12:08	1
Percent Solids	77		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3300		260		mg/Kg	☼		11/20/13 04:34	50

Client Sample ID: VGWU61-04-10

Lab Sample ID: 600-82342-20

Date Collected: 11/05/13 16:06
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.5		1.0		%			11/10/13 12:08	1
Percent Solids	91		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46		4.4		mg/Kg	☼		11/20/13 04:50	1

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Client Sample ID: VGWU61-04-15

Lab Sample ID: 600-82342-21
Date Collected: 11/05/13 16:08
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	8.3		1.0		%			11/10/13 12:08	1
Percent Solids	92		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		4.4		mg/Kg	☼		11/20/13 05:05	1

Client Sample ID: VGWU61-04-20

Lab Sample ID: 600-82342-22
Date Collected: 11/05/13 16:10
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.3		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	79		4.2		mg/Kg	☼		11/20/13 05:21	1

Client Sample ID: VGWU61-02-20

Lab Sample ID: 600-82342-23
Date Collected: 11/05/13 14:28
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	9.0		1.0		%			11/10/13 12:08	1
Percent Solids	91		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		4.4		mg/Kg	☼		11/20/13 05:36	1

Client Sample ID: VGWU61-04-25

Lab Sample ID: 600-82342-24
Date Collected: 11/05/13 16:12
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.6		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	95	B	4.2		mg/Kg	☼		11/20/13 06:54	1

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Client Sample ID: VGWU61-05-02

Lab Sample ID: 600-82342-25

Date Collected: 11/06/13 09:05
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	24		1.0		%			11/10/13 12:08	1
Percent Solids	76		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	570	B	10		mg/Kg	☼		11/20/13 07:40	2

Client Sample ID: VGWU61-05-05

Lab Sample ID: 600-82342-26

Date Collected: 11/06/13 09:07
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.4		1.0		%			11/10/13 12:08	1
Percent Solids	97		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	490	B	8.3		mg/Kg	☼		11/20/13 07:56	2

Client Sample ID: VGWU61-05-10

Lab Sample ID: 600-82342-27

Date Collected: 11/06/13 09:09
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18		1.0		%			11/10/13 12:08	1
Percent Solids	82		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	190		4.9		mg/Kg	☼		11/20/13 14:56	1

Client Sample ID: VGWU61-05-15

Lab Sample ID: 600-82342-28

Date Collected: 11/06/13 09:11
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	28		1.0		%			11/10/13 12:08	1
Percent Solids	72		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120		5.6		mg/Kg	☼		11/20/13 15:11	1

Client Sample ID: VGWU61-05-20

Lab Sample ID: 600-82342-29

Date Collected: 11/06/13 09:13

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.3		1.0		%			11/10/13 12:08	1
Percent Solids	94		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200		4.3		mg/Kg	☼		11/20/13 15:27	1

Client Sample ID: VGWU61-05-25

Lab Sample ID: 600-82342-30

Date Collected: 11/06/13 09:15

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.3		1.0		%			11/10/13 12:08	1
Percent Solids	94		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130		4.3		mg/Kg	☼		11/20/13 15:42	1

Client Sample ID: VGWU61-06-02

Lab Sample ID: 600-82342-31

Date Collected: 11/06/13 10:00

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.2		1.0		%			11/10/13 12:08	1
Percent Solids	98		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100		20		mg/Kg	☼		11/20/13 16:29	5

Client Sample ID: VGWU61-06-05

Lab Sample ID: 600-82342-32

Date Collected: 11/06/13 10:02

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.6		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	130		4.2		mg/Kg	☼		11/20/13 16:44	1

Client Sample ID: VGWU61-06-10

Lab Sample ID: 600-82342-33

Date Collected: 11/06/13 10:04

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.4		1.0		%			11/10/13 12:08	1
Percent Solids	96		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120		4.2		mg/Kg	☼		11/20/13 17:31	1

Client Sample ID: VGWU61-07-02

Lab Sample ID: 600-82342-34

Date Collected: 11/06/13 10:30

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.0		1.0		%			11/10/13 12:08	1
Percent Solids	97		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400		41		mg/Kg	☼		11/20/13 17:46	10

Client Sample ID: VGWU61-07-05

Lab Sample ID: 600-82342-35

Date Collected: 11/06/13 10:32

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	12		1.0		%			11/10/13 12:08	1
Percent Solids	88		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3700		450		mg/Kg	☼		11/20/13 18:02	100

Client Sample ID: VGWU61-07-10

Lab Sample ID: 600-82342-36

Date Collected: 11/06/13 10:34

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.9		1.0		%			11/10/13 12:08	1
Percent Solids	95		1.0		%			11/10/13 12:08	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		42		mg/Kg	☼		11/20/13 18:17	10

Client Sample ID: VGWU61-07-15

Lab Sample ID: 600-82342-37

Date Collected: 11/06/13 10:36

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	25		1.0		%			11/10/13 13:47	1
Percent Solids	75		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	92		5.4		mg/Kg	☼		11/20/13 18:33	1

Client Sample ID: VGWU61-07-20

Lab Sample ID: 600-82342-38

Date Collected: 11/06/13 10:38

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.7		1.0		%			11/10/13 13:47	1
Percent Solids	94		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	27		4.2		mg/Kg	☼		11/20/13 19:19	1

Client Sample ID: VGWU61-07-25

Lab Sample ID: 600-82342-39

Date Collected: 11/06/13 10:40

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	28		1.0		%			11/10/13 13:47	1
Percent Solids	72		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		5.5		mg/Kg	☼		11/20/13 20:37	1

Client Sample ID: VGWU61-06-15

Lab Sample ID: 600-82342-40

Date Collected: 11/06/13 10:06

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.8		1.0		%			11/10/13 13:47	1
Percent Solids	92		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		4.3		mg/Kg	☼		11/20/13 20:52	1

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Client Sample ID: VGWU61-06-20

Lab Sample ID: 600-82342-41

Date Collected: 11/06/13 10:08
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.6		1.0		%			11/10/13 13:47	1
Percent Solids	94		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	96		4.2		mg/Kg	☼		11/20/13 21:08	1

Client Sample ID: VGWU61-06-25

Lab Sample ID: 600-82342-42

Date Collected: 11/06/13 10:10
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.7		1.0		%			11/10/13 13:47	1
Percent Solids	95		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		4.2		mg/Kg	☼		11/20/13 21:23	1

Client Sample ID: VGWU61-08-02

Lab Sample ID: 600-82342-43

Date Collected: 11/06/13 11:30
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18		1.0		%			11/10/13 13:47	1
Percent Solids	82		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300		24		mg/Kg	☼		11/20/13 21:39	5

Client Sample ID: VGWU61-08-05

Lab Sample ID: 600-82342-44

Date Collected: 11/06/13 11:32
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.1		1.0		%			11/10/13 13:47	1
Percent Solids	97		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8200		410		mg/Kg	☼		11/20/13 21:54	100

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Client Sample ID: VGWU61-08-10

Lab Sample ID: 600-82342-45

Date Collected: 11/06/13 11:34
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16		1.0		%			11/10/13 13:47	1
Percent Solids	84		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	380		9.5		mg/Kg	☼		11/20/13 22:56	2

Client Sample ID: VGWU61-08-15

Lab Sample ID: 600-82342-46

Date Collected: 11/06/13 11:36
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	18		1.0		%			11/10/13 13:47	1
Percent Solids	82		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	270		9.7		mg/Kg	☼		11/20/13 23:43	2

Client Sample ID: VGWU61-08-20

Lab Sample ID: 600-82342-47

Date Collected: 11/06/13 11:38
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	16		1.0		%			11/10/13 13:47	1
Percent Solids	84		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	390		9.6		mg/Kg	☼		11/20/13 23:58	2

Client Sample ID: VGWU61-08-25

Lab Sample ID: 600-82342-48

Date Collected: 11/06/13 11:40
Matrix: Solid
Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	28		1.0		%			11/10/13 13:47	1
Percent Solids	72		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450		11		mg/Kg	☼		11/21/13 00:14	2

Client Sample ID: VGWU61-09-02

Lab Sample ID: 600-82342-49

Date Collected: 11/06/13 11:10

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.5		1.0		%			11/10/13 13:47	1
Percent Solids	97		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4400		410		mg/Kg	☼		11/21/13 00:29	100

Client Sample ID: VGWU61-09-05

Lab Sample ID: 600-82342-50

Date Collected: 11/06/13 11:12

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.4		1.0		%			11/10/13 13:47	1
Percent Solids	97		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3800		410		mg/Kg	☼		11/21/13 01:00	100

Client Sample ID: VGWU61-09-10

Lab Sample ID: 600-82342-51

Date Collected: 11/06/13 11:14

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.7		1.0		%			11/10/13 13:47	1
Percent Solids	93		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	830		21		mg/Kg	☼		11/21/13 01:31	5

Client Sample ID: VGWU61-09-15

Lab Sample ID: 600-82342-52

Date Collected: 11/06/13 11:16

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	15		1.0		%			11/10/13 13:47	1
Percent Solids	85		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	250		9.4		mg/Kg	☼		11/21/13 02:49	2

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Client Sample ID: VGWU61-09-20

Lab Sample ID: 600-82342-53

Date Collected: 11/06/13 11:18

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.9		1.0		%			11/10/13 13:47	1
Percent Solids	94		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	370		21		mg/Kg	☼		11/21/13 03:35	5

Client Sample ID: VGWU61-09-25

Lab Sample ID: 600-82342-54

Date Collected: 11/06/13 11:20

Matrix: Solid

Date Received: 11/08/13 07:00

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	28		1.0		%			11/10/13 13:47	1
Percent Solids	72		1.0		%			11/10/13 13:47	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310		11		mg/Kg	☼		11/21/13 03:51	2

Qualifiers

General Chemistry

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Method: 9056 - Anions, Ion Chromatography

Lab Sample ID: MB 600-120665/21-A
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		4.0		mg/Kg			11/19/13 17:59	1

Lab Sample ID: MB 600-120666/1-A
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		4.0		mg/Kg			11/20/13 00:11	1

Lab Sample ID: MB 600-120666/21-A
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5.98		4.0		mg/Kg			11/20/13 06:23	1

Lab Sample ID: LCS 600-120665/22-A
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	193		mg/Kg		96	90 - 110

Lab Sample ID: LCS 600-120666/22-A
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	196		mg/Kg		98	90 - 110

Lab Sample ID: LCS 600-120666/2-A
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	194		mg/Kg		97	90 - 110

Lab Sample ID: 600-82342-2 MS
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: VGWU61-02-05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	340		210	547		mg/Kg	☼	100	80 - 120

Lab Sample ID: 600-82342-2 MSD
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: VGWU61-02-05
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	340		210	551		mg/Kg	☼	102	80 - 120	1	20

Lab Sample ID: 600-82342-10 MS
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: VGWU61-01-20
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	42		104	129		mg/Kg	☼	83	80 - 120

Lab Sample ID: 600-82342-10 MSD
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: VGWU61-01-20
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	42		104	127		mg/Kg	☼	81	80 - 120	2	20

Lab Sample ID: 600-82342-16 MS
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: VGWU61-03-20
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	240		106	328		mg/Kg	☼	85	80 - 120

Lab Sample ID: 600-82342-16 MSD
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: VGWU61-03-20
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	240		106	321	F	mg/Kg	☼	78	80 - 120	2	20

Lab Sample ID: 600-82342-24 MS
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: VGWU61-04-25
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	95	B	105	189		mg/Kg	☼	90	80 - 120

Lab Sample ID: 600-82342-24 MSD
Matrix: Solid
Analysis Batch: 120998

Client Sample ID: VGWU61-04-25
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	95	B	105	188		mg/Kg	☼	90	80 - 120	0	20

Lab Sample ID: MB 600-120666/21-A
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		4.0		mg/Kg			11/20/13 14:25	1

Lab Sample ID: MB 600-120667/1-A
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		4.0		mg/Kg			11/20/13 18:48	1

Method: 9056 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 600-120667/21-A
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		4.0		mg/Kg			11/21/13 01:47	1

Lab Sample ID: LCS 600-120666/22-A
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	195		mg/Kg		98	90 - 110

Lab Sample ID: LCS 600-120667/22-A
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	191		mg/Kg		95	90 - 110

Lab Sample ID: LCS 600-120667/2-A
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	195		mg/Kg		98	90 - 110

Lab Sample ID: 600-82342-30 MS
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: VGWU61-05-25
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	130		107	217		mg/Kg	☼	80	80 - 120

Lab Sample ID: 600-82342-30 MSD
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: VGWU61-05-25
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	130		107	228		mg/Kg	☼	90	80 - 120	5	20

Lab Sample ID: 600-82342-38 MS
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: VGWU61-07-20
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	27		106	110	F	mg/Kg	☼	78	80 - 120

Lab Sample ID: 600-82342-38 MSD
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: VGWU61-07-20
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	27		106	114		mg/Kg	☼	81	80 - 120	4	20

Lab Sample ID: 600-82342-52 MS
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: VGWU61-09-15
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	250		236	499		mg/Kg	☼	105	80 - 120

Lab Sample ID: 600-82342-52 MSD
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: VGWU61-09-15
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	250		236	498		mg/Kg	☼	104	80 - 120	0	20

Lab Sample ID: 600-82342-A-44-B MS
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: 600-82342-A-44-B MS
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	10000		51600	52600		mg/Kg	☼	82	80 - 120

Lab Sample ID: 600-82342-A-44-C MSD
Matrix: Solid
Analysis Batch: 121126

Client Sample ID: 600-82342-A-44-C MSD
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	10000		51600	52600		mg/Kg	☼	82	80 - 120	0	20

Method: Moisture - Percent Moisture

Lab Sample ID: 600-82342-7 DU
Matrix: Solid
Analysis Batch: 120079

Client Sample ID: VGWU61-01-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	3.9		4.2		%		7	20
Percent Solids	96		96		%		0.3	20

Lab Sample ID: 600-82342-17 DU
Matrix: Solid
Analysis Batch: 120079

Client Sample ID: VGWU61-03-25
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	4.9		4.5		%		9	20
Percent Solids	95		96		%		0.4	20

Lab Sample ID: 600-82342-27 DU
Matrix: Solid
Analysis Batch: 120079

Client Sample ID: VGWU61-05-10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	18		18		%		2	20
Percent Solids	82		82		%		0.5	20

Method: Moisture - Percent Moisture (Continued)

Lab Sample ID: 600-82342-37 DU
Matrix: Solid
Analysis Batch: 120083

Client Sample ID: VGWU61-07-15
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	25			24		%				3	20
Percent Solids	75			76		%				1	20

Lab Sample ID: 600-82342-47 DU
Matrix: Solid
Analysis Batch: 120083

Client Sample ID: VGWU61-08-20
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	16			16		%				0.5	20
Percent Solids	84			84		%				0.1	20

General Chemistry

Analysis Batch: 120079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82342-1	VGWU61-02-02	Total/NA	Solid	Moisture	
600-82342-2	VGWU61-02-05	Total/NA	Solid	Moisture	
600-82342-3	VGWU61-02-10	Total/NA	Solid	Moisture	
600-82342-4	VGWU61-02-15	Total/NA	Solid	Moisture	
600-82342-5	VGWU61-02-25	Total/NA	Solid	Moisture	
600-82342-6	VGWU61-01-02	Total/NA	Solid	Moisture	
600-82342-7	VGWU61-01-05	Total/NA	Solid	Moisture	
600-82342-7 DU	VGWU61-01-05	Total/NA	Solid	Moisture	
600-82342-8	VGWU61-01-10	Total/NA	Solid	Moisture	
600-82342-9	VGWU61-01-15	Total/NA	Solid	Moisture	
600-82342-10	VGWU61-01-20	Total/NA	Solid	Moisture	
600-82342-11	VGWU61-01-25	Total/NA	Solid	Moisture	
600-82342-12	VGWU61-03-02	Total/NA	Solid	Moisture	
600-82342-13	VGWU61-03-05	Total/NA	Solid	Moisture	
600-82342-14	VGWU61-03-10	Total/NA	Solid	Moisture	
600-82342-15	VGWU61-03-15	Total/NA	Solid	Moisture	
600-82342-16	VGWU61-03-20	Total/NA	Solid	Moisture	
600-82342-17	VGWU61-03-25	Total/NA	Solid	Moisture	
600-82342-17 DU	VGWU61-03-25	Total/NA	Solid	Moisture	
600-82342-18	VGWU61-04-02	Total/NA	Solid	Moisture	
600-82342-19	VGWU61-04-05	Total/NA	Solid	Moisture	
600-82342-20	VGWU61-04-10	Total/NA	Solid	Moisture	
600-82342-21	VGWU61-04-15	Total/NA	Solid	Moisture	
600-82342-22	VGWU61-04-20	Total/NA	Solid	Moisture	
600-82342-23	VGWU61-02-20	Total/NA	Solid	Moisture	
600-82342-24	VGWU61-04-25	Total/NA	Solid	Moisture	
600-82342-25	VGWU61-05-02	Total/NA	Solid	Moisture	
600-82342-26	VGWU61-05-05	Total/NA	Solid	Moisture	
600-82342-27	VGWU61-05-10	Total/NA	Solid	Moisture	
600-82342-27 DU	VGWU61-05-10	Total/NA	Solid	Moisture	
600-82342-28	VGWU61-05-15	Total/NA	Solid	Moisture	
600-82342-29	VGWU61-05-20	Total/NA	Solid	Moisture	
600-82342-30	VGWU61-05-25	Total/NA	Solid	Moisture	
600-82342-31	VGWU61-06-02	Total/NA	Solid	Moisture	
600-82342-32	VGWU61-06-05	Total/NA	Solid	Moisture	
600-82342-33	VGWU61-06-10	Total/NA	Solid	Moisture	
600-82342-34	VGWU61-07-02	Total/NA	Solid	Moisture	
600-82342-35	VGWU61-07-05	Total/NA	Solid	Moisture	
600-82342-36	VGWU61-07-10	Total/NA	Solid	Moisture	

Analysis Batch: 120083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82342-37	VGWU61-07-15	Total/NA	Solid	Moisture	
600-82342-37 DU	VGWU61-07-15	Total/NA	Solid	Moisture	
600-82342-38	VGWU61-07-20	Total/NA	Solid	Moisture	
600-82342-39	VGWU61-07-25	Total/NA	Solid	Moisture	
600-82342-40	VGWU61-06-15	Total/NA	Solid	Moisture	
600-82342-41	VGWU61-06-20	Total/NA	Solid	Moisture	
600-82342-42	VGWU61-06-25	Total/NA	Solid	Moisture	
600-82342-43	VGWU61-08-02	Total/NA	Solid	Moisture	
600-82342-44	VGWU61-08-05	Total/NA	Solid	Moisture	

General Chemistry (Continued)

Analysis Batch: 120083 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82342-45	VGWU61-08-10	Total/NA	Solid	Moisture	
600-82342-46	VGWU61-08-15	Total/NA	Solid	Moisture	
600-82342-47	VGWU61-08-20	Total/NA	Solid	Moisture	
600-82342-47 DU	VGWU61-08-20	Total/NA	Solid	Moisture	
600-82342-48	VGWU61-08-25	Total/NA	Solid	Moisture	
600-82342-49	VGWU61-09-02	Total/NA	Solid	Moisture	
600-82342-50	VGWU61-09-05	Total/NA	Solid	Moisture	
600-82342-51	VGWU61-09-10	Total/NA	Solid	Moisture	
600-82342-52	VGWU61-09-15	Total/NA	Solid	Moisture	
600-82342-53	VGWU61-09-20	Total/NA	Solid	Moisture	
600-82342-54	VGWU61-09-25	Total/NA	Solid	Moisture	

Leach Batch: 120665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82342-1	VGWU61-02-02	Soluble	Solid	DI Leach	
600-82342-2	VGWU61-02-05	Soluble	Solid	DI Leach	
600-82342-2 MS	VGWU61-02-05	Soluble	Solid	DI Leach	
600-82342-2 MSD	VGWU61-02-05	Soluble	Solid	DI Leach	
600-82342-3	VGWU61-02-10	Soluble	Solid	DI Leach	
600-82342-4	VGWU61-02-15	Soluble	Solid	DI Leach	
600-82342-5	VGWU61-02-25	Soluble	Solid	DI Leach	
600-82342-6	VGWU61-01-02	Soluble	Solid	DI Leach	
600-82342-7	VGWU61-01-05	Soluble	Solid	DI Leach	
600-82342-8	VGWU61-01-10	Soluble	Solid	DI Leach	
600-82342-9	VGWU61-01-15	Soluble	Solid	DI Leach	
LCS 600-120665/22-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 600-120665/21-A	Method Blank	Soluble	Solid	DI Leach	

Leach Batch: 120666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82342-10	VGWU61-01-20	Soluble	Solid	DI Leach	
600-82342-10 MS	VGWU61-01-20	Soluble	Solid	DI Leach	
600-82342-10 MSD	VGWU61-01-20	Soluble	Solid	DI Leach	
600-82342-11	VGWU61-01-25	Soluble	Solid	DI Leach	
600-82342-12	VGWU61-03-02	Soluble	Solid	DI Leach	
600-82342-13	VGWU61-03-05	Soluble	Solid	DI Leach	
600-82342-14	VGWU61-03-10	Soluble	Solid	DI Leach	
600-82342-15	VGWU61-03-15	Soluble	Solid	DI Leach	
600-82342-16	VGWU61-03-20	Soluble	Solid	DI Leach	
600-82342-16 MS	VGWU61-03-20	Soluble	Solid	DI Leach	
600-82342-16 MSD	VGWU61-03-20	Soluble	Solid	DI Leach	
600-82342-17	VGWU61-03-25	Soluble	Solid	DI Leach	
600-82342-18	VGWU61-04-02	Soluble	Solid	DI Leach	
600-82342-19	VGWU61-04-05	Soluble	Solid	DI Leach	
600-82342-20	VGWU61-04-10	Soluble	Solid	DI Leach	
600-82342-21	VGWU61-04-15	Soluble	Solid	DI Leach	
600-82342-22	VGWU61-04-20	Soluble	Solid	DI Leach	
600-82342-23	VGWU61-02-20	Soluble	Solid	DI Leach	
600-82342-24	VGWU61-04-25	Soluble	Solid	DI Leach	
600-82342-24 MS	VGWU61-04-25	Soluble	Solid	DI Leach	
600-82342-24 MSD	VGWU61-04-25	Soluble	Solid	DI Leach	

General Chemistry (Continued)

Leach Batch: 120666 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82342-25	VGWU61-05-02	Soluble	Solid	DI Leach	
600-82342-26	VGWU61-05-05	Soluble	Solid	DI Leach	
600-82342-27	VGWU61-05-10	Soluble	Solid	DI Leach	
600-82342-28	VGWU61-05-15	Soluble	Solid	DI Leach	
600-82342-29	VGWU61-05-20	Soluble	Solid	DI Leach	
600-82342-30	VGWU61-05-25	Soluble	Solid	DI Leach	
600-82342-30 MS	VGWU61-05-25	Soluble	Solid	DI Leach	
600-82342-30 MSD	VGWU61-05-25	Soluble	Solid	DI Leach	
600-82342-31	VGWU61-06-02	Soluble	Solid	DI Leach	
600-82342-32	VGWU61-06-05	Soluble	Solid	DI Leach	
600-82342-33	VGWU61-06-10	Soluble	Solid	DI Leach	
600-82342-34	VGWU61-07-02	Soluble	Solid	DI Leach	
600-82342-35	VGWU61-07-05	Soluble	Solid	DI Leach	
600-82342-36	VGWU61-07-10	Soluble	Solid	DI Leach	
600-82342-37	VGWU61-07-15	Soluble	Solid	DI Leach	
LCS 600-120666/22-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCS 600-120666/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 600-120666/1-A	Method Blank	Soluble	Solid	DI Leach	
MB 600-120666/21-A	Method Blank	Soluble	Solid	DI Leach	

Leach Batch: 120667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82342-38	VGWU61-07-20	Soluble	Solid	DI Leach	
600-82342-38 MS	VGWU61-07-20	Soluble	Solid	DI Leach	
600-82342-38 MSD	VGWU61-07-20	Soluble	Solid	DI Leach	
600-82342-39	VGWU61-07-25	Soluble	Solid	DI Leach	
600-82342-40	VGWU61-06-15	Soluble	Solid	DI Leach	
600-82342-41	VGWU61-06-20	Soluble	Solid	DI Leach	
600-82342-42	VGWU61-06-25	Soluble	Solid	DI Leach	
600-82342-43	VGWU61-08-02	Soluble	Solid	DI Leach	
600-82342-44	VGWU61-08-05	Soluble	Solid	DI Leach	
600-82342-45	VGWU61-08-10	Soluble	Solid	DI Leach	
600-82342-46	VGWU61-08-15	Soluble	Solid	DI Leach	
600-82342-47	VGWU61-08-20	Soluble	Solid	DI Leach	
600-82342-48	VGWU61-08-25	Soluble	Solid	DI Leach	
600-82342-49	VGWU61-09-02	Soluble	Solid	DI Leach	
600-82342-50	VGWU61-09-05	Soluble	Solid	DI Leach	
600-82342-51	VGWU61-09-10	Soluble	Solid	DI Leach	
600-82342-52	VGWU61-09-15	Soluble	Solid	DI Leach	
600-82342-52 MS	VGWU61-09-15	Soluble	Solid	DI Leach	
600-82342-52 MSD	VGWU61-09-15	Soluble	Solid	DI Leach	
600-82342-53	VGWU61-09-20	Soluble	Solid	DI Leach	
600-82342-54	VGWU61-09-25	Soluble	Solid	DI Leach	
600-82342-A-44-B MS	600-82342-A-44-B MS	Soluble	Solid	DI Leach	
600-82342-A-44-C MSD	600-82342-A-44-C MSD	Soluble	Solid	DI Leach	
LCS 600-120667/22-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCS 600-120667/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 600-120667/1-A	Method Blank	Soluble	Solid	DI Leach	
MB 600-120667/21-A	Method Blank	Soluble	Solid	DI Leach	

General Chemistry (Continued)

Analysis Batch: 120998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82342-1	VGWU61-02-02	Soluble	Solid	9056	120665
600-82342-2	VGWU61-02-05	Soluble	Solid	9056	120665
600-82342-2 MS	VGWU61-02-05	Soluble	Solid	9056	120665
600-82342-2 MSD	VGWU61-02-05	Soluble	Solid	9056	120665
600-82342-3	VGWU61-02-10	Soluble	Solid	9056	120665
600-82342-4	VGWU61-02-15	Soluble	Solid	9056	120665
600-82342-5	VGWU61-02-25	Soluble	Solid	9056	120665
600-82342-6	VGWU61-01-02	Soluble	Solid	9056	120665
600-82342-7	VGWU61-01-05	Soluble	Solid	9056	120665
600-82342-8	VGWU61-01-10	Soluble	Solid	9056	120665
600-82342-9	VGWU61-01-15	Soluble	Solid	9056	120665
600-82342-10	VGWU61-01-20	Soluble	Solid	9056	120666
600-82342-10 MS	VGWU61-01-20	Soluble	Solid	9056	120666
600-82342-10 MSD	VGWU61-01-20	Soluble	Solid	9056	120666
600-82342-11	VGWU61-01-25	Soluble	Solid	9056	120666
600-82342-12	VGWU61-03-02	Soluble	Solid	9056	120666
600-82342-13	VGWU61-03-05	Soluble	Solid	9056	120666
600-82342-14	VGWU61-03-10	Soluble	Solid	9056	120666
600-82342-15	VGWU61-03-15	Soluble	Solid	9056	120666
600-82342-16	VGWU61-03-20	Soluble	Solid	9056	120666
600-82342-16 MS	VGWU61-03-20	Soluble	Solid	9056	120666
600-82342-16 MSD	VGWU61-03-20	Soluble	Solid	9056	120666
600-82342-17	VGWU61-03-25	Soluble	Solid	9056	120666
600-82342-18	VGWU61-04-02	Soluble	Solid	9056	120666
600-82342-19	VGWU61-04-05	Soluble	Solid	9056	120666
600-82342-20	VGWU61-04-10	Soluble	Solid	9056	120666
600-82342-21	VGWU61-04-15	Soluble	Solid	9056	120666
600-82342-22	VGWU61-04-20	Soluble	Solid	9056	120666
600-82342-23	VGWU61-02-20	Soluble	Solid	9056	120666
600-82342-24	VGWU61-04-25	Soluble	Solid	9056	120666
600-82342-24 MS	VGWU61-04-25	Soluble	Solid	9056	120666
600-82342-24 MSD	VGWU61-04-25	Soluble	Solid	9056	120666
600-82342-25	VGWU61-05-02	Soluble	Solid	9056	120666
600-82342-26	VGWU61-05-05	Soluble	Solid	9056	120666
LCS 600-120665/22-A	Lab Control Sample	Soluble	Solid	9056	120665
LCS 600-120666/22-A	Lab Control Sample	Soluble	Solid	9056	120666
LCS 600-120666/2-A	Lab Control Sample	Soluble	Solid	9056	120666
MB 600-120665/21-A	Method Blank	Soluble	Solid	9056	120665
MB 600-120666/1-A	Method Blank	Soluble	Solid	9056	120666
MB 600-120666/21-A	Method Blank	Soluble	Solid	9056	120666

Analysis Batch: 121126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82342-27	VGWU61-05-10	Soluble	Solid	9056	120666
600-82342-28	VGWU61-05-15	Soluble	Solid	9056	120666
600-82342-29	VGWU61-05-20	Soluble	Solid	9056	120666
600-82342-30	VGWU61-05-25	Soluble	Solid	9056	120666
600-82342-30 MS	VGWU61-05-25	Soluble	Solid	9056	120666
600-82342-30 MSD	VGWU61-05-25	Soluble	Solid	9056	120666
600-82342-31	VGWU61-06-02	Soluble	Solid	9056	120666
600-82342-32	VGWU61-06-05	Soluble	Solid	9056	120666

General Chemistry (Continued)

Analysis Batch: 121126 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82342-33	VGWU61-06-10	Soluble	Solid	9056	120666
600-82342-34	VGWU61-07-02	Soluble	Solid	9056	120666
600-82342-35	VGWU61-07-05	Soluble	Solid	9056	120666
600-82342-36	VGWU61-07-10	Soluble	Solid	9056	120666
600-82342-37	VGWU61-07-15	Soluble	Solid	9056	120666
600-82342-38	VGWU61-07-20	Soluble	Solid	9056	120667
600-82342-38 MS	VGWU61-07-20	Soluble	Solid	9056	120667
600-82342-38 MSD	VGWU61-07-20	Soluble	Solid	9056	120667
600-82342-39	VGWU61-07-25	Soluble	Solid	9056	120667
600-82342-40	VGWU61-06-15	Soluble	Solid	9056	120667
600-82342-41	VGWU61-06-20	Soluble	Solid	9056	120667
600-82342-42	VGWU61-06-25	Soluble	Solid	9056	120667
600-82342-43	VGWU61-08-02	Soluble	Solid	9056	120667
600-82342-44	VGWU61-08-05	Soluble	Solid	9056	120667
600-82342-45	VGWU61-08-10	Soluble	Solid	9056	120667
600-82342-46	VGWU61-08-15	Soluble	Solid	9056	120667
600-82342-47	VGWU61-08-20	Soluble	Solid	9056	120667
600-82342-48	VGWU61-08-25	Soluble	Solid	9056	120667
600-82342-49	VGWU61-09-02	Soluble	Solid	9056	120667
600-82342-50	VGWU61-09-05	Soluble	Solid	9056	120667
600-82342-51	VGWU61-09-10	Soluble	Solid	9056	120667
600-82342-52	VGWU61-09-15	Soluble	Solid	9056	120667
600-82342-52 MS	VGWU61-09-15	Soluble	Solid	9056	120667
600-82342-52 MSD	VGWU61-09-15	Soluble	Solid	9056	120667
600-82342-53	VGWU61-09-20	Soluble	Solid	9056	120667
600-82342-54	VGWU61-09-25	Soluble	Solid	9056	120667
600-82342-A-44-B MS	600-82342-A-44-B MS	Soluble	Solid	9056	120667
600-82342-A-44-C MSD	600-82342-A-44-C MSD	Soluble	Solid	9056	120667
LCS 600-120666/22-A	Lab Control Sample	Soluble	Solid	9056	120666
LCS 600-120667/22-A	Lab Control Sample	Soluble	Solid	9056	120667
LCS 600-120667/2-A	Lab Control Sample	Soluble	Solid	9056	120667
MB 600-120666/21-A	Method Blank	Soluble	Solid	9056	120666
MB 600-120667/1-A	Method Blank	Soluble	Solid	9056	120667
MB 600-120667/21-A	Method Blank	Soluble	Solid	9056	120667

Client Sample ID: VGWU61-02-02

Lab Sample ID: 600-82342-1

Date Collected: 11/05/13 14:20

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120665	11/15/13 10:45	KRD	TAL HOU
Soluble	Analysis	9056		5	5 mL	5 mL	120998	11/19/13 20:18	DAW	TAL HOU

Client Sample ID: VGWU61-02-05

Lab Sample ID: 600-82342-2

Date Collected: 11/05/13 14:22

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120665	11/15/13 10:45	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	120998	11/19/13 21:05	DAW	TAL HOU

Client Sample ID: VGWU61-02-10

Lab Sample ID: 600-82342-3

Date Collected: 11/05/13 14:24

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120665	11/15/13 10:45	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/19/13 21:51	DAW	TAL HOU

Client Sample ID: VGWU61-02-15

Lab Sample ID: 600-82342-4

Date Collected: 11/05/13 14:26

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120665	11/15/13 10:45	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/19/13 22:07	DAW	TAL HOU

Client Sample ID: VGWU61-02-25

Lab Sample ID: 600-82342-5

Date Collected: 11/05/13 14:30

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120665	11/15/13 10:45	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/19/13 22:22	DAW	TAL HOU

Client Sample ID: VGWU61-01-02

Date Collected: 11/05/13 14:48
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120665	11/15/13 10:45	KRD	TAL HOU
Soluble	Analysis	9056		5	5 mL	5 mL	120998	11/19/13 22:38	DAW	TAL HOU

Client Sample ID: VGWU61-01-05

Date Collected: 11/05/13 14:50
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120665	11/15/13 10:45	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	120998	11/19/13 22:53	DAW	TAL HOU

Client Sample ID: VGWU61-01-10

Date Collected: 11/05/13 14:52
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120665	11/15/13 10:45	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/19/13 23:09	DAW	TAL HOU

Client Sample ID: VGWU61-01-15

Date Collected: 11/05/13 14:54
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-9

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120665	11/15/13 10:45	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/19/13 23:24	DAW	TAL HOU

Client Sample ID: VGWU61-01-20

Date Collected: 11/05/13 14:56
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-10

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/20/13 00:42	DAW	TAL HOU

Client Sample ID: VGWU61-01-25

Lab Sample ID: 600-82342-11

Date Collected: 11/05/13 14:58

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/20/13 01:28	DAW	TAL HOU

Client Sample ID: VGWU61-03-02

Lab Sample ID: 600-82342-12

Date Collected: 11/05/13 15:15

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		5	5 mL	5 mL	120998	11/20/13 01:44	DAW	TAL HOU

Client Sample ID: VGWU61-03-05

Lab Sample ID: 600-82342-13

Date Collected: 11/05/13 15:17

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	120998	11/20/13 01:59	DAW	TAL HOU

Client Sample ID: VGWU61-03-10

Lab Sample ID: 600-82342-14

Date Collected: 11/05/13 15:19

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/20/13 02:15	DAW	TAL HOU

Client Sample ID: VGWU61-03-15

Lab Sample ID: 600-82342-15

Date Collected: 11/05/13 15:21

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/20/13 02:30	DAW	TAL HOU

Client Sample ID: VGWU61-03-20

Lab Sample ID: 600-82342-16

Date Collected: 11/05/13 15:23

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/20/13 03:17	DAW	TAL HOU

Client Sample ID: VGWU61-03-25

Lab Sample ID: 600-82342-17

Date Collected: 11/05/13 15:25

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	120998	11/20/13 04:03	DAW	TAL HOU

Client Sample ID: VGWU61-04-02

Lab Sample ID: 600-82342-18

Date Collected: 11/05/13 16:02

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		50	5 mL	5 mL	120998	11/20/13 04:19	DAW	TAL HOU

Client Sample ID: VGWU61-04-05

Lab Sample ID: 600-82342-19

Date Collected: 11/05/13 16:04

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		50	5 mL	5 mL	120998	11/20/13 04:34	DAW	TAL HOU

Client Sample ID: VGWU61-04-10

Lab Sample ID: 600-82342-20

Date Collected: 11/05/13 16:06

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/20/13 04:50	DAW	TAL HOU

Client Sample ID: VGWU61-04-15

Lab Sample ID: 600-82342-21

Date Collected: 11/05/13 16:08

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/20/13 05:05	DAW	TAL HOU

Client Sample ID: VGWU61-04-20

Lab Sample ID: 600-82342-22

Date Collected: 11/05/13 16:10

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/20/13 05:21	DAW	TAL HOU

Client Sample ID: VGWU61-02-20

Lab Sample ID: 600-82342-23

Date Collected: 11/05/13 14:28

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/20/13 05:36	DAW	TAL HOU

Client Sample ID: VGWU61-04-25

Lab Sample ID: 600-82342-24

Date Collected: 11/05/13 16:12

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120998	11/20/13 06:54	DAW	TAL HOU

Client Sample ID: VGWU61-05-02

Lab Sample ID: 600-82342-25

Date Collected: 11/06/13 09:05

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	120998	11/20/13 07:40	DAW	TAL HOU

Client Sample ID: VGWU61-05-05

Date Collected: 11/06/13 09:07
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-26

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	120998	11/20/13 07:56	DAW	TAL HOU

Client Sample ID: VGWU61-05-10

Date Collected: 11/06/13 09:09
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-27

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 14:56	DAW	TAL HOU

Client Sample ID: VGWU61-05-15

Date Collected: 11/06/13 09:11
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-28

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 15:11	DAW	TAL HOU

Client Sample ID: VGWU61-05-20

Date Collected: 11/06/13 09:13
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-29

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 15:27	DAW	TAL HOU

Client Sample ID: VGWU61-05-25

Date Collected: 11/06/13 09:15
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-30

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 15:42	DAW	TAL HOU

Client Sample ID: VGWU61-06-02

Lab Sample ID: 600-82342-31

Date Collected: 11/06/13 10:00

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		5	5 mL	5 mL	121126	11/20/13 16:29	DAW	TAL HOU

Client Sample ID: VGWU61-06-05

Lab Sample ID: 600-82342-32

Date Collected: 11/06/13 10:02

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 16:44	DAW	TAL HOU

Client Sample ID: VGWU61-06-10

Lab Sample ID: 600-82342-33

Date Collected: 11/06/13 10:04

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 17:31	DAW	TAL HOU

Client Sample ID: VGWU61-07-02

Lab Sample ID: 600-82342-34

Date Collected: 11/06/13 10:30

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		10	5 mL	5 mL	121126	11/20/13 17:46	DAW	TAL HOU

Client Sample ID: VGWU61-07-05

Lab Sample ID: 600-82342-35

Date Collected: 11/06/13 10:32

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		100	5 mL	5 mL	121126	11/20/13 18:02	DAW	TAL HOU

Client Sample ID: VGWU61-07-10

Lab Sample ID: 600-82342-36

Date Collected: 11/06/13 10:34

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		10	5 mL	5 mL	121126	11/20/13 18:17	DAW	TAL HOU

Client Sample ID: VGWU61-07-15

Lab Sample ID: 600-82342-37

Date Collected: 11/06/13 10:36

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120666	11/15/13 11:00	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 18:33	DAW	TAL HOU

Client Sample ID: VGWU61-07-20

Lab Sample ID: 600-82342-38

Date Collected: 11/06/13 10:38

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 19:19	DAW	TAL HOU

Client Sample ID: VGWU61-07-25

Lab Sample ID: 600-82342-39

Date Collected: 11/06/13 10:40

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 20:37	DAW	TAL HOU

Client Sample ID: VGWU61-06-15

Lab Sample ID: 600-82342-40

Date Collected: 11/06/13 10:06

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 20:52	DAW	TAL HOU

Client Sample ID: VGWU61-06-20

Lab Sample ID: 600-82342-41

Date Collected: 11/06/13 10:08

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 21:08	DAW	TAL HOU

Client Sample ID: VGWU61-06-25

Lab Sample ID: 600-82342-42

Date Collected: 11/06/13 10:10

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	121126	11/20/13 21:23	DAW	TAL HOU

Client Sample ID: VGWU61-08-02

Lab Sample ID: 600-82342-43

Date Collected: 11/06/13 11:30

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		5	5 mL	5 mL	121126	11/20/13 21:39	DAW	TAL HOU

Client Sample ID: VGWU61-08-05

Lab Sample ID: 600-82342-44

Date Collected: 11/06/13 11:32

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		100	5 mL	5 mL	121126	11/20/13 21:54	DAW	TAL HOU

Client Sample ID: VGWU61-08-10

Lab Sample ID: 600-82342-45

Date Collected: 11/06/13 11:34

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	121126	11/20/13 22:56	DAW	TAL HOU

Client Sample ID: VGWU61-08-15

Lab Sample ID: 600-82342-46

Date Collected: 11/06/13 11:36

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	121126	11/20/13 23:43	DAW	TAL HOU

Client Sample ID: VGWU61-08-20

Lab Sample ID: 600-82342-47

Date Collected: 11/06/13 11:38

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	121126	11/20/13 23:58	DAW	TAL HOU

Client Sample ID: VGWU61-08-25

Lab Sample ID: 600-82342-48

Date Collected: 11/06/13 11:40

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	121126	11/21/13 00:14	DAW	TAL HOU

Client Sample ID: VGWU61-09-02

Lab Sample ID: 600-82342-49

Date Collected: 11/06/13 11:10

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		100	5 mL	5 mL	121126	11/21/13 00:29	DAW	TAL HOU

Client Sample ID: VGWU61-09-05

Lab Sample ID: 600-82342-50

Date Collected: 11/06/13 11:12

Matrix: Solid

Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		100	5 mL	5 mL	121126	11/21/13 01:00	DAW	TAL HOU

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Client Sample ID: VGWU61-09-10

Date Collected: 11/06/13 11:14
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-51

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		5	5 mL	5 mL	121126	11/21/13 01:31	DAW	TAL HOU

Client Sample ID: VGWU61-09-15

Date Collected: 11/06/13 11:16
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-52

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	121126	11/21/13 02:49	DAW	TAL HOU

Client Sample ID: VGWU61-09-20

Date Collected: 11/06/13 11:18
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-53

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		5	5 mL	5 mL	121126	11/21/13 03:35	DAW	TAL HOU

Client Sample ID: VGWU61-09-25

Date Collected: 11/06/13 11:20
Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-54

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120083	11/10/13 13:47	MJB	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120667	11/15/13 11:15	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	121126	11/21/13 03:51	DAW	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: HES Transfer Sites, Lea County NM

TestAmerica Job ID: 600-82342-1

Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-14
Louisiana	NELAP	6	30643	06-30-14
Oklahoma	State Program	6	9503	08-31-13 *
Texas	NELAP	6	T104704223	10-31-14
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	TX00083	10-31-13 *

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Houston
[illegible] Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

600-82342 Chain of Custody

Client Information	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Ca
Client Contact: Mr. Jonathan Olsen	Phone: 7139534800	E-Mail: sachin.kudchadkar@testamericainc.com	Page: Page 1 of 8
Company: ARCADIS U.S., Inc.		Analysis Requested	Job #
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:		Preservation Codes:
City: Houston	TAT Requested (days): STANDARD		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: TX, 77042	PO #: Purchase Order Requested		
Phone: 713 9534800	WO #:		Other:
Email: jonathan.olsen@arcadis-us.com			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633		
Site: VACUUM GLORIETA WEST UNIT 61	SSOW#:		

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
VGWU61-02-02	11/5/13	1420	G	Solid				X				
VGWU61-02-05	11/5/13	1422	|	Solid				X				
VGWU61-02-10	11/5/13	1424	|	Solid				X				
VGWU61-02-15	11/5/13	1426	|	Solid				X				
VGWU61-02-25	11/5/13	1430	|	Solid				X				
VGWU61-01-02	11/5/13	1448	|	Solid				X				
VGWU61-01-05	11/5/13	1450	|	Solid				X				
VGWU61-01-10	11/5/13	1452	|	Solid				X				
VGWU61-01-15	11/5/13	1454	|	Solid				X				
VGWU61-01-20	11/5/13	1456	|	Solid				X				
VGWU61-01-25	11/5/13	1458	↓	Solid				X				

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ] Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): [ ] Return To Client [ ] Disposal By Lab [ ] Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1		11/7/13 800			11/8/13 700	
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Client Information	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Mr. Jonathan Olsen	Phone: 7139534800	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 2 of 8
Company: ARCADIS U.S., Inc.				Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:			
City: Houston	TAT Requested (days): STANDARD			
State, Zip: TX, 77042				
Phone: 7139534800	PO #: Purchase Order Requested			
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			
Site: VGWU 61	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
VGWU61-03-02	11/5/13	1515	G	Solid				X				
VGWU61-03-05	11/5/13	1517		Solid				X				
VGWU61-03-10	11/5/13	1519		Solid				X				
VGWU61-03-15	11/5/13	1521		Solid				X				
VGWU61-03-20	11/5/13	1523		Solid				X				
VGWU61-03-25	11/5/13	1525		Solid				X				
VGWU61-04-02	11/5/13	1602		Solid				X				
VGWU61-04-05	11/5/13	1604		Solid				X				
VGWU61-04-10	11/5/13	1606		Solid				X				
VGWU61-04-15	11/5/13	1608		Solid				X				
VGWU61-04-20	11/5/13	1610	↓	Solid				X				

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by: 11/7/13	Date/Time: 800	Company	Received by:	Date/Time: 11/8/13 700	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Client Information	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Mr. Jonathan Olsen	Phone: 7139953480O	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 3 of 8
Company: ARCADIS U.S., Inc.				Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:			
City: Houston	TAT Requested (days): STANDARD			
State, Zip: TX, 77042				
Phone: 7139534800	PO #: Purchase Order Requested			
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			
Site: VACUUM GLORIETA WEST UNIT #161	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N	N	X	
VGWU61-02-20	11/5/13	1428	G	Solid				X				
VGWU61-04-25	11/5/13	1612	|	Solid				X				
VGWU61-05-02	11/6/13	905	|	Solid				X				
VGWU61-05-05	11/6/13	907	|	Solid				X				
VGWU61-05-10	11/6/13	909	|	Solid				X				
VGWU61-05-15	11/6/13	911	|	Solid				X				
VGWU61-05-20	11/6/13	913	|	Solid				X				
VGWU61-05-25	11/6/13	915	|	Solid				X				
VGWU61-06-02	11/6/13	1000	|	Solid				X				
VGWU61-06-05	11/6/13	1002	|	Solid				X				
VGWU61-06-10	11/6/13	1004	↓	Solid				X				

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time: 11/7/13 800	Company	Received by:	Date/Time: 11/8/13 700	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Client Information	Sampler: MELISAPHAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Mr. Jonathan Olsen	Phone: 7139534800	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 4 of 8
Company: ARCADIS U.S., Inc.		Analysis Requested		Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
City: Houston	TAT Requested (days): STANDARD			
State, Zip: TX, 77042				
Phone: 7139534800	PO #: Purchase Order Requested			
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			Other:
Site: VGWU 61	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
VGWU61-01-02	11/6/13	1030	G	Solid				X			1	
VGWU61-01-05	11/6/13	1032		Solid				X			1	
VGWU61-01-10	11/6/13	1034		Solid				X			1	
VGWU61-01-15	11/6/13	1036		Solid				X			1	
VGWU61-01-20	11/6/13	1038		Solid				X			1	
VGWU61-01-25	11/6/13	1040		Solid				X			1	
VGWU61-06-15	11/6/13	1006		Solid				X			1	
VGWU61-06-20	11/6/13	1008		Solid				X			1	
VGWU61-06-25	11/6/13	1010		Solid				X			1	
VGWU61-08-02	11/6/13	1130		Solid				X			1	
VGWU61-08-05	11/6/13	1132	↓	Solid				X			1	

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ] Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): [ ] Return To Client [ ] Disposal By Lab [ ] Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time: 11/7/13 800	Company	Received by	Date/Time: 11/8/13 700	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by:	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Houston
3310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Client Information	Sampler: MELISA DIAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Mr. Jonathan Olsen	Phone: 7139534800	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 5 of 8
Company: ARCADIS U.S., Inc.		Analysis Requested		Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
City: Houston	TAT Requested (days): STANDARD			
State, Zip: TX, 77042				
Phone: 713 9534800	PO #: Purchase Order Requested			Other:
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			
Site: VACUUM WEST GLORIETA UNIT #61	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
VGWU61-08-10	11/6/13	1134	G	Solid				X				
VGWU61-08-15	11/6/13	1136		Solid				X				
VGWU61-08-20	11/6/13	1138		Solid				X				
VGWU61-08-25	11/6/13	1140		Solid				X				
VGWU61-09-02	11/6/13	~~1106~~ 1110		Solid				X				
VGWU61-09-05	11/6/13	1112		Solid				X				
VGWU61-09-10	11/6/13	1114		Solid				X				
VGWU61-09-15	11/6/13	1116		Solid				X				
VGWU61-09-20	11/6/13	1118		Solid				X				
VGWU61-09-25	11/6/13	1120		Solid				X				
VGWU61-11-02	11/5/13	1400		Solid				X				HOLD

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ] Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): [ ] Return To Client [ ] Disposal By Lab [ ] Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:				
Relinquished by:	Date/Time: 11/7/13 800	Company	Received by:	Date/Time: 11/8/13 700	Company		
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company		
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Client Information	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Mr. Jonathan Olsen	Phone: 7139534800	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 1 of 8
Company: ARCADIS U.S., Inc.				Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:	Analysis Requested		Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify); Other:
City: Houston	TAT Requested (days): STANDARD			
State, Zip: TX, 77042				
Phone: 7139534800	PO #: Purchase Order Requested			
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			
Site: VACUUM GLORIETTA WEST UNIT 61	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
VGWU61-11-05	11/5/13	1402	G	Solid				X				HOLD
VGWU61-11-10	11/5/13	1404		Solid				X				HOLD
VGWU61-11-15	11/5/13	1406		Solid				X				HOLD
VGWU61-11-20	11/5/13	1408		Solid				X				HOLD
VGWU61-11-25	11/5/13	1410		Solid				X				HOLD
VGWU61-12-02	11/5/13	1539		Solid				X				HOLD
VGWU61-12-05	11/5/13	1541		Solid				X				HOLD
VGWU61-12-10	11/5/13	1543		Solid				X				HOLD
VGWU61-12-15	11/5/13	1545		Solid				X				HOLD
VGWU61-12-20	11/5/13	1547		Solid				X				HOLD
VGWU61-12-25	11/5/13	1549		Solid				X				HOLD

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ] Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): [ ] Return To Client [ ] Disposal By Lab [ ] Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 11/7/13	Company	Received by:	Date/Time: 11/8/13 700	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company	
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company	

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

11/21/2013

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Client Information	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Mr. Jonathan Olsen	Phone: 7139534800	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 1 of 8
Company: ARCADIS U.S., Inc.		Analysis Requested		Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:			Preservation Codes:
City: Houston	TAT Requested (days): STANDARD			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: TX, 77042				
Phone: 7139534800	PO #: Purchase Order Requested			Other:
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			
Site: VACUUM GLORIETA WEST UNIT 161	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
VGWU61-13-02	11/6/13	1150	G	Solid				X				HOLD
VGWU61-13-05	11/6/13	1152		Solid				X				HOLD
VGWU61-13-10	11/6/13	1154		Solid				X				HOLD
VGWU61-13-15	11/6/13	1156		Solid				X				HOLD
VGWU61-13-20	11/6/13	1158		Solid				X				HOLD
VGWU61-13-25	11/6/13	1200		Solid				X				HOLD
VGWU61-14-02	11/5/13	1624		Solid				X				HOLD
VGWU61-14-05	11/5/13	1626		Solid				X				HOLD
VGWU61-14-10	11/5/13	1628		Solid				X				HOLD
VGWU61-14-15	11/5/13	1630		Solid				X				HOLD
VGWU61-14-20	11/5/13	1632	↓	Solid				X				HOLD

Possible Hazard Identification: [X] Non-Hazard [ ] Flammable [ ] Skin Irritant [ ] Poison B [ ] Unknown [ ] Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): [ ] Return To Client [ ] Disposal By Lab [ ] Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 11/8/13 800	Company	Received by:	Date/Time: 11/8/13 700	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

Client Information	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Mr. Jonathan Olsen	Phone: 7139534800	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 8 of 8
Company: ARCADIS U.S., Inc.				Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:			
City: Houston	TAT Requested (days): STANDARD			
State, Zip: TX, 77042				
Phone: 7139534800	PO #: Purchase Order Requested			
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B - BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
VGWW61-14-25	11/5/13	1634	G	Solid				X				HOLD
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								
				Solid								

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	11/7/13 800		[signature]	11/8/13 700	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-82342-1

Login Number: 82342

List Source: TestAmerica Houston

List Number: 1

Creator: Capps, Dana R

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.2/1.4/1.8/1.5/1.7/2.6/1.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certificate of Analysis Summary 563441

Arcadis - Houston, Houston, TX

Project Name: HES Transfer

Project Id:
Contact: Brett Krehbiel
Project Location:

Date Received in Lab: Wed Sep-20-17 03:45 pm
Report Date: 27-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested							
	Lab Id:	563441-001					
	Field Id:	VGWLL-61-003-W					
	Depth:	2- In					
	Matrix:	SOIL					
	Sampled:	Sep-20-17 09:00					
Inorganic Anions by EPA 300/300.1	***Extracted:***	Sep-25-17 17:20					
	Analyzed:	Sep-26-17 12:20					
	Units/RL:	mg/kg RL					
Chloride		1240 4.97					

Kelsey Brooks
Project Manager

Analytical Report 563441

for

Arcadis - Houston

Project Manager: Brett Krehbiel

HES Transfer

27-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)

27-SEP-17

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

Reference: XENCO Report No(s): **563441**
HES Transfer
Project Address:

Brett Krehbiel:

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) 563441. 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. 563441 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 563441

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VGWLL-61-003-W	S	09-20-17 09:00	2 In	563441-001

Client Name: Arcadis - Houston
Project Name: HES Transfer

Project ID:
Work Order Number(s): *563441*

Report Date: *27-SEP-17*
Date Received: *09/20/2017*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 563441

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWLL-61-003-W**	Matrix:	Soil	Date Received:	09.20.17 15.45
Lab Sample Id:	563441-001	Date Collected:	09.20.17 09.00	Sample Depth:	2 In
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.25.17 17.20	Basis:	Wet Weight
Seq Number:	3028705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1240**	4.97	mg/kg	09.26.17 12.20		1

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

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

QC Summary 563441

Arcadis - Houston

HES Transfer

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P

Seq Number: 3028705 Matrix: Solid Date Prep: 09.25.17

MB Sample Id: 731508-1-BLK LCS Sample Id: 731508-1-BKS LCSD Sample Id: 731508-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	273	109	274	110	90-110	0	20	mg/kg	09.26.17 10:35	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P

Seq Number: 3028705 Matrix: Soil Date Prep: 09.25.17

Parent Sample Id: 563445-002 MS Sample Id: 563445-002 S MSD Sample Id: 563445-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1310	246	1520	85	1520	85	90-110	0	20	mg/kg	09.26.17 12:41	X

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P

Seq Number: 3028705 Matrix: Soil Date Prep: 09.25.17

Parent Sample Id: 563777-001 MS Sample Id: 563777-001 S MSD Sample Id: 563777-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1670	249	1910	96	1950	112	90-110	2	20	mg/kg	09.26.17 14:19	X

CHAIN OF CUSTODY

XENCO LABORATORIES

Setting the Standard since 1990

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

Xenco Quote # Q_14208 Xenco Job # 563441

Client / Reporting Information

Company Name / Branch: Arcadis - Houston
Company Address: 10205 Westheimer Rd., Suite 800 Houston TX 77042
Email: brett.krehbiel@arcadis.com Phone No:
Project Contact: Brett Krehbiel
Samplers's Name

Project Information

Project Name/Number: HES Transfer
Project Location:
Invoice To:
PO Number:

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Analytical Information: Chlorides	Field Comments
1	VGWL-61-0003-W	2'	9.20.17	0900	S	1								X	X	
2																
3																
4																
5																
6																
7																
8																
9																
10																

Turnaround Time (Business days)

- ☐ Same Day TAT
- ☒ 5 Day TAT
- ☐ Next Day EMERGENCY
- ☐ 7 Day TAT
- ☐ 2 Day EMERGENCY
- ☐ Contract TAT
- ☐ 3 Day EMERGENCY

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

Data Deliverable Information

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

Temp: 3.1 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.9

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Kyle Brawning	3:40	1	2	9/20 3:45	4
3	Relinquished by:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice: Cooler Temp. 29.2 Thermo. Corr. Factor

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis - Houston

Date/ Time Received: 09/20/2017 03:45:00 PM

Work Order #: 563441

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)?	2.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Connie Hernandez Date: 09/21/2017

Checklist reviewed by: Kelsey Brooks Date: 09/21/2017

Certificate of Analysis Summary 563445

Arcadis - Houston, Houston, TX

Project Name: HES Transfer

Project Id:
Contact: Brett Krehbiel
Project Location:

Date Received in Lab: Wed Sep-20-17 04:00 pm
Report Date: 27-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested									
	Lab Id:	563445-001		563445-002		563445-003		563445-004			
	Field Id:	VGWU-61-002-W		VGWU-61-004-W		VGWU-61-005-W		VGWU-61-006-W			
	Depth:	2- In		2- In		2- In		2- In			
	Matrix:	SOIL		SOIL		SOIL		SOIL			
	Sampled:	Sep-19-17 15:00		Sep-19-17 15:15		Sep-19-17 15:21		Sep-19-17 15:26			
Chloride by EPA 300	***Extracted:***	Sep-25-17 17:20		Sep-25-17 17:20		Sep-25-17 17:20		Sep-25-17 17:20			
	Analyzed:	Sep-26-17 12:27		Sep-26-17 12:34		Sep-26-17 12:55		Sep-26-17 13:02			
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL		
Chloride		3050	24.6	1310	4.91	1440	4.95	2200	25.0		

Kelsey Brooks
Project Manager

Analytical Report 563445

for

Arcadis - Houston

Project Manager: Brett Krehbiel

HES Transfer

27-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)

27-SEP-17

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

Reference: XENCO Report No(s): **563445**
HES Transfer
Project Address:

Brett Krehbiel:

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) 563445. 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. 563445 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 563445

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VGWU-61-002-W	S	09-19-17 15:00	2 In	563445-001
VGWU-61-004-W	S	09-19-17 15:15	2 In	563445-002
VGWU-61-005-W	S	09-19-17 15:21	2 In	563445-003
VGWU-61-006-W	S	09-19-17 15:26	2 In	563445-004

Client Name: Arcadis - Houston
Project Name: HES Transfer

Project ID:
Work Order Number(s): *563445*

Report Date: *27-SEP-17*
Date Received: *09/20/2017*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:
Batch: LBA-3028705 Inorganic Anions by EPA 300
Lab Sample ID 563777-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 563445-001, -002, -003, -004.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 563445

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-002-W**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563445-001	Date Collected:	09.19.17 15.00	Sample Depth:	2 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.25.17 17.20	Basis:	Wet Weight
Seq Number:	3028705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3050**	24.6	mg/kg	09.26.17 12.27		5

Certificate of Analytical Results 563445

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-004-W**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563445-002	Date Collected:	09.19.17 15.15	Sample Depth:	2 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.25.17 17.20	Basis:	Wet Weight
Seq Number:	3028705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1310**	4.91	mg/kg	09.26.17 12.34		1

Certificate of Analytical Results 563445

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-005-W**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563445-003	Date Collected:	09.19.17 15.21	Sample Depth:	2 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.25.17 17.20	Basis:	Wet Weight
Seq Number:	3028705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1440**	4.95	mg/kg	09.26.17 12.55		1

Certificate of Analytical Results 563445

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-006-W**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563445-004	Date Collected:	09.19.17 15.26	Sample Depth:	2 In
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.25.17 17.20	Basis:	Wet Weight
Seq Number:	3028705				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2200**	25.0	mg/kg	09.26.17 13.02		5

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

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

QC Summary 563445

Arcadis - Houston

HES Transfer

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3028705 Matrix: Solid Date Prep: 09.25.17
MB Sample Id: 731508-1-BLK LCS Sample Id: 731508-1-BKS LCSD Sample Id: 731508-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	273	109	274	110	90-110	0	20	mg/kg	09.26.17 10:35	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3028705 Matrix: Soil Date Prep: 09.25.17
Parent Sample Id: 563445-002 MS Sample Id: 563445-002 S MSD Sample Id: 563445-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1310	246	1520	85	1520	85	90-110	0	20	mg/kg	09.26.17 12:41	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3028705 Matrix: Soil Date Prep: 09.25.17
Parent Sample Id: 563777-001 MS Sample Id: 563777-001 S MSD Sample Id: 563777-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1670	249	1910	96	1950	112	90-110	2	20	mg/kg	09.26.17 14:19	X

CHAIN OF CUSTODY

XENCO LABORATORIES

Setting the Standard since 1990

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

Xenco Quote # Q_14208 | Xenco Job # 563445

Client / Reporting Information

Company Name / Branch: Arcadis - Houston
Company Address: 10205 Westheimer Rd., Suite 800 Hiouston TX 77042
Email: brett.krehbiel@arcadis.com | Phone No:
Project Contact: Brett Krehbiel
Samplers's Name

Project Information

Project Name/Number: HES Transfer
Project Location:
Invoice To:
PO Number:

Analytical Information

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Date	Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides	Field Comments
1	VGWL-61-002-W	2'	9.19.17	1500	S	1								X	X	
2	VGWL-61-004-W	2'	9.19.17	1515	S	1								X	X	
3	VGWL-61-005-W	2'	9.19.17	1521	S	1								X	X	
4	VGWL-61 006-W	2'	9.19.17	1526	S	1								X	X	
5																
6																
7																
8																
9																
10																

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Temp: 3.1 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.9

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Kyle Brouillette	5.00 9/19/17	Steve Butler	Steve Butler	9-20-17 1600	[illegible]
2	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3						
4	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
5						3.2

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

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis - Houston

Date/ Time Received: 09/20/2017 04:00:00 PM

Work Order #: 563445

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)?	2.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Connie Hernandez Date: 09/21/2017

Checklist reviewed by: Kelsey Brooks Date: 09/21/2017

Certificate of Analysis Summary 563446

Arcadis - Houston, Houston, TX

Project Name: HES Transfer

Project Id:
Contact: Brett Krehbiel
Project Location:

Date Received in Lab: Wed Sep-20-17 04:00 pm
Report Date: 28-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	563446-001		563446-002		563446-003		563446-004		563446-005		563446-006	
	Field Id:	VGWU-61-003-E		VGWU-61-004-E		VGWU-61-007-E		VGWU-61-008-E		VGWU-61-001-E		VGWU-61-002-E	
	Depth:	2.5- ft		3- ft		2- ft		2.5- ft		2- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Sep-19-17 10:00		Sep-19-17 10:10		Sep-19-17 10:15		Sep-19-17 10:20		Sep-19-17 13:58		Sep-19-17 14:07	
Chloride by EPA 300	***Extracted:***	Sep-26-17 12:00		Sep-26-17 12:00		Sep-26-17 12:00		Sep-26-17 12:00		Sep-26-17 12:00		Sep-26-17 12:00	
	Analyzed:	Sep-26-17 13:23		Sep-26-17 13:30		Sep-26-17 13:37		Sep-26-17 13:44		Sep-26-17 13:51		Sep-26-17 13:58	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		1040	25.0	1010	25.0	1020	5.00	1140	5.00	470	5.00	1160	5.00

Kelsey Brooks
Project Manager

Certificate of Analysis Summary 563446

Arcadis - Houston, Houston, TX

Project Name: HES Transfer

Project Id:
Contact: Brett Krehbiel
Project Location:

Date Received in Lab: Wed Sep-20-17 04:00 pm
Report Date: 28-SEP-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	563446-007		563446-008									
	Field Id:	VGWU-61-005-E		VGWU-61-006-E									
	Depth:	2- ft		2-									
	Matrix:	SOIL		SOIL									
	Sampled:	Sep-19-17 14:15		Sep-19-17 14:22									
Chloride by EPA 300	***Extracted:***	Sep-26-17 12:00		Sep-26-17 12:00									
	Analyzed:	Sep-26-17 15:41		Sep-26-17 15:50									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Chloride		1040	4.94	129	4.96								

Kelsey Brooks
Project Manager

Analytical Report 563446

for

Arcadis - Houston

Project Manager: Brett Krehbiel

HES Transfer

28-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)

28-SEP-17

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

Reference: XENCO Report No(s): **563446**
HES Transfer
Project Address:

Brett Krehbiel:

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) 563446. 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. 563446 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 563446

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VGWU-61-003-E	S	09-19-17 10:00	2.5 ft	563446-001
VGWU-61-004-E	S	09-19-17 10:10	3 ft	563446-002
VGWU-61-007-E	S	09-19-17 10:15	2 ft	563446-003
VGWU-61-008-E	S	09-19-17 10:20	2.5 ft	563446-004
VGWU-61-001-E	S	09-19-17 13:58	2 ft	563446-005
VGWU-61-002-E	S	09-19-17 14:07	2 ft	563446-006
VGWU-61-005-E	S	09-19-17 14:15	2 ft	563446-007
VGWU-61-006-E	S	09-19-17 14:22	2	563446-008

Client Name: Arcadis - Houston
Project Name: HES Transfer

Project ID:
Work Order Number(s): *563446*

Report Date: *28-SEP-17*
Date Received: *09/20/2017*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 563446

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-003-E**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563446-001	Date Collected:	09.19.17 10.00	Sample Depth:	2.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.26.17 12.00	Basis:	Wet Weight
Seq Number:	3028851				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1040**	25.0	mg/kg	09.26.17 13.23		5

Certificate of Analytical Results 563446

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-004-E**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563446-002	Date Collected:	09.19.17 10.10	Sample Depth:	3 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.26.17 12.00	Basis:	Wet Weight
Seq Number:	3028851				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1010**	25.0	mg/kg	09.26.17 13.30		5

Certificate of Analytical Results 563446

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-007-E**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563446-003	Date Collected:	09.19.17 10.15	Sample Depth:	2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.26.17 12.00	Basis:	Wet Weight
Seq Number:	3028851				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1020**	5.00	mg/kg	09.26.17 13.37		1

Certificate of Analytical Results 563446

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-008-E**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563446-004	Date Collected:	09.19.17 10.20	Sample Depth:	2.5 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.26.17 12.00	Basis:	Wet Weight
Seq Number:	3028851				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1140**	5.00	mg/kg	09.26.17 13.44		1

Certificate of Analytical Results 563446

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-001-E**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563446-005	Date Collected:	09.19.17 13.58	Sample Depth:	2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.26.17 12.00	Basis:	Wet Weight
Seq Number:	3028851				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**470**	5.00	mg/kg	09.26.17 13.51		1

Certificate of Analytical Results 563446

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-002-E**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563446-006	Date Collected:	09.19.17 14.07	Sample Depth:	2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.26.17 12.00	Basis:	Wet Weight
Seq Number:	3028851				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1160**	5.00	mg/kg	09.26.17 13.58		1

Certificate of Analytical Results 563446

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-005-E**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563446-007	Date Collected:	09.19.17 14.15	Sample Depth:	2 ft
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.26.17 12.00	Basis:	Wet Weight
Seq Number:	3028851				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1040**	4.94	mg/kg	09.26.17 15.41		1

Certificate of Analytical Results 563446

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-006-E**	Matrix:	Soil	Date Received:	09.20.17 16.00
Lab Sample Id:	563446-008	Date Collected:	09.19.17 14.22	Sample Depth:	2
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	09.26.17 12.00	Basis:	Wet Weight
Seq Number:	3028851				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**129**	4.96	mg/kg	09.26.17 15.50		1

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

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

QC Summary 563446

Arcadis - Houston

HES Transfer

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Seq Number: 3028851 Matrix: Solid Date Prep: 09.26.17

MB Sample Id: 731556-1-BLK LCS Sample Id: 731556-1-BKS LCSD Sample Id: 731556-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	254	102	253	101	90-110	0	20	mg/kg	09.26.17 14:42	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Seq Number: 3028851 Matrix: Soil Date Prep: 09.26.17

Parent Sample Id: 563566-010 MS Sample Id: 563566-010 S MSD Sample Id: 563566-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	77.6	248	331	102	331	102	90-110	0	20	mg/kg	09.26.17 16:26	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Seq Number: 3028851 Matrix: Soil Date Prep: 09.26.17

Parent Sample Id: 563567-004 MS Sample Id: 563567-004 S MSD Sample Id: 563567-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7560	249	7900	137	7890	133	90-110	0	20	mg/kg	09.26.17 18:12	X

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

Setting the Standard since 1990

Stafford,Texas (281-240-4200)

Dallas Texas (214-902-0300)

Service Center - San Antonio, Texas (210-509-3334)

Odessa, Texas (432-563-1800)

Norcross, Georgia (770-449-8800)

Lakeland, Florida (863-646-8526)

Tampa, Florida (813-620-2000)

www.xenco.com

Xenco Quote # Q_14208

Xenco Job # 563446

Client / Reporting Information

Company Name / Branch: Arcadis - Houston

Company Address: 10205 Westheimer Rd., Suite 800 Hiouston TX 77042

Email: brett.krehbiel@arcadis.com

Phone No:

Project Contact: Brett Krehbiel

Samplers's Name

Project Information

Project Name/Number: HES Transfer

Project Location:

Invoice To:

PO Number:

Analytical Information

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides	Field Comments
1	VGWU-61-003-E	2.5'	9.19.17	1000	S	1								X	X	
2	VGWU-61-004-E	3'	9.19.17	1010	S	1								X	X	
3	VGWU-61-007-E	2'	9.19.17	1015	S	1								X	X	
4	VGWU-61-008-E	2.5'	9.19.17	1020	S	1								X	X	
5	VGWU-61-001-E	2'	9.19.17	1358	S	1								X	X	
6	VGWU-61-002-E	2'	9.19.17	1407	S	1								X	X	
7	VGWU-61-005-E	2'	9.19.17	1415	S	1								X	X	
8	VGWU-61-006-E	2'	9.19.17	1422	S	1								X	X	
9																
10																

Temp: 3.1
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 2.9

IR ID:R-8

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Kyle Brooking	5:00 9/19/17	1	2	9-20-17 1600	2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
			3	4		4
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. / Thermo. Corr. Factor
			5			3.2

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

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis - Houston

Date/ Time Received: 09/20/2017 04:00:00 PM

Work Order #: 563446

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)?	2.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Connie Hernandez Date: 09/21/2017

Checklist reviewed by: Kelsey Brooks Date: 09/21/2017

Certificate of Analysis Summary 564445

Arcadis - Houston, Houston, TX

Project Name: HES Transfer

Project Id:
Contact: Brett Krehbiel
Project Location:

Date Received in Lab: Tue Oct-03-17 10:11 am
Report Date: 04-OCT-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	564445-001		564445-002		564445-003							
	Field Id:	VGWU-61-008-W		VGWU-61-009-W		VGWU-61-010-W							
	Depth:	3- ft		3- ft		2- ft							
	Matrix:	SOIL		SOIL		SOIL							
	Sampled:	Oct-02-17 08:50		Oct-02-17 08:54		Oct-02-17 08:58							
Inorganic Anions by EPA 300/300.1	***Extracted:***	Oct-03-17 13:45		Oct-03-17 13:45		Oct-03-17 13:45							
	Analyzed:	Oct-03-17 18:59		Oct-03-17 19:07		Oct-03-17 19:15							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		607	4.96	630	4.97	360	4.97						

Kelsey Brooks
Project Manager

Analytical Report 564445

for

Arcadis - Houston

Project Manager: Brett Krehbiel

HES Transfer

04-OCT-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)

04-OCT-17

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

Reference: XENCO Report No(s): **564445**
HES Transfer
Project Address:

Brett Krehbiel:

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) 564445. 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. 564445 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 564445

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VGWU-61-008-W	S	10-02-17 08:50	3 ft	564445-001
VGWU-61-009-W	S	10-02-17 08:54	3 ft	564445-002
VGWU-61-010-W	S	10-02-17 08:58	2 ft	564445-003

Sample receipt non conformances and comments:

TCLP Metals, TCLP VOCs, TCLP SVOCs, and TPH added per Melisa Darrow e-mail 09/21/17-- KB

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3029501 Inorganic Anions by EPA 300/300.1
Lab Sample ID 564445-003 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 564445-001, -002, -003.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analytical Results 564445

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-008-W**	Matrix:	Soil	Date Received:	10.03.17 10.11
Lab Sample Id:	564445-001	Date Collected:	10.02.17 08.50	Sample Depth:	3 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	10.03.17 13.45	Basis:	Wet Weight
Seq Number:	3029501				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**607**	4.96	mg/kg	10.03.17 18.59		1

Certificate of Analytical Results 564445

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-009-W**	Matrix:	Soil	Date Received:	10.03.17 10.11
Lab Sample Id:	564445-002	Date Collected:	10.02.17 08.54	Sample Depth:	3 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	10.03.17 13.45	Basis:	Wet Weight
Seq Number:	3029501				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**630**	4.97	mg/kg	10.03.17 19.07		1

Certificate of Analytical Results 564445

Arcadis - Houston, Houston, TX

HES Transfer

Sample Id:	**VGWU-61-010-W**	Matrix:	Soil	Date Received:	10.03.17 10.11
Lab Sample Id:	564445-003	Date Collected:	10.02.17 08.58	Sample Depth:	2 ft
Analytical Method:	Inorganic Anions by EPA 300/300.1			Prep Method:	E300P
Tech:	MNV			% Moisture:	
Analyst:	MNV	Date Prep:	10.03.17 13.45	Basis:	Wet Weight
Seq Number:	3029501				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**360**	4.97	mg/kg	10.03.17 19.15		1

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

\+ NELAC certification not offered for this compound.

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

QC Summary 564445

Arcadis - Houston

HES Transfer

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P

Seq Number: 3029501 Matrix: Solid Date Prep: 10.03.17

MB Sample Id: 7632000-1-BLK LCS Sample Id: 7632000-1-BKS LCSD Sample Id: 7632000-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	254	102	253	101	90-110	0	20	mg/kg	10.03.17 14:54	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P

Seq Number: 3029501 Matrix: Soil Date Prep: 10.03.17

Parent Sample Id: 564347-001 MS Sample Id: 564347-001 S MSD Sample Id: 564347-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	122	250	365	97	364	97	90-110	0	20	mg/kg	10.03.17 15:17	

Analytical Method: **Inorganic Anions by EPA 300/300.1** Prep Method: E300P

Seq Number: 3029501 Matrix: Soil Date Prep: 10.03.17

Parent Sample Id: 564445-003 MS Sample Id: 564445-003 S MSD Sample Id: 564445-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	360	249	570	84	570	84	90-110	0	20	mg/kg	10.03.17 19:22	X

CHAIN OF CUSTODY

XENCO LABORATORIES

Setting the Standard since 1990

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

Xenco Quote # Q_14205 Xenco Job # 564445

Client / Reporting Information

Company Name / Branch: Arcadis - Houston
Company Address: 10205 Westheimer Rd., Suite 800 Hiouston TX 77042
Email: brett.krehbiel@arcadis.com Phone No:
Project Contact: Brett Krehbiel
Samplers's Name

Project Information

Project Name/Number: HES Transfer
Project Location:
Invoice To:
PO Number:

Analytical Information

Matrix Codes

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

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Chlorides	Field Comments
1	VGWU-61-008-W	3'	10.2.17	0850	S	1								Y	X	800
2	VGWU-61-009-W	3'	10.2.17	0854	S	1								X	X	604
3	VGWU-61-010-W	2'	10.2.17	0858	S	1								X	X	404
4																
5																
6																
7																
8																
9																
10																

Turnaround Time (Business days)

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

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

Data Deliverable Information

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

Notes:

FED-EX / UPS: Tracking #

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

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Kyle Brantley	10-2-17 3:59	Esperanza Mail Servic	2	10-2-17 3:59	2
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp. 37.0 / Thermo. Corr. Factor

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis - Houston

Date/ Time Received: 10/03/2017 10:11:00 AM

Work Order #: 564445

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

Temperature Measuring device used : R8

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.2
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Connie Hernandez Date: 10/03/2017

Checklist reviewed by: Kelsey Brooks Date: 10/04/2017

Analytical Report 556452

for

Arcadis - Roseville, CA

Project Manager: Brett Krehbiel

VGWU-61

06-JUL-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)

Table of Contents

06-JUL-17

Project Manager: **Brett Krehbiel**
Arcadis - Roseville, CA
101 Creekside Ridge
CT 200
Roseville, CA 95678

Reference: XENCO Report No(s): **556452**
VGWU-61
Project Address: Buckeye NM

Brett Krehbiel:

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) 556452. 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. 556452 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 556452

Arcadis - Roseville, CA, Roseville, CA

VGWU-61

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
MW-2-W-170627	W	06-27-17 13:27		556452-001
MW-1-W-170627	W	06-27-17 13:41		556452-002
EB-01-W-170627	W	06-27-17 13:34		556452-004
MW-3-W-170627	W	06-27-17 14:00		Not Analyzed
DUP-01-W-170627	W	06-27-17 00:00		Not Analyzed

CASE NARRATIVE SUMMARY

Client Name: ***Arcadis - Roseville, CA***

Project Name: ***VGWU-61***

Project ID:

Work Order Number: *556452*

Report Date: *06-JUL-17*

Date Received: *28-JUN-17*

Kelsey Brooks
Project Manager

Certificate of Analytical Results

556452

Arcadis - Roseville, CA, Roseville, CA

VGWU-61

Sample Id: **MW-2-W-170627** Matrix: Water Sample Depth:

Lab Sample Id: 556452-001 Date Collected: 06.27.17 13.27 Date Received: 06.28.17 10.00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3021487 Date Prep: 06.30.17 13.30

Prep seq: 727067

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**51.8**	0.500	0.0858	mg/L	06.30.17 15:11		1

Sample Id: **MW-1-W-170627** Matrix: Water Sample Depth:

Lab Sample Id: 556452-002 Date Collected: 06.27.17 13.41 Date Received: 06.28.17 10.00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3021487 Date Prep: 06.30.17 13.30

Prep seq: 727067

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	**293**	2.50	0.429	mg/L	06.30.17 15:18		5

Sample Id: **EB-01-W-170627** Matrix: Water Sample Depth:

Lab Sample Id: 556452-004 Date Collected: 06.27.17 13.34 Date Received: 06.28.17 10.00

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3021487 Date Prep: 07.03.17 16.00

Prep seq: 727067

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.0858	0.500	0.0858	mg/L	07.04.17 03:49	U	1

Certificate of Analytical Results

556452

Arcadis - Roseville, CA, Roseville, CA

VGWU-61

Sample Id: **727067-1-BLK** Matrix: Water Sample Depth:

Lab Sample Id: 727067-1-BLK Date Collected: Date Received:

Analytical Method: Inorganic Anions by EPA 300/300.1 Prep Method: E300P

Analyst: MGO % Moist: Tech: MGO

Seq Number: 3021487 Date Prep: 06.30.17 13.30

Prep seq: 727067

Parameter	CAS Number	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	16887-00-6	<0.0858	0.500	0.0858	mg/L	06.30.17 13:40	U	1

CHRONOLOGY OF HOLDING TIMES

Analytical Method : Inorganic Anions by EPA 300/300.1
Client : Arcadis - Roseville, CA
Work Order #: **556452**
Project ID:
Date Received: 06/28/17

Field Sample ID	Lab Sample ID	Date Collected	Date Extracted	Max Holding Time Extracted (Days)	Time Held Extracted (Days)	Date Analyzed	Max Holding Time Analyzed (Days)	Time Held Analyzed (Days)	Q
MW-2-W-170627	556452-001	06/27/17				06/30/17	28	3	P
MW-1-W-170627	556452-002	06/27/17				06/30/17	28	3	P
EB-01-W-170627	556452-004	06/27/17				07/04/17	28	7	P

F = These samples were analyzed outside the recommended holding time.
P = Samples analyzed within the recommended holding time.

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

Analytical Log

Analytical Method:	Inorganic Anions by EPA 300/300.1	Batch #:	3021487
Project Name:	VGWU-61	Project ID:	
Client Name:	Arcadis - Roseville, CA	WO Number:	556452

Client Sample Id	Lab Sample Id	QC Types
EB-01-W-170627	556452-004	SMP
MW-1-W-170627	556452-002	SMP
MW-2-W-170627	556452-001	SMP
	556451-001 S	MS
	556451-001 SD	MSD
	727067-1-BKS	BKS
	727067-1-BLK	BLK
	727067-1-BSD	BSD

BS / BSD Recoveries

Project Name: VGWU-61

Work Order #: 556452 **Project ID:**

Analyst: MGO **Date Prepared:** 06/30/2017 **Date Analyzed:** 06/30/2017

Lab Batch ID: 3021487 **Sample:** 727067-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

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	<0.0858	25.0	23.5	94	25.0	23.8	95	1	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: VGWU-61

Work Order # : 556452 **Project ID:**

Lab Batch ID: 3021487 **QC- Sample ID:** 556451-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 06/30/2017 **Date Prepared:** 06/30/2017 **Analyst:** MGO

Reporting Units: mg/L

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	23.6	25.0	46.8	93	25.0	47.4	95	1	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.

Attachment A Laboratory Data Package Cover Page

Project Name: **VGWU-61** Laboratory Number: **556452**

This Data package consists of : Laboratory Batch No(s) **727067**

This signature page, the laboratory review checklist, and the following reportable data:

[X] R1 Field chain-of-custody documentation;

[X] R2 Sample identification cross-reference;

[X] R3 Test reports (analytical data sheets) for each environmental sample that includes:
- a) Items consistent with NELAC 5
- b) dilution factors,
- c) preparation methods,
- d) cleanup methods, and
- e) if required for the project, tentatively identified compounds (TICs).

[X] R4 Surrogate Recovery data including:
- a) Calculated recovery (%R), and
- b) The laboratory's surrogate QC limits.

[X] R5 Test reports/summary forms for blank samples;

[X] R6 Test reports/summary forms for laboratory control samples (LCSs) including:
- a) LCS spiking amounts,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

[X] R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
- d) Calculated %Rs and relative percent differences (RPDs) and
- e) The laboratory's MS/MSD QC limits

[X] R8 Laboratory anaytical duplicate (if applicable) recovery and precision:
- a) the amount of analyte measured in the duplicate,
- b) the calculated RPD, and
- c) the laboratory's QC limits for analytical duplicates.

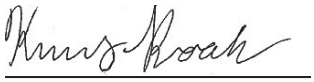
[X] R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;

[X] R10 Other problems or anomalies.

[X] Exception Report for every "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies, observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC 25.6 and was last inspection by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The offical signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Kelsey Brooks		**Project Manager**	**06-JUL-17**
Name (Printed)	Signature	Official Title (printed)	Date

A1

Attachment A (cont'd) : Laboratory Review Checklist: Reportable Data

Laboratory Name:	XENCO LABORATORIES	LRC Date :	06-JUL-17
Project Name:	VGWU-61	Laboratory Job Number :	556452
Reviewer Name:	KEB	Batch Number(s) :	727067

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**Chain-of-Custody (COC)**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	**Sample and Quality Control (QC) Identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test Reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soil/solid samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, were TICs reported?			X		
R4	O	**Surrogate Recovery Data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test Reports/Summary Forms for Blank Samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency ?	X				
		Were method blanks taken through the entire analytical procedure, including preparation and, if applicable, cleanup procedures ?	X				
		Were Blank Concentrations <MQL?	X				
R6	OI	**Laboratory Control Samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within the QC limits?	X				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within the laboratory QC limits?	X				
R8	OI	**Analytical Duplicate Data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method Quantitation Limits (MQLs)**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other Problems/Anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				

Attachment A (cont'd) : Laboratory Review Checklist: Reportable Data

Laboratory Name:	XENCO LABORATORIES	LRC Date :	06-JUL-17
Project Name:	VGWU-61	Laboratory Job Number :	556452
Reviewer Name:	KEB	Batch Number(s) :	727067

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial Calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and the highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and Continuing Calibration Verification (ICCV and CCV) and continuing calibration blank (**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB <MDL?			X		
S3	O	**Mass Spectral Tuning**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			X		
S4	O	**Internal Standard (IS)**					
		Were IS area counts and retention times within the method-required QC limits?			X		
S5	OI	**Raw Data (NELAC 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual Column Confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs)**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) Results**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial Dilutions, Post Digestions Spikes, and Method of Standard Additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method Detection Limit (MDL) Studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency Test Reports**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards Documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/Analyte Identification Procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/Validation Documentation for Methods (NELAC Chapter 5)**					
		Are all methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory Standard Operating Procedures (SOPs)**					
		Are laboratory SOPs current and on file for each method performed?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted to the TCEQ-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report Identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Attachment A (cont'd): Laboratory Review Checklist: Exception Reports

Laboratory Name: XENCO LABORATORIES	LRC Date: 06-JUL-17
Project Name: VGWU-61	Laboratory Job Number: 556452
Reviewer Name: KEB	Batch Number(s) : 727067

ER# [1]	DESCRIPTION

1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No is checked on the LRC).

Arcadis - Roseville, CA, Roseville, CA

VGWU-61

Analytical Method: Inorganic Anions by EPA 300/300.1 Matrix: Water

Parameter	Spike Amount	Actual Amount	Units
Chloride	0.250	0.177	mg/L

ARCADIS
Infrastructure Water Environment Buildings

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

Lab Work Order # 556452

Send Results to:

Contact & Company Name: Brett Krehbiel / ARCADIS
Telephone: 916-786-5392
Address: 101 Creekside Ridge Court, Suite 200
Fax:
City / State / Zip: Roseville CA, 95678
E-mail Address: Brett.Krehbiel@arcadis.com
Project Name/Location (City, State): VGWU-61 / Buckeye, NM
Project #:
Sampler's Printed Name: Jerry Shongwell
Sampler's Signature: [signature]

Preservative					
Filtered (✓)					
# of Containers	5				
Container Information	3				

PARAMETER ANALYSIS & METHOD: Cl

Sample ID	Collection Date	Collection Time	Type Comp	Type Grab	Matrix	Cl							REMARKS
MW-2-W-170627	06/27/17	1327		X	W	1							VGWU-61 Samples
MW-1-W-170627	06/27/17	1341		X	W	1							
MW-3-W-170627	06/27/17	1400		X	W	1							
EB-01-W-170627	06/27/17	1334		X	W	1							
DUP-01-W-170627	06/27/17	—		X	W	1							

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: ______

Temp: 4.9°C IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 4.7°C

Special Instructions/Comments:

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name: Xenco
☑ Cooler packed with ice (✓)
Specify Turnaround Requirements: Standard
Shipping Tracking #:
Cooler Custody Seal (✓)
☐ Intact ☐ Not Intact
Sample Receipt:
Condition/Cooler Temp: ______

	Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name:	Jerry Shongwell	Brianne Widner		Mary A Negron
Signature:	[signature]	Brianne Widner		[signature]
Firm/Courier:	ARCADIS			Xenco
Date/Time:	6/27/17 / 1602	6/27/17 1602		6/28/17 1500

20730826 CofC AR Form 01.12.2007

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: 06/28/2017 10:00:00 AM

Work Order #: 556452

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)?	4.7
#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)?	**N/A**
#21 VOC samples have zero headspace?	**N/A**

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

Analyst: JKR

PH Device/Lot#: 213315

Checklist completed by: Jessica Kramer
Jessica Kramer

Date: 06/28/2017

Checklist reviewed by: Kelsey Brooks
Kelsey Brooks

Date: 06/28/2017

Analytical Report 560289

for

Arcadis - Houston

Project Manager: Jonathan Olsen

Hes Transfer Sites

22-AUG-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)

22-AUG-17

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

Reference: XENCO Report No(s): **560289**
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) 560289. 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. 560289 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 560289

Arcadis - Houston, Houston, TX

Hes Transfer Sites

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
VGWU61-MW1	W	08-15-17 14:37		560289-001
DUP-1	W	08-15-17 00:00		560289-002
EB-1	W	08-15-17 13:00		560289-003

Sample receipt non conformances and comments:

Level II Reporting

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3025544 Inorganic Anions by EPA 300/300.1
Lab Sample ID 560289-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 560289-001, -002, -003.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Certificate of Analysis Summary 560289

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: 22-AUG-17
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	560289-001		560289-002		560289-003							
	Field Id:	VGWU61-MW1		DUP-1		EB-1							
	Depth:												
	Matrix:	WATER		WATER		WATER							
	Sampled:	Aug-15-17 14:37		Aug-15-17 00:00		Aug-15-17 13:00							
Inorganic Anions by EPA 300/300.1	***Extracted:***	Aug-18-17 15:00		Aug-18-17 15:00		Aug-18-17 15:00							
	Analyzed:	Aug-18-17 17:01		Aug-18-17 17:24		Aug-18-17 17:31							
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL						
Chloride		199	2.50	192	0.500	ND	0.500						

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 Sites

Work Order #: 560289 **Project ID:**

Analyst: MGO **Date Prepared:** 08/18/2017 **Date Analyzed:** 08/18/2017

Lab Batch ID: 3025544 **Sample:** 729634-1-BKS **Batch #:** 1 **Matrix:** Water

Units: mg/L

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	<0.500	25.0	27.3	109	25.0	26.7	107	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

Form 3 - MS / MSD Recoveries

Project Name: Hes Transfer Sites

Work Order # : 560289 **Project ID:**

Lab Batch ID: 3025544 **QC- Sample ID:** 560289-001 S **Batch #:** 1 **Matrix:** Water

Date Analyzed: 08/18/2017 **Date Prepared:** 08/18/2017 **Analyst:** MGO

Reporting Units: mg/L

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 <08/21/2017 14:33>	189	125	323	107	125	328	111	2	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 # 560289

Send Results to:

Contact & Company Name:	Jonathan Olson / Arcadis
Address:	10205 Westheimer Road Suite 800
City / State / Zip	Houston TX 77042
Telephone:	713-953-4874
Fax:	NA
E-mail Address:	jonathan.olson@arcadis.com
Project Name/Location (City, State):	HES Transfer Sites / Buckeye, NM
Project #:	B00486261701
Sampler's Printed Name:	Ryan Nanny
Sampler's Signature:	

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	Chlorides	REMARKS
V6W461-MW1	8-15-17	1437		✓	W	E	—	3	4	1	Run Sample
DUP-1	8-15-17	—		✓	W					1	Run Sample
EB-1	8-15-17	1300	✓		W					1	Run Sample

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: _____

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: 26.0

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ryan Nanny	Printed Name:	Printed Name:	Printed Name: Shawnee Smith
Signature:	Signature:	Signature:	Signature:
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

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: Arcadis - Houston

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

Work Order #: 560289

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)?	**N/A**
#21 VOC samples have zero headspace?	**Yes**

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

Analyst: ss

PH Device/Lot#: 213315

Checklist completed by: Shawnee Smith — Date: 08/16/2017

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

Certificate of Analysis Summary 594041

ARCADIS, Midland, TX

Project Name: VGWU-61

Project Id: B0048618
Contact: Brett Krehbiel
Project Location: Hobbs, NM

Date Received in Lab: Mon Jul-30-18 04:20 pm
Report Date: 01-AUG-18
Project Manager: Kelsey Brooks

Analysis Requested													
	Lab Id:	594041-001		594041-002		594041-003		594041-004					
	Field Id:	Dup-1 (0272818)		VGWU61 - MW-1 (027281		VGWU61 - MW-2 (02728		EB1 (0272818)					
	Depth:												
	Matrix:	WATER		WATER		WATER		WATER					
	Sampled:	Jul-28-18 00:00		Jul-28-18 13:50		Jul-28-18 15:20		Jul-28-18 15:35					
Chloride by EPA 300	***Extracted:***	Jul-31-18 14:00		Jul-31-18 14:00		Jul-31-18 14:00		Jul-31-18 14:00					
	Analyzed:	Jul-31-18 19:58		Jul-31-18 20:11		Jul-31-18 20:23		Jul-31-18 20:35					
	Units/RL:	mg/L	RL	mg/L	RL	mg/L	RL	mg/L	RL				
Chloride		235	25.0	239	25.0	98.9	12.5	<0.347	2.50				

Kelsey Brooks
Project Manager

Analytical Report 594041

for

ARCADIS

Project Manager: Brett Krehbiel

VGWU-61

B0048618

01-AUG-18

Collected By: Client

6701 Aberdeen, Suite 9 Lubbock, TX 79424

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)
Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

01-AUG-18

Project Manager: **Brett Krehbiel**
ARCADIS
1004 N. Big Spring St.
Midland, TX 79701

Reference: XENCO Report No(s): **594041**
VGWU-61
Project Address: Hobbs, NM

Brett Krehbiel:

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) 594041. 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. 594041 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 594041

ARCADIS, Midland, TX

VGWU-61

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
Dup-1 (0272818)	W	07-28-18 00:00		594041-001
VGWU61 - MW-1 (0272818)	W	07-28-18 13:50		594041-002
VGWU61 - MW-2 (0272818	W	07-28-18 15:20		594041-003
EB1 (0272818)	W	07-28-18 15:35		594041-004

This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory.

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 594041

ARCADIS, Midland, TX

VGWU-61

Sample Id:	**Dup-1 (0272818)**	Matrix:	Water	Date Received:	07.30.18 16.20
Lab Sample Id:	594041-001	Date Collected:	07.28.18 00.00		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	07.31.18 14.00		
Seq Number:	3058427				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**235**	25.0	3.47	mg/L	07.31.18 19.58		10

Certificate of Analytical Results 594041

ARCADIS, Midland, TX

VGWU-61

Sample Id:	**VGWU61 - MW-1 (0272818)**	Matrix:	Water	Date Received:	07.30.18 16.20
Lab Sample Id:	594041-002	Date Collected:	07.28.18 13.50		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	07.31.18 14.00		
Seq Number:	3058427				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**239**	25.0	3.47	mg/L	07.31.18 20.11		10

Certificate of Analytical Results 594041

ARCADIS, Midland, TX

VGWU-61

Sample Id:	**VGWU61 - MW-2 (0272818**	Matrix:	Water	Date Received:	07.30.18 16.20
Lab Sample Id:	594041-003	Date Collected:	07.28.18 15.20		
Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	RNL			% Moisture:	
Analyst:	RNL	Date Prep:	07.31.18 14.00		
Seq Number:	3058427				

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**98.9**	12.5	1.73	mg/L	07.31.18 20.23		5

Certificate of Analytical Results 594041

ARCADIS, Midland, TX

VGWU-61

Sample Id: **EB1 (0272818)**
Lab Sample Id: 594041-004

Matrix: Water
Date Collected: 07.28.18 15.35

Date Received:07.30.18 16.20

Analytical Method: Chloride by EPA 300
Tech: RNL
Analyst: RNL
Seq Number: 3058427

Prep Method: E300P
% Moisture:

Date Prep: 07.31.18 14.00

Parameter	Cas Number	Result	RL	MDL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<0.347	2.50	0.347	mg/L	07.31.18 20.35	U	1

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 594041

ARCADIS

VGWU-61

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Seq Number: 3058427 Matrix: Water Date Prep: 07.31.18

MB Sample Id: 7659486-1-BLK LCS Sample Id: 7659486-1-BKS LCSD Sample Id: 7659486-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.347	25.0	26.1	104	26.0	104	90-110	0	20	mg/L	07.31.18 16:02	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Seq Number: 3058427 Matrix: Waste Water Date Prep: 07.31.18

Parent Sample Id: 593949-001 MS Sample Id: 593949-001 S MSD Sample Id: 593949-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	471	1250	1830	109	1810	107	80-120	1	20	mg/L	07.31.18 16:52	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P

Seq Number: 3058427 Matrix: Water Date Prep: 07.31.18

Parent Sample Id: 593985-001 MS Sample Id: 593985-001 S MSD Sample Id: 593985-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	130	250	417	115	411	112	80-120	1	20	mg/L	07.31.18 19:33	

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

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

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

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

ARCADIS

59404

ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page 1 of 1

Lab Work Order #: 59404.1

Send Results to:

Contact & Company Name: Brett Krabbiel / Arcadis
Telephone: 916-786-5382
Address: 1004 N. Big Spring St. Suite 300
Fax: NA
City: Midland State: Tx Zip: 79701
E-mail Address: Brett.Krabbiel@arcadis.com
Project Name/Location (City, State): VGWU-61 / Hobbs, NM
Project #: 30048618
Sampler's Printed Name: Ryan Nancy
Sampler's Signature:

Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	Preservative	Filtered (✓)	# of Containers	Container Information	Chlorides
						E	—	4	3	
Dup-1(072818)	7-28-18	—		✓	W					1
VGWU61-MW1(072618)	7-28-18	1350		✓	W					1
VGWU61-MW2(072618)	7-28-18	1520		✓	W					1
EB-1(072818)	7-28-18	1535		✓	W					1

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: _____

REMARKS

1
2
3
4

Special Instructions/Comments: *VGWU-61*

☐ Special QA/QC Instructions(✓):

Laboratory Information and Receipt

Lab Name: Xenco
☐ Cooler packed with ice (✓)
Specify Turnaround Requirements: Standard
Shipping Tracking #:

Cooler Custody Seal (✓) ☑ Intact ☐ Not Intact
Sample Receipt:
Condition/Cooler Temp: 28

Relinquished By	Received By	Relinquished By	Laboratory Received By
Printed Name: Ryan Nancy	Printed Name: BRENDA WARD	Printed Name:	Printed Name:
Signature:	Signature: Brenda Ward	Signature:	Signature:
Firm: Arcadis	Firm/Courier:	Firm/Courier:	Firm:
Date/Time: 7-27-18 1620	Date/Time: 7/27/18 16:20	Date/Time:	Date/Time:

20730826 CofC 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: 07/30/2018 04:20:00 PM

Work Order #: 594041

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

Temperature Measuring device used : IR-3

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.8
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**No**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: ASD

PH Device/Lot#: 208515

Checklist completed by: Brenda Ward Date: 07/30/2018

Checklist reviewed by: Kelsey Brooks Date: 08/01/2018