

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

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

Lea County, New Mexico

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

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

ENVIRONMENT

Date: September 13, 2018

Contact: Brett Krehbiel

Phone: 916.786.5382 Email: Brett.Krehbiel@arcadis.com Our ref: B0048616 (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 SM45000CI-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

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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.

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• 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.

the hablen

Brett Krehbiel Certified Project Manager

ang that

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

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FIGURES





CITY: MANCHESTER DIV/GROUP: ENVCAD DB: B.SMALL PM: TM C:Usersinaidgerc81910neDrive - ArCADISIBIN 360 Docs/CHEVRON CORPORATIONHES/VGWU-61/2018B0048787.000201-DWGISoliData-Fig2.dwg LAYOUT: 2 SAVED: 8/7/2018 5:37 PM ACADVER: 21.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULLCTB PLOTTED: 8/7/2018 7:39 PM





CITY: MANCHESTER DIV/GROUP: ENVCAD DB: B.SMALL PM: TM C:/Usersinadgerds1910haDrive - ARCADISIBIN 380 Docs/CHEVRON CORPORATIONHESIVGWU-61/2018/002/01-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



ATTACHMENT 1

Notification of Release and Correction Form

(Form C-141)



Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

1220 S St Fran	ncis Dr. Santa	Fe NM 87505				St. Manc						
1220 5. St. Fla	1220 S. St. Francis Dr., Santa Fe, NM 87505 Santa Fe, NM 87505											
			Rele	ease Notific	ation	and Co	orrective A	ction				
						OPERA	ГOR	🛛 Initia	ıl Report		Final Report	
	ompany CH						osie DeLeon					
				n, NM 88260				-396-4414 ext 275	Cellular: 50)5-787-9	9816	
Facility Na	me Vacu	um Gloriett	a West U	nit #61]	Facility Typ	e Submersible	e Production Well				
Surface Ow	vner State	of New Me	exico	Mineral C	Owner	State of N	ew Mexico	API No.	. 3002	521432	2	
				LOCA	TION	N OF RE	LEASE					
Unit Letter	Section	Township	Range	Feet from the	North/	South Line	Feet from the	East/West Line	County			
А	36	17.0S	34.0E							Lea		
			1	9698832	1	Longitud	e	93				
			<u></u>		TIRE	OF REL		<u> </u>	_			
Type of Rele	ease Crude	Oil and Proc	luced Wat		UKL	Volume of		bbls Volume R	ecovered			
				*		of pw & 0.	45bbl of oil	60bbls				
Source of Re	elease Wate	er Injection S	Station Pu	mp		Date and H 10/16/12 8	Hour of Occurrent :50 PM	Date and I 10/16/12	Hour of Dis 10:20 PM	covery		
Was Immedi	iate Notice G					If YES, To	Whom?	Ι				
	🛛 Yes 🗌 No 🗌 Not Required											
	By Whom? Josie DeLeon Was a Watercourse Reached?						Hour 8/17/12 2:0					
\square Yes \square No					II YES, VO	fume impacting	the watercourse.					
If a Waterco	urse was Imp	acted, Descr	ibe Fully. ⁴	*								
		*	2									
Describe Car	use of Proble	m and Reme	dial Actio	n Taken.*								
Check valve	failed on we	ll head leadir	ng to relea	se.								
			-8									
Describe Are	ea Affected a	nd Cleanun 4	Action Tal	zen *								
Desenter Int			Tetton 1 a	ten.								
								ry vacuum truck co				
standing flui	ds which wei	re sent to disj	posal. 60t	obls of fluids reco	vered. V	isually conta	aminated soil has	been excavated and	sent off for	r disposa	11.	
								inderstand that purs				
								ctive actions for rele				
								eport" does not reli reat to ground water				
or the enviro	onment. In ad	ldition, NMC	OCD accept									
federal, state	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.											
							<u>OIL CON</u>	SERVATION	DIVISIC	<u>JN</u>		
Signature:												
Printed Nam	e: David P	agano				Approved by	Environmental S	pecialist:				
Finica Ivam	ie. David P	agano										
Title: Hea	lth & Enviro	nmental Spec	cialist			Approval Da	te:	Expiration I	Date:			
E-mail Addr	ess: dpgn(a	thevron.com	n			Conditions of	f Approval:			_		
		-					**		Attached			
Date: 10/23/	/12	Phone:	505-787-	9816					1			

* Attach Additional Sheets If Necessary

ATTACHMENT 2

Laboratory Analytical Reports



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/ga/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. Keine

Celey D. Keene Lab Director/Quality Manager



		Chevron - L DAVID PAG HCR 60 Box Lovington N	ANO (423		
		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 %	% 89.4-12	6						
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	Analyze	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 9	65.2-14	0						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		Chevron - DAVID PA HCR 60 Bo Lovington	GANO		
		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 9	% 89.4-12	6						
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	Analyze	d 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	65.2-14	0						
Surrogate: 1-Chlorooctadecane	63.9	63.6-15	4						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		Chevron - DAVID PA HCR 60 Bo Lovington	GANO		
		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		Analyze	d 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	% 89.4-12	6						
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	Analyze	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	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	84.9	% 63.6-15	4						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



		Chevron - DAVID PA HCR 60 Bo Lovington	GANO		
		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		Analyze	d 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	% 89.4-12	6						
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	Analyze	d 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	% 65.2-14	0						
Surrogate: 1-Chlorooctadecane	106	% 63.6-15	4						

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

ished control limits due to a sample matrix effect.
w.
ved at or below 6°C
erwise noted on report

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 7 of

SOL N. S. D. S. H. B. W. B. C. N. T. orat(-03131700

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST





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

& Kudchadker

Authorized for release by: 11/21/2013 5:53:15 PM Sachin Kudchadkar, Senior Project Manager (713)690-4444 sachin.kudchadkar@testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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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 1.2° C, 1.4° C, 1.5° C, 1.5° C, 1.7° C, 1.8° C and 2.6° 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.

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

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8
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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

Matrix

Solid

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

Client Sample ID

VGWU61-02-02

Lab Sample ID

600-82342-1

11/05/13 14:20 11/08/13 07:00

Received

Collected

5

6
8
9
13

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

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: ARCADIS U.S., Inc. Project/Site: HES Transfer Sites, Lea County NM TestAmerica Job ID: 600-82342-1

Date Collected: 11/05/13 14:20 Date Received: 11/08/13 07:00	-02						Lab San	nple ID: 600-8 Matri	2342-1 x: Solid
 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	<u> </u>		11/19/13 20:18	5
Client Sample ID: VGWU61-02	-05						Lab San	nple ID: 600-8	2342-2
Date Collected: 11/05/13 14:22								Matri	x: 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 Client Sample ID: VGWU61-02	340 -10		8.4		mg/Kg	<u></u>	Lab San	11/19/13 21:05	2 2342-3
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry	-10							nple ID: 600-8 Matri	2342-3 x: Solid
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte	-10 Result	Qualifier	RL	RL	Unit	÷	Lab San	nple ID: 600-8 Matri Analyzed	2342-3 x: Solid Dil Fac
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry	-10	Qualifier		RL				nple ID: 600-8 Matri	2342-3 x: Solid
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	-10 <u>Result</u> 15 85		RL 1.0 1.0		Unit % %	<u>D</u>	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08	2342-3 x: Solid Dil Fac
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	-10 Result 15 85 Result	Qualifier	RL 1.0 1.0 RL		Unit % %	D		Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed	2342-3 x: Solid Dil Fac
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	-10 <u>Result</u> 15 85		RL 1.0 1.0		Unit % %	<u>D</u>	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08	2342-3 x: Solid Dil Fac
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	-10 Result 15 85 Result 63		RL 1.0 1.0 RL		Unit % %	D	Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 21:51 Analyzed 0.00-8	2342-3 x: Solid Dil Fac 1 1 Dil Fac 1
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:26	-10 Result 15 85 Result 63		RL 1.0 1.0 RL		Unit % %	D	Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 21:51 Analyzed 0.00-8	2342-3 x: Solid Dil Fac 1 1 Dil Fac 1 2342-4
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:26 Date Received: 11/08/13 07:00	-10 Result 15 85 Result 63 -15		RL 1.0 1.0 RL	MDL	Unit % %	D	Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 21:51 Analyzed 0.00-8	2342-3 x: Solid Dil Fac 1 1 Dil Fac 1 2342-4
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:26 Date Received: 11/08/13 07:00 General Chemistry	-10 Result 15 85 Result 63 -15	Qualifier	RL 1.0 1.0 4.7	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 21:51 Analyzed Matri	2342-3 x: Solid Dil Fac 1 2342-4 x: Solid Dil Fac
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:26 Date Received: 11/05/13 07:00 General Chemistry Analyte	-10 Result 15 85 Result 63 -15 Result	Qualifier	RL 1.0 1.0 RL 4.7	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 21:51 Analyzed Analyzed	2342-3 x: Solid 1 1 2342-4 x: Solid Dil Fac 1 Dil Fac
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:26 Date Received: 11/05/13 14:26 Date Received: 11/05/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	-10 Result 15 85 Result 63 -15 Result 8.7 91	Qualifier	RL 1.0 1.0 4.7 RL 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared Lab San	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 21:51 Analyzed 11/10/13 12:08 11/10/13 12:08	2342-3 x: Solid Dil Fac 1 2342-4 x: Solid Dil Fac 1 1 1
Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:24 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-02 Date Collected: 11/05/13 14:26 Date Received: 11/05/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture Percent Solids	-10 Result 15 85 Result 63 -15 Result 8.7 91	Qualifier	RL 1.0 1.0 4.7	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 21:51 Analyzed Matri Analyzed 11/10/13 12:08	2342-3 x: Solid Dil Fac 1 2342-4 x: Solid Dil Fac 1

Client: ARCADIS U.S., Inc. Project/Site: HES Transfer Sites, Lea County NM TestAmerica Job ID: 600-82342-1

Date Collected: 11/05/13 14:30 Date Received: 11/08/13 07:00							Lab San	nple ID: 600-8 Matri	2342-5 x: Solid
General Chemistry						_			
Analyte		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	<u>¥</u>		11/19/13 22:22	1
Client Sample ID: VGWU61-01-02							Lab San	nple ID: 600-8	2342-6
Date Collected: 11/05/13 14:48								-	x: Solid
Date Received: 11/08/13 07:00								matri	x. 00110
 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	МОІ	Unit	D	Prepared	Analyzed	Dil Fac
	rtoount	quannor			onne		riopulou		Dirrao
Chloride Client Sample ID: VGWU61-01-05	830		21		mg/Kg	<u></u>	Lab San	11/19/13 22:38	
	830		21		mg/Kg		Lab San	nple ID: 600-8	
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50	830		21		mg/Kg	¥ -	Lab San	nple ID: 600-8	2342-7
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte		Qualifier	21 RL	RL	Unit	<u></u>	Lab San	nple ID: 600-8	2342-7
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00		Qualifier	RL 1.0	RL	Unit %			Analyzed 11/10/13 12:08	2342-7 x: Solid
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte	Result	Qualifier	RL	RL	Unit			n ple ID: 600-8 Matri Analyzed	2342-7 x: Solid Dil Fac
Chloride Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	Result 3.9	Qualifier	RL 1.0	RL	Unit %			Analyzed 11/10/13 12:08	2342-7 x: Solid
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	Result 3.9 96	Qualifier	RL 1.0 1.0 RL	RL	Unit %	D		Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed	2342-7 x: Solid Dil Fac
Chloride Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	Result 3.9 96		RL 1.0 1.0		Unit %	<u>D</u>	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08	2342-7 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	Result 3.9 96 Result		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 22:53	2342-7 x: Solid Dil Fac 1 1 Dil Fac 2
Chloride Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-01-10	Result 3.9 96 Result		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 22:53 Analyzed 11/19/13 22:53	2342-7 x: Solid Dil Fac 1 1 Dil Fac 2 2 2342-8
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	Result 3.9 96 Result		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 22:53 Analyzed 11/19/13 22:53	2342-7 x: Solid Dil Fac 1 1 Dil Fac 2
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-01-10 Date Collected: 11/05/13 14:52 Date Received: 11/08/13 07:00	Result 3.9 96 Result		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 22:53 Analyzed 11/19/13 22:53	2342-7 x: Solid Dil Fac 1 1 Dil Fac 2 2 2342-8
Chloride Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-01-10 Date Collected: 11/05/13 14:52	Result 3.9 96 Result 400		RL 1.0 1.0 RL	MDL	Unit % Wunit	D	Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 22:53 Analyzed 11/19/13 22:53	2342-7 x: Solid Dil Fac 1 1 Dil Fac 2 2 2342-8
Chloride Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-01-10 Date Collected: 11/05/13 14:52 Date Received: 11/08/13 07:00 General Chemistry	Result 3.9 96 Result 400	Qualifier	RL 1.0 1.0 RL 8.3	MDL	Unit % % Unit mg/Kg	D D	Prepared Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 22:53 Analyzed Matri	2342-7 x: Solid Dil Fac 1 Dil Fac 2 2342-8 x: Solid
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-01-10 Date Collected: 11/05/13 14:52 Date Received: 11/05/13 14:52 Date Received: 11/08/13 07:00 General Chemistry Analyte	Result 3.9 96 Result 400 Result	Qualifier	RL 1.0 1.0 RL 8.3	MDL	Unit % % Unit mg/Kg	D D	Prepared Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 22:53 Analyzed Analyzed	2342-7 x: Solid Dil Fac 1 Dil Fac 2 2342-8 x: Solid Dil Fac 1
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-01-10 Date Collected: 11/05/13 14:52 Date Received: 11/05/13 14:52 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	Result 3.9 96 Result 400 Result 20	Qualifier	RL 1.0 1.0 8.3	MDL	Unit % % Unit mg/Kg	D D	Prepared Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 22:53 Analyzed Matri Analyzed 11/10/13 12:08	2342-7 x: Solid Dil Fac 1 Dil Fac 2 2342-8 x: Solid
Chloride Client Sample ID: VGWU61-01-05 Date Collected: 11/05/13 14:50 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-01-10 Date Collected: 11/05/13 14:52 Date Received: 11/05/13 14:52 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture	Result 3.9 96 Result 400 Result 20 80	Qualifier	RL 1.0 1.0 8.3	MDL	Unit % % Wnit mg/Kg	D D	Prepared Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/19/13 22:53 Analyzed Matri Analyzed 11/10/13 12:08	2342-7 x: Solid Dil Fac 1 Dil Fac 2 2342-8 x: Solid Dil Fac 1

Client: ARCADIS U.S., Inc. Project/Site: HES Transfer Sites, Lea County NM TestAmerica Job ID: 600-82342-1

Date Collected: 11/05/13 14:54 Date Received: 11/08/13 07:00	-15						Lab San	nple ID: 600-8 Matri	2342-9 x: Solid
General Chemistry	Desult	Qualifian			11		Durana	Averbased	D!!
Analyte		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	<u></u>	-	11/19/13 23:24	1
Client Sample ID: VGWU61-01-	-20						Lab Sam	ole ID: 600-82	342-10
Date Collected: 11/05/13 14:56									x: 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
	42							11/20/13 00:42	1
•			4.2		mg/Kg		Lab Sam	ole ID: 600-82	
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00			4.2		ing/Kg		Lab Sam	ole ID: 600-82	342-11
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58	25	Qualifier	4.2 	RL	Unit	D	Lab Sam	ole ID: 600-82	342-11
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry	25	Qualifier		RL				ole ID: 600-82 Matri	342-11 x: Solid
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte	25 Result	Qualifier	RL	RL	Unit			ole ID: 600-82 Matri Analyzed	342-11 x: Solid Dil Fac
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	-25 Result 5.1	Qualifier	RL 1.0	RL	Unit %			Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08	342-11 x: Solid
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	-25 <u>Result</u> 5.1 95	Qualifier	RL 1.0 1.0 RL	RL	Unit %	D		Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed	342-11 x: Solid
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	-25 <u>Result</u> 5.1 95		RL 1.0 1.0		Unit %	D	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08	342-11 x: Solid Dil Fac
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	Result 5.1 95 Result 25		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed	342-11 x: Solid Dil Fac 1 1 Dil Fac 1
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	Result 5.1 95 Result 25		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 01:28 Die ID: 600-82	342-11 x: Solid Dil Fac 1 1 Dil Fac 1
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:15	Result 5.1 95 Result 25		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 01:28 Die ID: 600-82	342-11 x: Solid Dil Fac 1 1 Dil Fac 1 342-12
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:15 Date Received: 11/08/13 07:00	-25 Result 5.1 95 Result 25 -02		RL 1.0 1.0 RL	MDL	Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 01:28 Die ID: 600-82	342-11 x: Solid Dil Fac 1 1 Dil Fac 1 342-12
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:15 Date Received: 11/08/13 07:00 General Chemistry	-25 Result 5.1 95 Result 25 -02	Qualifier	RL 1.0 1.0 RL 4.2	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Malyzed 11/20/13 01:28 Die ID: 600-82 Matri	342-11 x: Solid Dil Fac 1 Dil Fac 1 342-12 x: Solid
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:15 Date Received: 11/05/13 07:00 General Chemistry Analyte	-25 Result 5.1 95 Result 25 -02 Result	Qualifier	RL 1.0 1.0 RL 4.2	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Malyzed Die ID: 600-82 Matri Analyzed	342-11 x: Solid Dil Fac 1 Dil Fac 1 342-12 x: Solid Dil Fac
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:15 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	-25 Result 5.1 95 Result 25 -02 Result 6.1	Qualifier	RL 1.0 1.0 4.2	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 11/20/13 01:28 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-11 x: Solid Dil Fac 1 1 Dil Fac 1 342-12 x: Solid Dil Fac 1
Client Sample ID: VGWU61-01- Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:15 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture Percent Solids	-25 Result 5.1 95 Result 25 -02 Result 6.1 94	Qualifier	RL 1.0 1.0 4.2	MDL	Unit % % Wnit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 11/20/13 01:28 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-11 x: Solid Dil Fac 1 1 Dil Fac 1 342-12 x: Solid Dil Fac 1

Client: ARCADIS U.S., Inc. Project/Site: HES Transfer Sites, Lea County NM TestAmerica Job ID: 600-82342-1

Date Collected: 11/05/13 15:17	-05						Lab Sam	ole ID: 600-82 Matri	342-13 x: Solid
Date Received: 11/08/13 07:00									
General Chemistry									
Analyte		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		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Chloride	550		8.6		mg/Kg	<u></u>		11/20/13 01:59	2
Client Sample ID: VGWU61-03-	-10						Lab Sam	ole ID: 600-82	342-14
Date Collected: 11/05/13 15:19								Matri	x: 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									
		0	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte	Result	Qualifier							
Analyte Chloride Client Sample ID: VGWU61-03-	190	Qualifier	4.1		mg/Kg	<u> </u>	Lab Sam	11/20/13 02:15	
Analyte	190	Quaimer				<u>*</u>	Lab Sam	ole ID: 600-82	
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00	190	Quaimer				<u>~</u>	Lab Sam	ole ID: 600-82	342-15
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21	190 - 15	Qualifier				☆ 	Lab Sam	ole ID: 600-82	342-15
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry	190 - 15		4.1		mg/Kg			ole ID: 600-82 Matri	342-15 x: Solid
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte	190 -15 Result		4.1		mg/Kg			ole ID: 600-82 Matri Analyzed	342-15 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	190 -15 Result 4.8		4.1 RL 1.0		Unit			Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08	342-15 x: Solid
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	190 -15 <u>Result</u> 4.8 95		4.1 RL 1.0		Unit %			Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08	342-15 x: Solid
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	190 -15 <u>Result</u> 4.8 95	Qualifier	4.1 RL 1.0 1.0	RL	Unit %	D	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08	342-15 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	190 -15 Result 4.8 95 Result 180	Qualifier	4.1 RL 1.0 1.0 RL	RL	Unit % Unit	D 	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08	342-15 x: Solid Dil Fac 1 Dil Fac 1
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03-	190 -15 Result 4.8 95 Result 180	Qualifier	4.1 RL 1.0 1.0 RL	RL	Unit % Unit	D 	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 02:30 Die ID: 600-82	342-15 x: Solid Dil Fac 1 Dil Fac 1 342-16
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	190 -15 Result 4.8 95 Result 180	Qualifier	4.1 RL 1.0 1.0 RL	RL	Unit % Unit	D 	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 02:30 Die ID: 600-82	342-15 x: Solid Dil Fac 1 Dil Fac 1 Dil Fac
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:23 Date Received: 11/08/13 07:00	190 -15 Result 4.8 95 Result 180	Qualifier	4.1 RL 1.0 1.0 RL	RL	Unit % Unit	D 	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 02:30 Die ID: 600-82	342-15 x: Solid Dil Fac 1 Dil Fac 1 342-16
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:23	190 -15 <u>Result</u> 4.8 95 <u>Result</u> 180 -20	Qualifier	4.1 RL 1.0 1.0 RL	RL	Unit % Unit	D 	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 02:30 Die ID: 600-82	342-15 x: Solid Dil Fac 1 Dil Fac 1 342-16
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:23 Date Received: 11/08/13 07:00 General Chemistry	190 -15 <u>Result</u> 4.8 95 <u>Result</u> 180 -20	Qualifier	4.1 RL 1.0 1.0 RL 4.2	RL	Unit % % Unit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 02:30 Die ID: 600-82 Matri	342-15 x: Solid Dil Fac 1 Dil Fac 1 342-16 x: Solid
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:23 Date Received: 11/05/13 07:00 General Chemistry Analyte	190 -15 <u>Result</u> 4.8 95 <u>Result</u> 180 -20 <u>Result</u>	Qualifier	4.1 RL 1.0 1.0 RL 4.2 RL	RL	Unit Unit Unit mg/Kg Unit	D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/20/13 02:30 Ole ID: 600-82: Matri	342-15 x: Solid Dil Fac 1 Dil Fac 1 342-16 x: Solid
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:23 Date Received: 11/05/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture Percent Solids	190 -15 Result 4.8 95 Result 180 -20 Result 5.2	Qualifier	4.1 RL 1.0 1.0 RL 4.2 RL 1.2	RL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Malyzed 11/20/13 02:30 Die ID: 600-82: Matri Analyzed 11/20/13 02:30 Die ID: 600-82: Matri Analyzed 11/10/13 12:08	342-15 x: Solid 1 1 Dil Fac 1 342-16 x: Solid Dil Fac 1
Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:21 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-03- Date Collected: 11/05/13 15:23 Date Received: 11/05/13 07:00 General Chemistry Analyte Percent Moisture	190 -15 Result 4.8 95 Result 180 -20 -20 Result 5.2 95	Qualifier	4.1 RL 1.0 1.0 RL 4.2 RL 1.2	RL	Unit % % Unit mg/Kg Unit % %	D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Malyzed 11/20/13 02:30 Die ID: 600-82: Matri Analyzed 11/20/13 02:30 Die ID: 600-82: Matri Analyzed 11/10/13 12:08	342-15 x: Solid Dil Fac 1 342-16 x: Solid Dil Fac 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 Date Collected: 11/05/13 15:25 Date Received: 11/08/13 07:00							Lab Samı	ole ID: 600-82 Matri	342-17 x: Solid
General Chemistry						_			
Analyte		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	<u></u>		11/20/13 04:03	2
Client Sample ID: VGWU61-04-02							Lab Sam	ole ID: 600-82	342-18
Date Collected: 11/05/13 16:02									x: Solid
Date Received: 11/08/13 07:00								Math	x. 00110
_ 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									
General Chemistry - Soluble		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result						rioparoa	Analyzou	Birrao
Analyte Chloride Client Sample ID: VGWU61-04-05	Result 4100		240		mg/Kg	<u> </u>	Lab Sam	11/20/13 04:19	
Analyte Chloride					mg/Kg	\vec{1}{2}	Lab Sam	ole ID: 600-82	
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04			240		mg/Kg	<u>~</u>	Lab Samı	ole ID: 600-82	342-19
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte	4100 Result	Qualifier	240	RL	Unit	D	Lab Sam	Die ID: 600-82 Matri Analyzed	342-19 x: Solid
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	4100 Result 23		240 	RL	Unit %			Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-19 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte	4100 Result		240	RL	Unit			Die ID: 600-82 Matri Analyzed	342-19 x: Solid
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	4100 Result 23		240 	RL	Unit %			Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-19 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	4100 Result 23 77		240 	RL	Unit %	D		Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-19 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	4100 Result 23 77	Qualifier	240 RL 1.0 1.0		Unit %	D	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08	342-19 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	4100 Result 23 77 Result	Qualifier	240 RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08	342-19 x: Solid Dil Fac 1 1 Dil Fac 50
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-10	4100 Result 23 77 Result	Qualifier	240 RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 04:34 Die ID: 600-82	342-19 x: Solid Dil Fac 1 1 1 Dil Fac 50 342-20
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	4100 Result 23 77 Result	Qualifier	240 RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 04:34 Die ID: 600-82	342-19 x: Solid Dil Fac 1 1 Dil Fac 50
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-10 Date Collected: 11/05/13 16:06 Date Received: 11/08/13 07:00	4100 Result 23 77 Result	Qualifier	240 RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 04:34 Die ID: 600-82	342-19 x: Solid Dil Fac 1 1 1 Dil Fac 50 342-20
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-10 Date Collected: 11/05/13 16:06 Date Received: 11/08/13 07:00 General Chemistry	4100 Result 23 77 Result 3300	Qualifier	240 RL 1.0 1.0 RL 260	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 04:34 Die ID: 600-82 Matri	342-19 x: Solid Dil Fac 1 1 Dil Fac 50 342-20 x: Solid
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-10 Date Collected: 11/05/13 16:06 Date Received: 11/08/13 07:00 General Chemistry Analyte	4100 Result 23 77 Result 3300 Result	Qualifier	240 RL 1.0 1.0 RL	MDL	Unit % Wunit	D	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Malyzed 11/20/13 04:34 Die ID: 600-82 Matri	342-19 x: Solid Dil Fac 1 1 1 Dil Fac 50 342-20
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-10 Date Collected: 11/05/13 16:06 Date Received: 11/08/13 07:00 General Chemistry	4100 Result 23 77 Result 3300	Qualifier	240 RL 1.0 1.0 RL 260 RL	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 04:34 Dle ID: 600-82 Matri	342-19 x: Solid Dil Fac 1 1 Dil Fac 50 342-20 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-10 Date Collected: 11/05/13 16:06 Date Received: 11/05/13 16:06 Date Received: 11/05/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture Percent Solids	4100 Result 23 77 Result 3300 Result 9.5	Qualifier	240 RL 1.0 1.0 RL 260 RL 1.0	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 04:34 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-19 x: Solid Dil Fac 1 1 Dil Fac 50 342-20 x: Solid Dil Fac 1 1
Analyte Chloride Client Sample ID: VGWU61-04-05 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-10 Date Collected: 11/05/13 16:06 Date Received: 11/05/13 16:06 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	4100 Result 23 77 Result 3300 Result 9.5 91	Qualifier	240 RL 1.0 1.0 RL 260 RL 1.0	MDL	Unit % % Wnit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 04:34 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-19 x: Solid Dil Fac 1 1 1 Dil Fac 50 342-20 x: Solid Dil Fac 1

Client: ARCADIS U.S., Inc. Project/Site: HES Transfer Sites, Lea County NM TestAmerica Job ID: 600-82342-1

Date Collected: 11/05/13 16:08 Date Received: 11/08/13 07:00	5						Lab Sam	ole ID: 600-82 Matri	342-21 ix: Solid
General Chemistry									
Analyte		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	<u>Å</u>		11/20/13 05:05	1
Client Sample ID: VGWU61-04-20	0						Lab Sam	ole ID: 600-82	342-22
Date Collected: 11/05/13 16:10									ix: 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									
				МП	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							Diriao
Analyte Chloride Client Sample ID: VGWU61-02-20	79	Qualifier	<u>RL</u> 4.2		mg/Kg	2	-	11/20/13 05:21	
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28	79	Qualifier					-	ole ID: 600-82	1 342-23 ix: Solid
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry	79 D		4.2		mg/Kg		Lab Sam	ole ID: 600-82 Matri	ix: Solid
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte	79 D Result	Qualifier	4.2		mg/Kg		-	ole ID: 600-82 Matri Analyzed	ix: Solid
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	79 D Result 9.0		4.2 RL 1.0		Unit		Lab Sam	Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08	Dil Fac
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte	79 D Result		4.2		mg/Kg		Lab Sam	ole ID: 600-82 Matri Analyzed	ix: Solid
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	79 0 Result 9.0 91	Qualifier	4.2 RL 1.0 1.0	RL	Unit %	<u> </u>	Lab Sam	Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08	Dil Fac
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	79 0 Result 9.0 91		4.2 RL 1.0 1.0 RL	RL	Unit	<u>D</u>	Lab Sam	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08	Dil Fac
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	79 0 Result 9.0 91	Qualifier	4.2 RL 1.0 1.0	RL	Unit %	<u> </u>	Lab Sam	Analyzed 11/10/13 12:08 11/10/13 12:08	Dil Fac
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	79 0 Result 9.0 91 Result 19	Qualifier	4.2 RL 1.0 1.0 RL	RL	Unit % Unit	<u>D</u>	Lab Sam	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08	Dil Fac 1 1 Dil Fac 1 1
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-23	79 0 Result 9.0 91 Result 19	Qualifier	4.2 RL 1.0 1.0 RL	RL	Unit % Unit	<u>D</u>	Lab Sam	Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08 11/10/13 12:08 - <u>Analyzed</u> 11/20/13 05:36 Die ID: 600-82	Dil Fac 1 1 1 Dil Fac 1 342-24
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-25 Date Collected: 11/05/13 16:12	79 0 Result 9.0 91 Result 19	Qualifier	4.2 RL 1.0 1.0 RL	RL	Unit % Unit	<u>D</u>	Lab Sam	Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08 11/10/13 12:08 - <u>Analyzed</u> 11/20/13 05:36 Die ID: 600-82	Dil Fac
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-25 Date Collected: 11/05/13 16:12 Date Received: 11/08/13 07:00	79 0 Result 9.0 91 Result 19	Qualifier	4.2 RL 1.0 1.0 RL	RL	Unit % Unit	<u>D</u>	Lab Sam	Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08 11/10/13 12:08 - <u>Analyzed</u> 11/20/13 05:36 Die ID: 600-82	Dil Fac 1 1 1 Dil Fac 1 342-24
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-29 Date Collected: 11/05/13 16:12 Date Received: 11/08/13 07:00 General Chemistry	79 0 <u>Result</u> 9.0 91 <u>Result</u> 19 5	Qualifier	4.2 RL 1.0 1.0 RL 4.4	RL	Unit % % Unit mg/Kg	D	Lab Sam	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 05:36 Die ID: 600-82 Matri	Dil Fac 1 1 1 1 1 342-24 ix: Solid
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-25 Date Collected: 11/05/13 16:12 Date Received: 11/05/13 07:00 General Chemistry Analyte	79 0 <u>Result</u> 9.0 91 <u>Result</u> 19 5 <u>Result</u>	Qualifier	4.2 RL 1.0 1.0 RL 4.4	RL	Unit % % Unit mg/Kg	<u>D</u>	Lab Sam	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed Die ID: 600-82 Matri Analyzed	Dil Fac 1 1 1 Dil Fac 1 342-24
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-22 Date Collected: 11/05/13 16:12 Date Received: 11/08/13 07:00 General Chemistry	79 0 <u>Result</u> 9.0 91 <u>Result</u> 19 5	Qualifier	4.2 RL 1.0 1.0 RL 4.4	RL	Unit % % Unit mg/Kg	D	Lab Sam	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 05:36 Die ID: 600-82 Matri	Dil Fac 1 1 1 1 1 342-24 ix: Solid
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-29 Date Collected: 11/05/13 16:12 Date Received: 11/05/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture Percent Solids	79 0 Result 9.0 91 Result 19 5 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	Qualifier	4.2 RL 1.0 1.0 RL 4.4 RL 1.0	RL	Unit % % Unit mg/Kg	D	Lab Sam	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Malyzed 11/20/13 05:36 Die ID: 600-82 Matri Analyzed 11/20/13 05:36 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	Dil Fac 1 Dil Fac 1 1 Dil Fac 1 342-24 ix: Solid Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1
Analyte Chloride Client Sample ID: VGWU61-02-20 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-04-29 Date Collected: 11/05/13 16:12 Date Received: 11/05/13 07:00 General Chemistry Analyte Percent Moisture	79 0 Result 9.0 91 Result 19 5 7 8 8 8 8 8 8 95	Qualifier	4.2 RL 1.0 1.0 RL 4.4 RL 1.0	RL MDL	Unit % % Unit mg/Kg	D	Lab Sam	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Malyzed 11/20/13 05:36 Die ID: 600-82 Matri Analyzed 11/20/13 05:36 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	Dil Fac 1 Dil Fac 1 1 Dil Fac 1 342-24 ix: Solid Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1

Client: ARCADIS U.S., Inc. Project/Site: HES Transfer Sites, Lea County NM TestAmerica Job ID: 600-82342-1

Date Collected: 11/06/13 09:05 Date Received: 11/08/13 07:00	02						Lab Sam	ole ID: 600-82 Matri	342-25 x: Solid
General Chemistry	Decult	Qualifier	RL	ы	Unit	D	Drenered	Analyzad	Dil Fac
Analyte			KL	KL	01111 %		Prepared	Analyzed 11/10/13 12:08	1
Percent Moisture Percent Solids	24 76		1.0		%			11/10/13 12:08	1
-	10		1.0		70			11/10/13 12:00	
_ General Chemistry - Soluble									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	570	B	10		mg/Kg	<u></u>		11/20/13 07:40	2
Client Sample ID: VGWU61-05-0	05						Lab Sam	ole ID: 600-82	342-26
Date Collected: 11/06/13 09:07									x: 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									
	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte									
	490		8.3		mg/Kg	<u> </u>	Lab Sam	11/20/13 07:56	2 342-27 x: Solid
	490		8.3		mg/Kg	× .	Lab Sam	ole ID: 600-82	342-27
Chloride Client Sample ID: VGWU61-05-7 Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00	490 10		8.3	RL	mg/Kg Unit	× .	Lab Sam	ole ID: 600-82	342-27
Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00	490 10	B		RL				ole ID: 600-82 Matri	342-27 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00 General Chemistry Analyte	490 10 Result	B	RL	RL	Unit			ole ID: 600-82 Matri Analyzed	342-27 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-05-7 Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	490 10 Result 18	B	RL 1.0	RL	Unit %			Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08	342-27 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-05-7 Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	490 10 Result 18 82	B	RL 1.0 1.0 RL	RL	Unit %	D		Analyzed 11/10/13 12:08 11/10/13 12:08	342-27 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-05-7 Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	490 10 Result 18 82	Qualifier	RL 1.0 1.0		Unit %	D	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08	342-27 x: Solid Dil Fac
Chloride Chloride Chloride Client Sample ID: VGWU61-05-7 Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-05-7 Date Collected: 11/06/13 09:11	490 10 Result 18 82 Result 190	Qualifier	RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 14:56 Die ID: 600-82	342-27 x: Solid Dil Fac 1 Dil Fac 1 342-28
Chloride Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:11 Date Received: 11/08/13 07:00	490 10 Result 18 82 Result 190	Qualifier	RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 14:56 Die ID: 600-82	342-27 x: Solid 1 1 1 1 1 1 342-28
Chloride Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:11 Date Received: 11/08/13 07:00 General Chemistry	490 10 Result 18 82 Result 190	Qualifier Qualifier	RL 1.0 1.0 RL 4.9	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 0 Analyzed 11/20/13 14:56 0 11 10 11/20/13 14:56 0 11	342-27 x: Solid Dil Fac 1 Dil Fac 1 342-28 x: Solid
Chloride Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:11 Date Received: 11/08/13 07:00 General Chemistry Analyte	490 10 Result 18 82 Result 190 15 Result	Qualifier	RL 1.0 1.0 RL 4.9	MDL	Unit % % Unit mg/Kg	D	Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 14:56 Die ID: 600-82 Matri Analyzed	342-27 x: Solid
Chloride Chloride Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:11 Date Received: 11/08/13 07:00 General Chemistry	490 10 Result 18 82 Result 190	Qualifier Qualifier	RL 1.0 1.0 RL 4.9	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 0 Analyzed 11/20/13 14:56 0 11 10 11/20/13 14:56 0 11	342-27 x: Solid Dil Fac Dil Fac 1 342-28 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:09 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-05- Date Collected: 11/06/13 09:11 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture Percent Solids	490 10 Result 18 82 Result 190 15 Result 28	Qualifier Qualifier	RL 1.0 1.0 4.9 RL 4.9	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 14:56 Die ID: 600-82 Matri Analyzed 11/20/13 14:56 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-27 x: Solid 1 1 Dil Fac 1 342-28 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-05- Client Sample ID: VGWU61-05- Client Solucted: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-05- Client Sample ID:	490 10 Result 18 82 Result 190 15 Result 28 72	Qualifier Qualifier	RL 1.0 1.0 4.9 RL 4.9	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 14:56 Die ID: 600-82 Matri Analyzed 11/20/13 14:56 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-27 x: Solid Dil Fac 1 Dil Fac 1 342-28

Client: ARCADIS U.S., Inc. Project/Site: HES Transfer Sites, Lea County NM TestAmerica Job ID: 600-82342-1

Date Collected: 11/06/13 09:13 Date Received: 11/08/13 07:00	20						Lab Sam	ole ID: 600-82 Matri	342-29 x: Solid
General Chemistry						_			
Analyte		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		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	200		4.3		mg/Kg	<u></u>		11/20/13 15:27	1
Client Sample ID: VGWU61-05-	25						Lab Sam	ole ID: 600-82	342-30
Date Collected: 11/06/13 09:15 Date Received: 11/08/13 07:00									x: Solid
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 Client Sample ID: VGWU61-06-	130 02		4.3		mg/Kg	<u>\$</u>	Lab Sam	11/20/13 15:42	
Chloride			4.3		mg/Kg		Lab Samı	ole ID: 600-82	
Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00	02	Qualifier	4.3 	RL	mg/Kg Unit	© D	Lab Samp	ole ID: 600-82	342-31 x: Solid
Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry	02	Qualifier		RL				ole ID: 600-82 Matri	342-31 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte	02 Result	Qualifier	RL	RL	Unit			ole ID: 600-82 Matri Analyzed	342-31 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	02 <u>Result</u> 2.2	Qualifier	RL 1.0	RL	Unit %			Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08	342-31 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	02 <u>Result</u> 2.2 98	Qualifier	RL 1.0		Unit %	D		Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 12:08	342-31 x: Solid
Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	02 <u>Result</u> 2.2 98		RL 1.0 1.0		Unit %	D	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08	342-31 x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	02 <u>Result</u> 2.2 98 <u>Result</u> 1100		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri - Analyzed 11/10/13 12:08 11/10/13 12:08 - Analyzed 11/20/13 16:29 Die ID: 600-82	342-31 x: Solid Dil Fac 1 Dil Fac 5
Chloride Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:02	02 <u>Result</u> 2.2 98 <u>Result</u> 1100		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri - Analyzed 11/10/13 12:08 11/10/13 12:08 - Analyzed 11/20/13 16:29 Die ID: 600-82	342-31 x: Solid Dil Fac 1 Dil Fac 5 342-32
Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:02 Date Received: 11/08/13 07:00 General Chemistry Analyte	02 <u>Result</u> 2.2 98 <u>Result</u> 1100 05		RL 1.0 1.0 RL 20	MDL	Unit % % Unit mg/Kg	D	Prepared	Die ID: 600-82 Matri - Analyzed 11/10/13 12:08 11/10/13 12:08 - Analyzed 11/20/13 16:29 Die ID: 600-82	342-31 x: Solid Dil Fac 1 1 Dil Fac 5 342-32 x: Solid
Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:02 Date Received: 11/08/13 07:00 General Chemistry	02 <u>Result</u> 2.2 98 <u>Result</u> 1100 05	Qualifier	RL 1.0 1.0 20	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 16:29 Die ID: 600-82 Matri	342-31 x: Solid Dil Fac 1 Dil Fac 5 342-32 x: Solid Dil Fac
Chloride Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:02 Date Received: 11/08/13 07:00 General Chemistry Analyte	02 Result 2.2 98 Result 1100 05 Result	Qualifier	RL 1.0 1.0 RL 20	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Malyzed Die ID: 600-82 Matri Analyzed	342-31 x: Solid Dil Fac 1 Dil Fac 5 342-32 x: Solid Dil Fac
Chloride Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:02 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture	02 Result 2.2 98 Result 1100 05 Result 4.6	Qualifier	RL 1.0 1.0 20	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Malyzed 11/20/13 16:29 Die ID: 600-82 Matri Analyzed 11/20/13 16:29 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-31 x: Solid 1 1 Dil Fac 5 342-32 x: Solid Dil Fac 1
Chloride Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:00 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:02 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture Percent Solids	02 Result 2.2 98 Result 1100 05 Result 4.6 95	Qualifier	RL 1.0 1.0 20	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Malyzed 11/20/13 16:29 Die ID: 600-82 Matri Analyzed 11/20/13 16:29 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-31 x: Solid 1 1 Dil Fac 5 342-32 x: Solid Dil Fac 1

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Client Sample ID: VGWU61-06- Date Collected: 11/06/13 10:04 Date Received: 11/08/13 07:00	10						Lab Sam	ole ID: 600-82 Matri	342-33 x: Solid
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	<u>Å</u>		11/20/13 17:31	1
Client Sample ID: VGWU61-07-	02						Lab Sam	ole ID: 600-82	342-34
Date Collected: 11/06/13 10:30									x: 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									
		Qualifian	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte	Result	Quaimer							
	1400		41		mg/Kg	<u></u>	Lab Sam	11/20/13 17:46	10 342-35
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00	1400				mg/Kg	<u>~</u>	Lab Samı	ole ID: 600-82	
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry	1400 05		41	RL				ole ID: 600-82 Matri	342-35 x: Solid
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte	1400 05 Result	Qualifier	41 	RL	Unit	<u>×</u>	Lab Samp	Die ID: 600-82 Matri Analyzed	342-35
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry	1400 05		41	RL				ole ID: 600-82 Matri	342-35 x: Solid
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	1400 05 Result 12		41 RL 1.0	RL	Unit %			Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-35 x: Solid
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	1400 05 Result 12 88		41 RL 1.0	RL	Unit %			Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-35 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	1400 05 Result 12 88	Qualifier	41 RL 1.0 1.0		Unit %	D	Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08	342-35 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	1400 05 Result 12 88 Result 3700	Qualifier	41 RL 1.0 1.0 RL		Unit % Wunit	D D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 <u>Analyzed</u> 11/20/13 18:02 Die ID: 600-82	342-35 x: Solid Dil Fac 1 1 Dil Fac 100
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-07-7 Date Collected: 11/06/13 10:34 Date Received: 11/08/13 07:00	1400 05 Result 12 88 Result 3700	Qualifier	41 RL 1.0 1.0 RL		Unit % Wunit	D D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 <u>Analyzed</u> 11/20/13 18:02 Die ID: 600-82	342-35 x: Solid Dil Fac 1 1 1 Dil Fac 100 342-36
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-07-7 Date Collected: 11/06/13 10:34 Date Received: 11/08/13 07:00 General Chemistry	1400 05 Result 12 88 Result 3700	Qualifier	41 RL 1.0 1.0 RL 450	MDL	Unit % % Unit mg/Kg	D D	Prepared Prepared	Analyzed 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 18:02 Die ID: 600-82 Matri	342-35 x: Solid Dil Fac 1 1 1 Dil Fac 100 342-36
Analyte Chloride Client Sample ID: VGWU61-07-1 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-07-7 Date Collected: 11/06/13 10:34 Date Received: 11/08/13 07:00 General Chemistry Analyte	1400 05 Result 12 88 Result 3700 10 Result	Qualifier	41 RL 1.0 1.0 RL 450 RL	MDL	Unit % Wunit	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 <u>Analyzed</u> 11/20/13 18:02 Die ID: 600-82	342-35 x: Solid Dil Fac 1 Dil Fac 100 342-36 x: Solid
Analyte Chloride Client Sample ID: VGWU61-07-0 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-07-7 Date Collected: 11/06/13 10:34 Date Received: 11/08/13 07:00 General Chemistry	1400 05 Result 12 88 Result 3700	Qualifier	41 RL 1.0 1.0 RL 450	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 18:02 Die ID: 600-82 Matri Analyzed	342-35 x: Solid Dil Fac 1 Dil Fac 100 342-36 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-07-1 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-07-7 Date Collected: 11/06/13 10:34 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture Percent Solids	1400 05 Result 12 88 Result 3700 10 Result 4.9	Qualifier	41 RL 1.0 1.0 RL 450 RL 1.0	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 18:02 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-35 x: Solid Dil Fac 1 1 Dil Fac 100 342-36 x: Solid Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1
Analyte Chloride Client Sample ID: VGWU61-07-1 Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-07-7 Date Collected: 11/06/13 10:34 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	1400 05 Result 12 88 Result 3700 10 Result 4.9 95	Qualifier	41 RL 1.0 1.0 RL 450 RL 1.0	MDL	Unit % % Wnit mg/Kg	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 12:08 11/10/13 12:08 Analyzed 11/20/13 18:02 Die ID: 600-82 Matri Analyzed 11/10/13 12:08	342-35 x: Solid Dil Fac 1 1 Dil Fac 100 342-36 x: Solid Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1

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Client Sample ID: VGWU61-07-15 Date Collected: 11/06/13 10:36 Date Received: 11/08/13 07:00)						Lab Samı	ole ID: 600-82 Matri	342-37 x: Solid
General Chemistry									
Analyte		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 Sam	ole ID: 600-82	342-38
Date Collected: 11/06/13 10:38									x: 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									
	Popult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Analyte						-		· · · · · , - · · ·	
	27		4.2		mg/Kg	<u> </u>	Lab Sam	11/20/13 19:19	
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00	27		4.2		mg/Kg	x	Lab Sam	ole ID: 600-82	1 342-39 x: Solid
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry	27			RL				ole ID: 600-82 Matri	x: Solid
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte	27 Result	Qualifier	RL	RL	Unit	<u> </u>	Lab Sam	ole ID: 600-82 Matri Analyzed	
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry	27			RL				ole ID: 600-82 Matri	x: Solid
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	27 Result 28		RL 1.0	RL	Unit %			Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 13:47	x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	27 Result 28 72	Qualifier	RL 1.0 1.0		Unit %	<u> </u>	Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47	x: Solid Dil Fac
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	27 Result 28 72 Result		RL 1.0 1.0 RL	RL	Unit % Wunit	<u>D</u>		Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed	Dil Fac
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	27 Result 28 72	Qualifier	RL 1.0 1.0		Unit %	<u> </u>	Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47	Dil Fac 1
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	27 Result 28 72 Result 23	Qualifier	RL 1.0 1.0 RL		Unit % Wunit	<u>D</u>	Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed	x: Solid Dil Fac 1 1 Dil Fac 1
Chloride Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	27 Result 28 72 Result 23	Qualifier	RL 1.0 1.0 RL		Unit % Wunit	<u>D</u>	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/20/13 20:37 Die ID: 600-82	x: Solid Dil Fac 1 1 Dil Fac 1
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06-15	27 Result 28 72 Result 23	Qualifier	RL 1.0 1.0 RL		Unit % Wunit	<u>D</u>	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/20/13 20:37 Die ID: 600-82	x: Solid Dil Fac 1 1 Dil Fac 1 342-40
Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06-15 Date Collected: 11/06/13 10:06	27 Result 28 72 Result 23	Qualifier	RL 1.0 1.0 RL		Unit % Wunit	<u>D</u>	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/20/13 20:37 Die ID: 600-82	x: Solid Dil Fac 1 1 Dil Fac 1 342-40
Chloride Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06-15 Date Collected: 11/06/13 10:06 Date Received: 11/08/13 07:00	27 Result 28 72 Result 23	Qualifier	RL 1.0 1.0 RL	MDL	Unit % Wunit	<u>D</u>	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/20/13 20:37 Die ID: 600-82	x: Solid Dil Fac 1 1 Dil Fac 1 342-40
Chloride Chloride Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06-15 Date Collected: 11/06/13 10:06 Date Received: 11/08/13 07:00 General Chemistry	27 Result 28 72 Result 23	Qualifier	RL 1.0 1.0 RL 5.5	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 20:37 Die ID: 600-82 Matri	x: Solid Dil Fac 1 1 Dil Fac 1 342-40 x: Solid
Chloride Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06-15 Date Collected: 11/06/13 10:06 Date Received: 11/08/13 07:00 General Chemistry Analyte	27 Result 28 72 Result 23 Result	Qualifier	RL 1.0 1.0 RL 5.5	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 20:37 Die ID: 600-82 Matri Analyzed	x: Solid Dil Fac 1 1 Dil Fac 1 342-40 x: Solid Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1
Chloride Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06-15 Date Collected: 11/06/13 10:06 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	27 Result 28 72 Result 23 6 72 72 72 72 72 72 72 72	Qualifier	RL 1.0 1.0 S.5	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 20:37 Die ID: 600-82 Matri Analyzed 11/20/13 13:47	x: Solid Dil Fac 1 1 Dil Fac 1 342-40 x: Solid Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1
Chloride Chloride Client Sample ID: VGWU61-07-25 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-06-15 Date Collected: 11/06/13 10:06 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture	27 Result 28 72 Result 23 5 72 Result 23 5 72 8 92	Qualifier	RL 1.0 1.0 S.5	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 20:37 Die ID: 600-82 Matri Analyzed 11/20/13 13:47	x: Solid Dil Fac 1 1 Dil Fac 1 342-40 x: Solid

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Date Collected: 11/06/13 10:08	20						Lab Sam	ole ID: 600-82 Matri	342-41 x: 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	<u></u>		11/20/13 21:08	1
Client Sample ID: VGWU61-06-	25						Lab Sam	ole ID: 600-82	342-42
Date Collected: 11/06/13 10:10	20						Lub Ourin		x: Solid
Date Received: 11/08/13 07:00								Watri	x. 3011u
 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	Posult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		4.2	MDL	mg/Kg	— <u> </u>	riepaieu	11/20/13 21:23	1
	110		=					11120110 21120	
_	02						Lab Sam	ole ID: 600-82	342-43
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30	02						Lab Sam	ole ID: 600-82 Matri	342-43 x: Solid
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30	02						Lab Sam		
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00		Qualifier	RL	RL	Unit	D	Lab Sam		
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry		Qualifier	RL 1.0	RL	Unit %	D		Matri	x: Solid
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte	Result	Qualifier		RL		D		Matri	x: Solid
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	Result 18	Qualifier	1.0	RL	%	D		Matri Analyzed 11/10/13 13:47	Dil Fac
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	Result 18 82	Qualifier	1.0	RL	%	D		Matri Analyzed 11/10/13 13:47	Dil Fac
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	Result 18 82		1.0 1.0		%		Prepared	Matri Analyzed 11/10/13 13:47 11/10/13 13:47	Dil Fac 1
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	Result 18 82 Result 1300		1.0 1.0 RL		% % Unit	D	Prepared	Matri Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed	x: Solid Dil Fac 1 1 Dil Fac 5
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	Result 18 82 Result 1300		1.0 1.0 RL		% % Unit	D	Prepared	Matri Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 21:39 Die ID: 600-82	x: Solid Dil Fac 1 1 Dil Fac 5
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08-	Result 18 82 Result 1300		1.0 1.0 RL		% % Unit	D	Prepared	Matri Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 21:39 Die ID: 600-82	2011 Fac Dil Fac 1 1 Dil Fac 5 342-44
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:32	Result 18 82 Result 1300		1.0 1.0 RL	MDL	% % Unit mg/Kg	D	Prepared	Matri Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 21:39 Die ID: 600-82	2011 Fac Dil Fac 1 1 Dil Fac 5 342-44
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:32 Date Received: 11/08/13 07:00 General Chemistry Analyte	Result 18 82 Result 1300		1.0 1.0 RL 24	MDL	% % Unit mg/Kg	D	Prepared	Matri Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed Die ID: 600-82 Matri Analyzed	2011 Fac Dil Fac 1 1 Dil Fac 5 342-44
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:32 Date Received: 11/08/13 07:00 General Chemistry	Result 18 82 Result 1300	Qualifier	1.0 1.0 RL 24 RL 1.0	MDL	% % Unit mg/Kg Unit %	<u> </u>	Prepared Prepared	Matri Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 21:39 Die ID: 600-82 Matri Analyzed 11/10/13 13:47	x: Solid Dil Fac 1 1 1 Dil Fac 5 342-44 x: Solid
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:32 Date Received: 11/08/13 07:00 General Chemistry Analyte	Result 18 82 Result 1300 05 Result	Qualifier	1.0 1.0 RL 24	MDL	% % Unit mg/Kg	<u> </u>	Prepared Prepared	Matri Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed Die ID: 600-82 Matri Analyzed	x: Solid Dil Fac 1 1 1 Dil Fac 5 342-44 x: Solid Dil Fac
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	Result 18 82 Result 1300 05 Result 3.1	Qualifier	1.0 1.0 RL 24 RL 1.0	MDL	% % Unit mg/Kg Unit %	<u> </u>	Prepared Prepared	Matri Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 21:39 Die ID: 600-82 Matri Analyzed 11/10/13 13:47	x: Solid Dil Fac 1 1 Dil Fac 5 342-44 x: Solid Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1
Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08- Date Collected: 11/06/13 11:32 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture Percent Solids	Result 18 82 Result 1300 05 Result 3.1 97	Qualifier	1.0 1.0 RL 24 RL 1.0	MDL	% % Unit mg/Kg	<u> </u>	Prepared Prepared	Matri Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 21:39 Die ID: 600-82 Matri Analyzed 11/10/13 13:47	x: Solid Dil Fac 1 1 Dil Fac 5 342-44 x: Solid Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1

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 Date Collected: 11/06/13 11:34 Date Received: 11/08/13 07:00							Lab Sam	ole ID: 600-82 Matri	342-45 x: Solid
General Chemistry									
Analyte		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		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	380		9.5		mg/Kg	<u></u>		11/20/13 22:56	2
Client Sample ID: VGWU61-08-15							Lab Sam	ole ID: 600-82	342-46
Date Collected: 11/06/13 11:36									x: 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									
Scheral Shernistry - Schable	Desult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result					_		/	
Analyte Chloride Client Sample ID: VGWU61-08-20	270		9.7		mg/Kg	<u></u>	Lab Sam	11/20/13 23:43	
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00					mg/Kg	<u> </u>	Lab Sam	ole ID: 600-82	
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry	270		9.7	PI				ole ID: 600-82 Matri	342-47 x: Solid
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte	270 Result	Qualifier	9.7	RL	Unit	<u></u>	Lab Sam	ole ID: 600-82 Matri Analyzed	342-47 x: Solid
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	270 Result 16		9.7 RL 1.0	RL	Unit %			Die ID: 600-82 Matri Analyzed 11/10/13 13:47	342-47 x: Solid
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte	270 Result		9.7	RL	Unit			ole ID: 600-82 Matri Analyzed	342-47 x: Solid
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	270 Result 16 84	Qualifier	9.7 RL 1.0		Unit %	<u>D</u>		Die ID: 600-82 Matri Analyzed 11/10/13 13:47	342-47 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	270 Result 16 84		9.7 RL 1.0 1.0 RL	RL	Unit %	<u>D</u>		Analyzed 11/10/13 13:47 11/10/13 13:47 Analyzed	342-47 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	270 Result 16 84	Qualifier	9.7 RL 1.0 1.0		Unit %	<u>D</u>	Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47	342-47 x: Solid Dil Fac
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	270 Result 16 84 Result	Qualifier	9.7 RL 1.0 1.0 RL		Unit % Wunit	<u>D</u>	Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 23:58	342-47 x: Solid Dil Fac 1 1 Dil Fac 2
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08-25	270 Result 16 84 Result	Qualifier	9.7 RL 1.0 1.0 RL		Unit % Wunit	<u>D</u>	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/20/13 23:58 Die ID: 600-82	342-47 x: Solid Dil Fac 1 1 Dil Fac 2 342-48
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	270 Result 16 84 Result	Qualifier	9.7 RL 1.0 1.0 RL		Unit % Wunit	<u>D</u>	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/20/13 23:58 Die ID: 600-82	342-47 x: Solid Dil Fac 1 Dil Fac 2
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08-25 Date Collected: 11/06/13 11:40 Date Received: 11/08/13 07:00	270 Result 16 84 Result	Qualifier	9.7 RL 1.0 1.0 RL		Unit % Wunit	<u>D</u>	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/20/13 23:58 Die ID: 600-82	342-47 x: Solid Dil Fac 1 1 Dil Fac 2 342-48
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08-25 Date Collected: 11/06/13 11:40	270 Result 16 84 Result 390	Qualifier	9.7 RL 1.0 1.0 RL	MDL	Unit % Wunit	<u>D</u>	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/20/13 23:58 Die ID: 600-82	342-47 x: Solid Dil Fac 1 1 Dil Fac 2 342-48
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08-25 Date Collected: 11/06/13 11:40 Date Received: 11/08/13 07:00 General Chemistry	270 Result 16 84 Result 390	Qualifier	9.7 RL 1.0 1.0 RL 9.6	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 23:58 Die ID: 600-82 Matri	342-47 x: Solid Dil Fac 1 Dil Fac 2 342-48 x: Solid
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08-25 Date Collected: 11/06/13 11:40 Date Received: 11/08/13 07:00 General Chemistry Analyte	270 Result 16 84 Result 390	Qualifier	9.7 RL 1.0 1.0 RL 9.6 RL	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 23:58 Die ID: 600-82 Matri Analyzed	342-47 x: Solid Dil Fac 1 1 Dil Fac 2 342-48 x: Solid Dil Fac 1
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08-25 Date Collected: 11/06/13 11:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture Percent Solids	270 Result 16 84 Result 390 Result 28	Qualifier	9.7 RL 1.0 1.0 RL 9.6 RL 1.0	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 23:58 Die ID: 600-82 Matri Analyzed 11/20/13 13:47	342-47 x: Solid Dil Fac 1 1 Dil Fac 2 342-48 x: Solid Dil Fac 1
Analyte Chloride Client Sample ID: VGWU61-08-20 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-08-25 Date Collected: 11/06/13 11:40 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture	270 Result 16 84 Result 390 Result 28 72	Qualifier	9.7 RL 1.0 1.0 RL 9.6 RL 1.0	MDL	Unit % % Wnit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/20/13 23:58 Die ID: 600-82 Matri Analyzed 11/20/13 13:47	342-47 x: Solid Dil Fac 1 Dil Fac 2 342-48 x: Solid
Client Sample Results

Client: ARCADIS U.S., Inc. Project/Site: HES Transfer Sites, Lea County NM TestAmerica Job ID: 600-82342-1

Date Collected: 11/06/13 11:10 Date Received: 11/08/13 07:00							Lab Sam	ole ID: 600-82 Matri	342-49 ix: Solid
General Chemistry									
Analyte		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 Sam	ole ID: 600-82	342-50
Date Collected: 11/06/13 11:12									ix: Solid
Date Received: 11/08/13 07:00								matri	
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
		Q							
Chloride Client Sample ID: VGWU61-09-10	3800		410		mg/Kg	<u> </u>	Lab Sam	11/21/13 01:00	
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00	3800		410		mg/Kg	÷	Lab Sam	ole ID: 600-82	
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry		Qualifier		RL				ole ID: 600-82 Matri	342-51 ix: Solid
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte	Result	Qualifier	RL	RL	Unit		Lab Sam	ole ID: 600-82 Matri Analyzed	342-51
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry		Qualifier		RL				ole ID: 600-82 Matri	342-51 ix: Solid Dil Fac
Chloride Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	Result 6.7	Qualifier	RL 1.0	RL	Unit %			Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 13:47	342-51 ix: Solid Dil Fac
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble	Result 6.7 93		RL 1.0 1.0		Unit %	D	Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47	342-51 ix: Solid Dil Fac
Chloride Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	Result 6.7 93 Result	Qualifier	RL 1.0	RL	Unit % Wunit			Die ID: 600-82 Matri - <u>Analyzed</u> 11/10/13 13:47	342-51 ix: Solid
Chloride Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride	Result 6.7 93		RL 1.0 1.0 RL		Unit %	D	Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/21/13 01:31	342-51 ix: Solid Dil Fac 1 1 Dil Fac 5
Chloride Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-09-15	Result 6.7 93 Result		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/21/13 01:31 Die ID: 600-82	342-51 ix: Solid Dil Fac 1 1 Dil Fac 5 342-52
Chloride Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-09-15 Date Collected: 11/06/13 11:16	Result 6.7 93 Result		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/21/13 01:31 Die ID: 600-82	342-51 ix: Solid Dil Fac 1 1 Dil Fac 5
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte	Result 6.7 93 Result		RL 1.0 1.0 RL		Unit % Wunit	D	Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/21/13 01:31 Die ID: 600-82	342-51 ix: Solid Dil Fac 1 1 Dil Fac 5 342-52
Chloride Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-09-15 Date Collected: 11/06/13 11:16	Result 6.7 93 Result 830	Qualifier	RL 1.0 1.0 RL		Unit % Wunit	D	Prepared Prepared	Die ID: 600-82 Matri Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/21/13 01:31 Die ID: 600-82	342-51 ix: Solid Dil Fac 1 1 Dil Fac 5 342-52
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-09-15 Date Collected: 11/06/13 11:16 Date Received: 11/08/13 07:00 General Chemistry Analyte	Result 6.7 93 Result 830		RL 1.0 1.0 RL 21	MDL	Unit % % Unit mg/Kg	D	Prepared	Analyzed Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/21/13 01:31 Die ID: 600-82 Matri Analyzed	342-51 ix: Solid Dil Fac 1 1 Dil Fac 5 342-52
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-09-15 Date Collected: 11/06/13 11:16 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture	Result 6.7 93 Result 830 Result 15	Qualifier	RL 1.0 1.0 21	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/21/13 01:31 ole ID: 600-82 Matri Analyzed 11/21/13 01:31 ole ID: 600-82 Matri Analyzed 11/10/13 13:47	342-51 ix: Solid Dil Fac 5 342-52 ix: Solid Dil Fac 1
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-09-15 Date Collected: 11/06/13 11:16 Date Received: 11/08/13 07:00 General Chemistry Analyte	Result 6.7 93 Result 830	Qualifier	RL 1.0 1.0 RL 21	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/21/13 01:31 Die ID: 600-82 Matri Analyzed	342-51 ix: Solid Dil Fac 5 342-52 ix: Solid Dil Fac 1
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-09-15 Date Collected: 11/06/13 11:16 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Moisture	Result 6.7 93 Result 830 Result 15	Qualifier	RL 1.0 1.0 21	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/21/13 01:31 ole ID: 600-82 Matri Analyzed 11/21/13 01:31 ole ID: 600-82 Matri Analyzed 11/10/13 13:47	342-51 ix: Solid Dil Fac 1 1 Dil Fac 5 342-52 ix: Solid Dil Fac 1
Chloride Client Sample ID: VGWU61-09-10 Date Collected: 11/06/13 11:14 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids General Chemistry - Soluble Analyte Chloride Client Sample ID: VGWU61-09-15 Date Collected: 11/06/13 11:16 Date Received: 11/08/13 07:00 General Chemistry Analyte Percent Moisture Percent Solids	Result 6.7 93 Result 830 Result 15 85	Qualifier	RL 1.0 1.0 21	MDL	Unit % % Unit mg/Kg	D	Prepared Prepared	Analyzed 11/10/13 13:47 11/10/13 13:47 11/10/13 13:47 Analyzed 11/21/13 01:31 ole ID: 600-82 Matri Analyzed 11/21/13 01:31 ole ID: 600-82 Matri Analyzed 11/10/13 13:47	342-51 ix: Solid Dil Fac 1 Dil Fac 5 342-52 ix: Solid

Client Sample Results

Client: ARCADIS U.S., Inc. Project/Site: HES Transfer Sites, Lea County NM TestAmerica Job ID: 600-82342-1

Client Sample ID: VGWU61-09 Date Collected: 11/06/13 11:18 Date Received: 11/08/13 07:00	-20						Lab Sam	ole ID: 600-82 Matri	342-53 ix: Solid
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	<u>¥</u>		11/21/13 03:35	5
Client Sample ID: VGWU61-09	-25						Lab Sam	ole ID: 600-82	342-54
Date Collected: 11/06/13 11:20 Date Received: 11/08/13 07:00								Matri	ix: Solid
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	<u> </u>		11/21/13 03:51	2

Qualifiers

General Chemistry

General Che	mistry	Λ
Qualifier	Qualifier Description	
F	MS/MSD Recovery and/or RPD exceeds the control limits	5
В	Compound was found in the blank and sample.	

Glossary

		 _
Abbreviation	These commonly used abbreviations may or may not be present in this report.	 7
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	8
CNF	Contains no Free Liquid	
DER	Duplicate error ratio (normalized absolute difference)	9
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)	12
NC	Not Calculated	 13
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	
TEE	Toxicity Equivalent Factor (Dioxin)	

Toxicity Equivalent Factor (Dioxin) TEF TEQ Toxicity Equivalent Quotient (Dioxin)

8 9

Method: 9056 - Anions, Ion Chromatography

Lab Sample ID: MB 600-120665/2 Matrix: Solid	1-A									Client	Sample ID Prei	: Metho p Type: \$	
Analysis Batch: 120998												p Type.	oorabic
	MB	МВ											
Analyte	Result	Qualifier		RL		MDL	Unit		D	Prepared	Anal	yzed	Dil Fac
Chloride	ND			4.0			mg/Kg				11/19/1	3 17:59	1
Lab Sample ID: MB 600-120666/1-	-A									Client	Sample ID	: Metho	d Blank
Matrix: Solid											-	p Type: \$	
Analysis Batch: 120998													
Analyte	MB Result	MB Qualifier		RL		MDL	Unit		D	Prepared	۸nal	yzed	Dil Fac
Chloride	ND	Quaimer		4.0			mg/Kg			riepaieu	11/20/1	-	1
-													
Lab Sample ID: MB 600-120666/2* Matrix: Solid	1-A									Client	Sample ID Prei	: Metho p Type: \$	
Analysis Batch: 120998													
		MB											
Analyte		Qualifier		RL		MDL			D	Prepared		yzed	Dil Fac
Chloride	5.98			4.0			mg/Kg				11/20/1	3 06:23	1
 Lab Sample ID: LCS 600-120665/2	22-A								Clie	nt Samp	le ID: Lab	Control	Sample
Matrix: Solid												p Type: \$	
Analysis Batch: 120998			Spike		LCS	1.09					%Rec.		
Analyte			Added	1	Result		ifier	Unit	I) %Rec			
Chloride			200		193			mg/Kg		96	90 - 110		·
								0 0					
-	00.4							0 0			In ID: Lab	O a setura la	0
_ Lab Sample ID: LCS 600-120666/2	22-A							0 0	Clie	nt Samp	le ID: Lab		
Lab Sample ID: LCS 600-120666/2 Matrix: Solid	22-A								Clie	nt Samp		Control : p Type: :	
_ Lab Sample ID: LCS 600-120666/2	22-A		Spike		LCS	LCS			Clie	nt Samp			
Lab Sample ID: LCS 600-120666/2 Matrix: Solid	22-A		Spike Added	I			ifier	Unit		nt Samp	Prej %Rec.		
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998	22-A		•	1	LCS		ifier			-	Pre %Rec. Limits		-
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride			Added		LCS Result		ifier	Unit	[D %Rec 98	Pre %Rec. Limits 90 - 110	p Type: \$	Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte			Added		LCS Result		ifier	Unit	[D %Rec 98	Pre %Rec. Limits 90 - 110	p Type: \$	Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2			Added 200	1	LCS Result 196	Qual	ifier	Unit	[D %Rec 98	Pre %Rec. Limits 90 - 110 Die ID: Lab Pre	o Type: \$ Control \$	Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998			Added 200 Spike		LCS Result 196 LCS	Qual		Unit mg/Kg	Clie	0 %Rec 98 nt Samp	Pre %Rec. Limits 90 - 110 ole ID: Lab Pre %Rec.	o Type: \$ Control \$	Soluble Sample
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte			Added 200 Spike Added		LCS Result 196 LCS Result	Qual		Unit mg/Kg Unit	Clie	0 %Rec 98 nt Samp 0 %Rec	Pre %Rec. Limits 90 - 110 ole ID: Lab Pre %Rec. Limits	o Type: \$ Control \$	Soluble Sample
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998			Added 200 Spike		LCS Result 196 LCS	Qual		Unit mg/Kg	Clie	0 %Rec 98 nt Samp	Pre %Rec. Limits 90 - 110 ole ID: Lab Pre %Rec.	o Type: \$ Control \$	Soluble Sample
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte			Added 200 Spike Added		LCS Result 196 LCS Result	Qual		Unit mg/Kg Unit	Clie	2 %Rec 98 nt Samp 2 %Rec 97	Pre %Rec. Limits 90 - 110 ole ID: Lab Pre %Rec. Limits	Control S D Type: S	Soluble Sample Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride			Added 200 Spike Added		LCS Result 196 LCS Result	Qual		Unit mg/Kg Unit	Clie	2 %Rec 98 nt Samp 2 %Rec 97	Pre %Rec. Limits 90 - 110 ble ID: Lab Pre %Rec. Limits 90 - 110 Sample ID:	Control S D Type: S	Soluble Sample Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MS	 2-A		Added 200 Spike Added 200		LCS Result 196 LCS Result 194	Qual LCS Qual		Unit mg/Kg Unit	Clie	2 %Rec 98 nt Samp 2 %Rec 97	Pre %Rec. Limits 90 - 110 Ole ID: Lab Pre %Rec. Limits 90 - 110 Sample ID: Pre	Control S D Type: S D Type: S VGWU6	Soluble Sample Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MS Matrix: Solid Analysis Batch: 120998	2-A Sample Sam	-	Added 200 Spike Added 200 Spike		LCS Result 196 LCS Result 194	Qual LCS Qual	ifier	Unit mg/Kg Unit mg/Kg	[Clie	2 %Rec 98 nt Samp 2 %Rec 97 Client \$	Pre %Rec. Limits 90 - 110 ole ID: Lab Pre %Rec. Limits 90 - 110 Sample ID: Pre %Rec.	Control S D Type: S D Type: S VGWU6	Soluble Sample Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MS Matrix: Solid Analysis Batch: 120998 Analyte	2-A Sample Sam Result Qua	-	Added 200 Spike Added 200 Spike Added		LCS Result 196 LCS Result 194 MS Result	Qual LCS Qual	ifier	Unit mg/Kg Unit mg/Kg	[Clie	0 %Rec 98 nt Samp 0 %Rec 97 Client \$	Pre %Rec. Limits 90 - 110 ole ID: Lab Pre %Rec. Limits 90 - 110 Sample ID: Pre %Rec. Limits	Control S D Type: S D Type: S VGWU6	Soluble Sample Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MS Matrix: Solid Analysis Batch: 120998	2-A Sample Sam	-	Added 200 Spike Added 200 Spike		LCS Result 196 LCS Result 194	Qual LCS Qual	ifier	Unit mg/Kg Unit mg/Kg	[Clie	0 %Rec 98 nt Samp 0 %Rec 0 %Rec 0 %Rec 0 %Rec 0 %Rec	Pre %Rec. Limits 90 - 110 ole ID: Lab Pre %Rec. Limits 90 - 110 Sample ID: Pre %Rec. Limits	Control S D Type: S D Type: S VGWU6	Soluble Sample Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MS Matrix: Solid Analysis Batch: 120998 Analyte	2-A Sample Sam Result Qua 340	-	Added 200 Spike Added 200 Spike Added		LCS Result 196 LCS Result 194 MS Result	Qual LCS Qual	ifier	Unit mg/Kg Unit mg/Kg	[Clie	%Rec 98 nt Samp %Rec 97 Client \$ 0 %Rec 100	Pre %Rec. Limits 90 - 110 ble ID: Lab Pre %Rec. Limits 90 - 110 Sample ID: Pre %Rec. Limits 80 - 120 Sample ID:	Control S D Type: S D Type: S VGWU6 D Type: S VGWU6	Soluble Sample Soluble 1-02-05 Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MS Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MSD Matrix: Solid	2-A Sample Sam Result Qua 340	-	Added 200 Spike Added 200 Spike Added		LCS Result 196 LCS Result 194 MS Result	Qual LCS Qual	ifier	Unit mg/Kg Unit mg/Kg	[Clie	%Rec 98 nt Samp %Rec 97 Client \$ 0 %Rec 100	Pre %Rec. Limits 90 - 110 ble ID: Lab Pre %Rec. Limits 90 - 110 Sample ID: Pre %Rec. Limits 80 - 120 Sample ID:	Control : p Type: : p Type: : VGWU6 p Type: :	Soluble Sample Soluble 1-02-05 Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MS Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MSD	2-A Sample Sam Result Qua 340	lifier	Added 200 Spike Added 200 Spike Added 210		LCS Result 196 LCS Result 194 MS Result 547	Qual LCS Qual MS Qual	ifier	Unit mg/Kg Unit mg/Kg	[Clie	%Rec 98 nt Samp %Rec 97 Client \$ 0 %Rec 100	Pre %Rec. Limits 90 - 110 ble ID: Lab (Pre %Rec. Limits 90 - 110 Sample ID: Pre %Rec. Limits 80 - 120 Sample ID: Pre	Control S D Type: S D Type: S VGWU6 D Type: S VGWU6	Soluble Sample Soluble 1-02-05 Soluble 1-02-05 Soluble
Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: LCS 600-120666/2 Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MS Matrix: Solid Analysis Batch: 120998 Analyte Chloride Lab Sample ID: 600-82342-2 MSD Matrix: Solid	2-A Sample Sam Result Qua 340	ple	Added 200 Spike Added 200 Spike Added		LCS Result 196 LCS Result 194 MS Result	Qual LCS Qual MS Qual	ifier	Unit mg/Kg Unit mg/Kg	[Clie	%Rec 98 nt Samp %Rec 97 Client \$ 0 %Rec 100	Pre %Rec. Limits 90 - 110 ble ID: Lab Pre %Rec. Limits 90 - 110 Sample ID: Pre %Rec. Limits 80 - 120 Sample ID:	Control S D Type: S D Type: S VGWU6 D Type: S VGWU6	Soluble Sample Soluble 1-02-05 Soluble 1-02-05 Soluble RPD

Analyte Chloride 8

Lab Sample ID: 600-82342-10 MS								C	lient Sa	mple ID: V	GWU61	-01-20
Matrix: Solid										Prep	Type: S	oluble
Analysis Batch: 120998												
	Sample	Sample	Spike	MS	MS					%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit		D	%Rec	Limits		
Chloride	42		104	129		mg/Kg		×	83	80 - 120		
Lab Sample ID: 600-82342-10 MSD)							C	lient Sa	mple ID: V	GWU61	-01-20
Matrix: Solid											Type: S	
Analysis Batch: 120998												
	Sample	Sample	Spike	MSD	MSD					%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride	42		104	127		mg/Kg		¤	81	80 - 120	2	20
Lab Sample ID: 600-82342-16 MS								C	lient Sa	mple ID: V		
Matrix: Solid										Prep	Type: S	oluble
Analysis Batch: 120998	Comula	Commis	Calles	ме	ме					%Rec.		
Analyta		Sample Qualifier	Spike	MS	MS Qualifiar	Unit		Р	% Baa			
Analyte Chloride	240	Quaimer	Added	Result 328	Qualifier			D ÿ	%Rec 85	Limits 80 - 120		
Chionde	240		100	320		mg/Kg		~~	60	00 - 120		
Lab Sample ID: 600-82342-16 MSD Matrix: Solid								C	lient Sa	mple ID: \ Prep	/ <mark>GWU61</mark> Type: S	
Analysis Batch: 120998												
, , , , , , , , , , , , , , , , , , ,	Sample	Sample	Spike	MSD	MSD					%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride	240		106	321	F	mg/Kg		\\	78	80 - 120	2	20
Γ												
Lab Sample ID: 600-82342-24 MS								C	lient Sa	mple ID: V		
Matrix: Solid										Prep	Type: S	oluble
Analysis Batch: 120998	Comula	Commis	Calles	ме	MS					% Dee		
Anchite		Sample	Spike	MS		11			% Dee	%Rec.		
Analyte Chloride	95	Qualifier	Added	Result 189	Qualifier	_ Unit mg/Kg		D x	%Rec 90	Limits 80 - 120		
Chionde	95	D	105	109		тну/ку		~~	90	00 - 120		
Lab Sample ID: 600-82342-24 MSD)							С	lient Sa	mple ID: V	GWU61	-04-25
Matrix: Solid										-	Type: S	
Analysis Batch: 120998												
	Sample	Sample	Spike	MSD	MSD					%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Chloride	95	B	105	188		mg/Kg		₽	90	80 - 120	0	20
	•									annula ID.	Mathaal	Disale
Lab Sample ID: MB 600-120666/21	-A								Client 5	ample ID:		
Matrix: Solid										Frep	Type: S	oluble
Analysis Batch: 121126		MB MB										
Analyte	Б	esult Qualifier		RL	MDL Unit		D	D	repared	Analy	od	Dil Fac
Chloride	N	ND Quanner		4.0	mg/K	ία		FI	epareu	11/20/13		1
					iiig/N	. .				11/20/13	17.20	I
									0			
Lab Sample ID: MB 600-120667/1-	A								Client S	ample ID:	Method	Blank
Lab Sample ID: MB 600-120667/1-/ Matrix: Solid	4								Client S	ample ID: Prep		
Matrix: Solid	4								Client S		Method Type: S	
	A	MB MB							Client S			

TestAmerica Houston

11/20/13 18:48

4.0

mg/Kg

ND

8 9

Method: 9056 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 600-12066 Matrix: Solid	7/21-A							Client S	ample ID: N Prep T		
Analysis Batch: 121126											
Analyte	P	MB MB esult Qualifier		RL	MDL Unit		D P	repared	Analyze	d	Dil Fac
Chloride	ĸ	ND Quaimer		4.0	mg/K	a	<u>р</u> –	repareu			1
		ne -		1.0	ing/it	9			11/21/10/0		
Lab Sample ID: LCS 600-12066 Matrix: Solid	66/22-A						Client	Sample	ID: Lab Co Prep T		-
Analysis Batch: 121126											
			Spike	LCS	LCS				%Rec.		
Analyte			Added		Qualifier	Unit	D	%Rec	Limits		
Chloride			200	195		mg/Kg		98	90 - 110		
Lab Sample ID: LCS 600-12066 Matrix: Solid	67/22-A						Client	Sample	ID: Lab Co Prep T		
Analysis Batch: 121126											
			Spike		LCS		_	~ =	%Rec.		
Analyte			Added		Qualifier	Unit	D	%Rec	Limits		
Chloride			200	191		mg/Kg		95	90 - 110		
Lab Sample ID: LCS 600-12066 Matrix: Solid	67/2-A						Client	Sample	ID: Lab Co Prep T		
Analysis Batch: 121126			Calka	1.00	1.00				%/ De e		
Analyte			Spike Added		LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			200	195	Quanner						
_	MS		200	195		mg/Kg	(98 Client Sa	90 - 110	3WU61	-05-25
Lab Sample ID: 600-82342-30 I Matrix: Solid Analysis Batch: 121126	MS		200	190		тіg/кg	(mple ID: VC Prep T		
Lab Sample ID: 600-82342-30 I Matrix: Solid		Sample	Spike		MS	mg/Kg	C		mple ID: VC		
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	Client Sa	mple ID: V(Prep T %Rec. Limits		
Lab Sample ID: 600-82342-30 I Matrix: Solid Analysis Batch: 121126	Sample		Spike	MS				Client Sa	mple ID: V(Prep T %Rec.		
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride	Sample Result 130		Spike Added	MS Result		Unit	D	NRec 80	wmple ID: VC Prep T %Rec. Limits 80 - 120	ype: S	oluble
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 M	Sample Result 130		Spike Added	MS Result		Unit	D	NRec 80	mple ID: V(Prep T %Rec. Limits 80 - 120	ype: S	oluble
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid	Sample Result 130		Spike Added	MS Result		Unit	D	NRec 80	wmple ID: VC Prep T %Rec. Limits 80 - 120	ype: S	oluble
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 M	Sample Result 130		Spike Added	MS Result 217		Unit	D	NRec 80	mple ID: V(Prep T %Rec. Limits 80 - 120	ype: S	l-05-25
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid	Sample Result 130 MSD Sample	Qualifier	Spike Added 107	MS Result 217 MSD	Qualifier	Unit	<u>D</u> 	NRec 80	Marker Marker Marker Limits 80 - 120 Marker	ype: S	i-05-28 Soluble RPE
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126	Sample Result 130 MSD Sample	Qualifier	Spike Added 107 Spike	MS Result 217 MSD	Qualifier	Unit mg/Kg	<u> </u>	Client Sa %Rec 80 Client Sa	Marker Marker Marker Limits 80 - 120 Marker Marker Marker	ype: S GWU61 ype: S	l-05-25 Soluble RPD Limit
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride	Sample Result 130 VISD Sample Result 130	Qualifier	Spike Added 107 Spike Added	MS Result 217 MSD Result	Qualifier	Unit mg/Kg Unit	D x D x x	Client Sa %Rec 80 Client Sa %Rec 90	Marker Ma	Type: S GWU61 Type: S RPD 5	l-05-25 soluble RPE Limi 20
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-38 Matrix	Sample Result 130 VISD Sample Result 130	Qualifier	Spike Added 107 Spike Added	MS Result 217 MSD Result	Qualifier	Unit mg/Kg Unit	D x D x x	Client Sa %Rec 80 Client Sa %Rec 90	Margine ID: VC Prep T %Rec. Limits 80 - 120 Margine ID: VC Prep T %Rec. Limits 80 - 120 Margine ID: VC	Type: S GWU61 Type: S RPD 5 GWU61	
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-38 Matrix: Solid	Sample Result 130 VISD Sample Result 130	Qualifier	Spike Added 107 Spike Added	MS Result 217 MSD Result	Qualifier	Unit mg/Kg Unit	D x D x x	Client Sa %Rec 80 Client Sa %Rec 90	Marker Ma	Type: S GWU61 Type: S RPD 5 GWU61	
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-38 Matrix	Sample Result 130 MSD Sample Result 130	Qualifier	Spike Added 107 Spike Added	MS Result 217 MSD Result 228	Qualifier	Unit mg/Kg Unit	D x D x x	Client Sa %Rec 80 Client Sa %Rec 90	Margine ID: VC Prep T %Rec. Limits 80 - 120 Margine ID: VC Prep T %Rec. Limits 80 - 120 Margine ID: VC	Type: S GWU61 Type: S RPD 5 GWU61	Coluble
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-38 Matrix: Solid	Sample Result 130 VISD Sample Result 130 VIS Sample	Qualifier	Spike Added 107 Spike Added 107	MS Result 217 MSD Result 228	Qualifier MSD Qualifier	Unit mg/Kg Unit	D D Q D	Client Sa %Rec 80 Client Sa %Rec 90	Marken ID: VC Prep T %Rec. Limits 80 - 120 Marken ID: VC Prep T %Rec. Limits 80 - 120 Marken ID: VC Prep T	Type: S GWU61 Type: S RPD 5 GWU61	Coluble
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-38 Matrix: Solid Analysis Batch: 121126	Sample Result 130 VISD Sample Result 130 VIS Sample	Qualifier	Spike Added 107 Spike Added 107 Spike	MS Result 217 MSD Result 228	Qualifier MSD Qualifier MS Qualifier	Unit mg/Kg	D 0 7	Client Sa %Rec 80 Client Sa %Rec 90	mple ID: VC Prep T %Rec. Limits 80 - 120 mple ID: VC Prep T %Rec. Limits 80 - 120 mple ID: VC Prep T %Rec.	Type: S GWU61 Type: S RPD 5 GWU61	Coluble
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-38 Matrix: Solid Analysis Batch: 121126 Analyte	Sample Result 130 MSD Sample Result 130 MS Sample Result 27	Qualifier	Spike Added 107 Spike Added 107 Spike Added	MS Result 217 MSD Result 228 MS Result	Qualifier MSD Qualifier MS Qualifier	Unit mg/Kg Unit Unit	D x D x C D x C C x	Client Sa %Rec %Rec 90 Client Sa %Rec 78	mple ID: VC Prep T %Rec. Limits 80 - 120 mple ID: VC Prep T %Rec. Limits 80 - 120 mple ID: VC Prep T %Rec. Limits	Type: S GWU61 Type: S RPD 5 GWU61 Type: S GWU61 SWU61 GWU61 GWU61 GWU61	1-05-25 Soluble Limit 20 1-07-20 Soluble
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-38 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-38 Matrix: Solid Analyte Chloride	Sample Result 130 MSD Sample Result 130 MS Sample Result 27	Qualifier	Spike Added 107 Spike Added 107 Spike Added 106	MS Result 217 MSD Result 228 MS Result 110	Qualifier MSD Qualifier MS Qualifier F	Unit mg/Kg Unit Unit	D x D x C D x C C x	Client Sa %Rec %Rec 90 Client Sa %Rec 78	Marker Ma	Type: S GWU61 Type: S RPD 5 GWU61 Type: S GWU61 SWU61 GWU61 GWU61 GWU61	601uble 1-05-25 601uble RPD Limit 20 1-07-20 601uble 1-07-20 601uble
Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-30 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-38 Matrix: Solid Analysis Batch: 121126 Analyte Chloride Lab Sample ID: 600-82342-38 Matrix: Solid Analyte Chloride	Sample Result 130 MSD Sample Result 130 MS Sample Result 27 MSD Sample	Qualifier	Spike Added 107 Spike Added 107 Spike Added	MS Result 217 MSD Result 228 MS Result 110	Qualifier MSD Qualifier MS Qualifier	Unit mg/Kg Unit Unit	D x D x C D x C C x	Client Sa %Rec %Rec 90 Client Sa %Rec 78	Marker Ma	Type: S GWU61 Type: S RPD 5 GWU61 Type: S GWU61 SWU61 GWU61 GWU61 GWU61	1-05-25 Soluble Limit 20 1-07-20 Soluble

a county i										
						c	lient Sa	mple ID: V	GWU61-	-09-15
								Prep	Type: So	oluble
Sample	Sample	Spike	MS	MS				%Rec.		
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
250		236	499		mg/Kg	<u>Å</u>	105	80 - 120		
D						c	lient Sa	mple ID: V	GWU61-	-09-15
								Prep	Type: So	oluble
Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
250		236	498		mg/Kg	<u></u>	104	80 - 120	0	20
B MS					c	lient S	Sample I	D: 600-823	42-A-44-	-B MS
								Prep	Type: So	oluble
Sample	Sample	Spike	MS	MS				%Rec.		
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits		
10000		51600	52600		mg/Kg	<u>Å</u>	82	80 - 120		
MSD					Cli	ent Sa	mple ID	: 600-8234	2-A-44-C	S MSD
Samala	Sample	Spike	MSD	MSD				%Rec.		RPD
Sample	••••••									
	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
	Sample Result 250 D Sample Result 250 B MS Sample Result 10000	D Sample Sample Result Qualifier 250 S MS Sample Sample Result Qualifier 10000	Sample Sample Spike Result Qualifier Added 250 236 D Sample Sample Result Qualifier Added 250 Sample Result Qualifier Added 250 236 BMS Sample Sample Qualifier Added 10000 51600	Sample Result 250Sample QualifierSpike Added Added 236MSSample Result 250Sample QualifierSpike Added Added 236MSDSample 250Sample 236Spike 498MSSSample 250Spike 236MSSample 250Spike 236MSSample 250Spike 236MSSMSSample 250Spike 250MSSample 250Spike 250MSSMSSample 250Spike 250MSSample 250Spike 2500Spike 2600	Sample ResultSample QualifierSpike AddedMS ResultMS Qualifier250236499250236499Sample ResultSample QualifierSpike AddedMSD ResultResult 250QualifierAdded AddedResult QualifierSample 250Sample 236Spike 498MSD QualifierSample 250Sample 236Spike 498MSD QualifierSMSSample 2000Spike 51600MS 52600SMSDSample 51600Spike 52600MS Spike	Sample ResultSample QualifierSpike AddedMS ResultMS QualifierUnit mg/Kg250236499Image: MSD mg/KgMSD MSDMSD mg/KgSample 250Sample 236Spike 236MSD 498MSD mg/KgSMSSample 236Spike 498MSD mg/KgUnit mg/KgSMSSample 236Spike 498MS mg/KgMS ClinitSample 10000Sample 236Spike 51600MS 52600MS ClinitSMSDClinit MSDClinit MSDClinit MSDClinit MSD	Sample Sample Spike MS MS Result Qualifier Added Result Qualifier Unit D 250 236 399 Gualifier Unit D Gualifier D 0 Sample Sample Spike MSD MSD MSD Result Qualifier Added Result Qualifier Unit D 250 236 236 498 Client S Gualifier D Gualifier 8 MS Client S Sample Sample Spike MS MS MS 8 MS Client S Sample Spike MS MS MS MS 8 MS Gualifier Added Result Qualifier Unit D Gualifier Mainer Mainer 9 MS Sample Sample Spike MS MS MS MS MS 8 MS Gualifier Added Result Qualifier Unit D Gualifier Mainer Mainer <td< td=""><td>Sample Sample Spike MS MS MS Result Qualifier Added Result Qualifier Unit D %Rec 250 236 499 Qualifier Unit D %Rec 105 D Client Sa Sample Sample Spike MSD MSD Qualifier Unit D %Rec 105 Sample Sample Spike MSD MSD MSD Qualifier Unit D %Rec 104 0<td>Sample Sample Spike MS MS MS MS MS MRec. Limits MRec. Limits B MRec. MRec. Limits B</td><td>Sample Sample Spike MS MS MS MS MS %Rec. 250 236 236 499 Unit D %Rec. Limits — D Client Sample ID: VGWU61 705 80.120 — Client Sample ID: VGWU61 D Sample Sample Spike MSD MSD Client Sample ID: VGWU61 Sample Sample Spike MSD MSD %Rec. Limits RPD 250 236 498 Qualifier Unit D %Rec. Limits RPD 250 236 498 Qualifier Unit D %Rec. Rec. 250 236 498 Qualifier Unit D %Rec. RPD 0 38 MS Client Sample ID: 600-82342-A-44 Prep Type: St St</td></td></td<>	Sample Sample Spike MS MS MS Result Qualifier Added Result Qualifier Unit D %Rec 250 236 499 Qualifier Unit D %Rec 105 D Client Sa Sample Sample Spike MSD MSD Qualifier Unit D %Rec 105 Sample Sample Spike MSD MSD MSD Qualifier Unit D %Rec 104 0 <td>Sample Sample Spike MS MS MS MS MS MRec. Limits MRec. Limits B MRec. MRec. Limits B</td> <td>Sample Sample Spike MS MS MS MS MS %Rec. 250 236 236 499 Unit D %Rec. Limits — D Client Sample ID: VGWU61 705 80.120 — Client Sample ID: VGWU61 D Sample Sample Spike MSD MSD Client Sample ID: VGWU61 Sample Sample Spike MSD MSD %Rec. Limits RPD 250 236 498 Qualifier Unit D %Rec. Limits RPD 250 236 498 Qualifier Unit D %Rec. Rec. 250 236 498 Qualifier Unit D %Rec. RPD 0 38 MS Client Sample ID: 600-82342-A-44 Prep Type: St St</td>	Sample Sample Spike MS MS MS MS MS MRec. Limits MRec. Limits B MRec. MRec. Limits B	Sample Sample Spike MS MS MS MS MS %Rec. 250 236 236 499 Unit D %Rec. Limits — D Client Sample ID: VGWU61 705 80.120 — Client Sample ID: VGWU61 D Sample Sample Spike MSD MSD Client Sample ID: VGWU61 Sample Sample Spike MSD MSD %Rec. Limits RPD 250 236 498 Qualifier Unit D %Rec. Limits RPD 250 236 498 Qualifier Unit D %Rec. Rec. 250 236 498 Qualifier Unit D %Rec. RPD 0 38 MS Client Sample ID: 600-82342-A-44 Prep Type: St St

Method: Moisture - Percent Moisture

						Client Sar	nple ID: VGWU61	-01-05
Matrix: Solid							Prep Type: To	tal/NA
Analysis Batch: 120079								
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Percent Moisture	3.9		4.2		%		7	20
Percent Solids	96		96		%		0.3	20
 Lab Sample ID: 600-82342-17 DU						Client Sar	nple ID: VGWU61	-03-25
Matrix: Solid							Prep Type: To	tal/NA
Analysis Batch: 120079								
-	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Percent Moisture	4.9		4.5		%		9	20
Percent Solids	95		96		%		0.4	20
 Lab Sample ID: 600-82342-27 DU						Client Sar	nple ID: VGWU61	-05-10
Matrix: Solid							Prep Type: To	tal/NA
Analysis Batch: 120079								
-	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Percent Moisture	18		18		%		2	20
Percent Solids	82		82		%		0.5	20

TestAmerica Houston

TestAmerica Job ID: 600-82342-1

Method: Moisture - Percent Moisture (Continued)

Lab Sample ID: 600-82342-37 DL Matrix: Solid Analysis Batch: 120083	J					Client Sa	mple ID: VGWU61 Prep Type: To	
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Percent Moisture	25		24		%		3	20
Percent Solids	75		76		%		1	20
Lab Sample ID: 600-82342-47 DL Matrix: Solid	J					Client Sa	mple ID: VGWU61 Prep Type: To	
Analysis Batch: 120083								
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	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	Ргер Туре	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	Ргер Туре	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	Ргер Туре	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	Ргер Туре	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	

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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	Ргер Туре	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)
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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

9

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	12066
600-82342-34	VGWU61-07-02	Soluble	Solid	9056	12066
600-82342-35	VGWU61-07-05	Soluble	Solid	9056	120666
600-82342-36	VGWU61-07-10	Soluble	Solid	9056	12066
600-82342-37	VGWU61-07-15	Soluble	Solid	9056	12066
600-82342-38	VGWU61-07-20	Soluble	Solid	9056	12066
600-82342-38 MS	VGWU61-07-20	Soluble	Solid	9056	12066
600-82342-38 MSD	VGWU61-07-20	Soluble	Solid	9056	12066
600-82342-39	VGWU61-07-25	Soluble	Solid	9056	12066
600-82342-40	VGWU61-06-15	Soluble	Solid	9056	12066
600-82342-41	VGWU61-06-20	Soluble	Solid	9056	12066
600-82342-42	VGWU61-06-25	Soluble	Solid	9056	12066
600-82342-43	VGWU61-08-02	Soluble	Solid	9056	12066
600-82342-44	VGWU61-08-05	Soluble	Solid	9056	12066
600-82342-45	VGWU61-08-10	Soluble	Solid	9056	12066
600-82342-46	VGWU61-08-15	Soluble	Solid	9056	12066
600-82342-47	VGWU61-08-20	Soluble	Solid	9056	12066
600-82342-48	VGWU61-08-25	Soluble	Solid	9056	12066
600-82342-49	VGWU61-09-02	Soluble	Solid	9056	12066
600-82342-50	VGWU61-09-05	Soluble	Solid	9056	12066
600-82342-51	VGWU61-09-10	Soluble	Solid	9056	12066
600-82342-52	VGWU61-09-15	Soluble	Solid	9056	12066
600-82342-52 MS	VGWU61-09-15	Soluble	Solid	9056	12066
600-82342-52 MSD	VGWU61-09-15	Soluble	Solid	9056	12066
600-82342-53	VGWU61-09-20	Soluble	Solid	9056	12066
600-82342-54	VGWU61-09-25	Soluble	Solid	9056	12066
600-82342-A-44-B MS	600-82342-A-44-B MS	Soluble	Solid	9056	12066
600-82342-A-44-C MSD	600-82342-A-44-C MSD	Soluble	Solid	9056	12066
_CS 600-120666/22-A	Lab Control Sample	Soluble	Solid	9056	12066
CS 600-120667/22-A	Lab Control Sample	Soluble	Solid	9056	12066
_CS 600-120667/2-A	Lab Control Sample	Soluble	Solid	9056	12066
MB 600-120666/21-A	Method Blank	Soluble	Solid	9056	12066
MB 600-120667/1-A	Method Blank	Soluble	Solid	9056	12066
MB 600-120667/21-A	Method Blank	Soluble	Solid	9056	12066

Dil

1

5

Factor

Run

Batch

Туре

Leach

Analysis

Analysis

Batch

Method

Moisture

DI Leach

9056

Client Sample ID: VGWU61-02-02

Date Collected: 11/05/13 14:20

Date Received: 11/08/13 07:00

Prep Type

Total/NA

Soluble

Soluble

Lab Sample ID: 600-82342-1

Analyst

KRD

Prepared

or Analyzed

11/15/13 10:45

11/10/13 12:08 MJB

11/19/13 20:18 DAW

Lab Sample ID: 600-82342-2 Matrix: Solid

Matrix: Solid

TAL HOU

TAL HOU

TAL HOU

Lab

	8
_	9
	1

	9
1	0

Lap Sample ID: 600-82342 Matrix: Solid

Lab Sample ID: 600-82342-4

Lab Sample ID: 600-82342-5

Matrix: Solid

Matrix: Solid

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

Client Sample ID: VGWU61-02-15 Date Collected: 11/05/13 14:26 Date Received: 11/08/13 07:00

Γ	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/05/13 14:30

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

TestAmerica Houston

Initial

Amount

5 g

5 mL

Final

Amount

50 mL

5 mL

Batch

Number

120079

120665

120998

Client Sample ID: VGWU61-02-05 Date Collected: 11/05/13 14:22

Date Received: 11/08/13 07:00

Date Collected: 11/05/13 14:24

Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Samp	le ID: VGW	J61-02-10						Lab Samp	le ID: 60	00-82342-3

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Date Received: 11/08/13 07:00

Lab Sample ID: 600-82342-8

Lab Sample ID: 600-82342-9

Lab Sample ID: 600-82342-10

Matrix: Solid

Matrix: Solid

Matrix: Solid

Matrix: Solid

Lab Sample ID: 600-82342-6 Matrix: Solid 5

10

Client Sample ID: VGWU61-01-02

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

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

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

Ргер Туре	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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

Date Collected: 11/05/13 14:58 Date Received: 11/08/13 07:00

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/05/13 15:15 Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/05/13 15:17 Date Received: 11/08/13 07:00

Ргер Туре	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 Date Collected: 11/05/13 15:19 Date Received: 11/08/13 07:00

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

Client Sample ID: VGWU61-03-15 Date Collected: 11/05/13 15:21

Date Received: 11/08/13 07:00

Γ	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

5 6

10

Matrix: Solid

Lab Sample ID: 600-82342-12

Lab Sample ID: 600-82342-13 Matrix: Solid

Lab Sample ID: 600-82342-14

Lab Sample ID: 600-82342-15

Matrix: Solid

Matrix: Solid

Client Sample ID: VGWU61-03-20

Date Collected: 11/05/13 15:23 Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/05/13 15:25 Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/05/13 16:02 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 Date Collected: 11/05/13 16:04 Date Received: 11/08/13 07:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analvzed	Analvst	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

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

Matrix: Solid

5 6

10

Lab Sample ID: 600-82342-18 Matrix: Solid

Lab Sample ID: 600-82342-17

Lab Sample ID: 600-82342-19

Lab Sample ID: 600-82342-20

Matrix: Solid

Matrix: Solid

Lab Sample ID: 600-82342-22

Matrix: Solid

Matrix: Solid

5 6

10

Client Sample ID: VGWU61-04-15

Date Collected:	11/05/13 16:08
Data Bassivadu	44/00/42 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1			120079	11/10/13 12:08	MJB	TAL HOL
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 Date Collected: 11/05/13 16:10 Date Received: 11/08/13 07:00

「	Batch	Batch	_	Dil	Initial	Final	Batch	Prepared		
Prep Type Total/NA	Analysis	Method Moisture	Run	Factor	Amount	Amount		or Analyzed 11/10/13 12:08	Analyst MJB	– Lab 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 Date Collected: 11/05/13 14:28 Date Received: 11/08/13 07:00

Prep Type Total/NA	Batch Type Analysis	Batch Method Moisture	Run	Dil Factor	Initial Amount	Final Amount	Batch 	Prepared or Analyzed 11/10/13 12:08	Analyst MJB	_ Lab TAL HOU
Soluble	Leach Analysis	DI Leach 9056		1	5 g 5 mL	50 mL 5 mL	120679 120666 120998	11/15/13 11:00 11/20/13 05:36	KRD DAW	TAL HOU TAL HOU

Client Sample ID: VGWU61-04-25 Date Collected: 11/05/13 16:12 Date Received: 11/08/13 07:00

Ргер Туре	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 Date Collected: 11/06/13 09:05

Date Received: 11/08/13 07:00

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	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

Lab Sample ID: 600-82342-23 Matrix: Solid

Lab Sample ID: 600-82342-24

Lab Sample ID: 600-82342-25

Matrix: Solid

Matrix: Solid

Client Sample ID: VGWU61-05-05

Date Collected: 11/06/13 09:07

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	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

Γ	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

Prep T Total/I	уре Ту	atch ype nalysis	Batch Method Moisture	Run	Dil Factor	Initial Amount	Final Amount	Batch Number 120079	Prepared or Analyzed 11/10/13 12:08	Analyst MJB	- Lab TAL HOU
Solubl Solubl		each nalysis	DI Leach 9056		1	5 g 5 mL	50 mL 5 mL	120666 121126	11/15/13 11:00 11/20/13 15:11	KRD DAW	TAL HOU TAL HOU

Client Sample ID: VGWU61-05-20 Date Collected: 11/06/13 09:13 Date Received: 11/08/13 07:00

Ргер Туре	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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Ty	ре Туре	Method	Run	Factor	Amount	Amount	Number	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

Lab Sample ID: 600-82342-28 Matrix: Solid

Lab Sample ID: 600-82342-29

Lab Sample ID: 600-82342-30

Matrix: Solid

Matrix: Solid

TestAmerica Houston

Client Sample ID: VGWU61-06-02

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 10:02 Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 10:04 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 Soluble Soluble	Analysis Leach Analysis	Moisture DI Leach 9056		1	5 g 5 mL	50 mL 5 mL	120079 120666 121126	11/10/13 12:08 11/15/13 11:00 11/20/13 17:31	MJB KRD DAW	TAL HOU TAL HOU TAL HOU

Client Sample ID: VGWU61-07-02 Date Collected: 11/06/13 10:30 Date Received: 11/08/13 07:00

Ргер Туре	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

Date Collected: 11/06/13 10:32 Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

TestAmerica Houston

10

Lab Sample ID: 600-82342-33 Matrix: Solid

Lab Sample ID: 600-82342-34

Matrix: Solid

Lab Sample	ID:	600-82342-35
		Matrix: Solid

Client Sample ID: VGWU61-07-10

Date Collected:	11/06/13 10:34
Date Received	11/08/13 07.00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 10:36 Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 10:38 Date Received: 11/08/13 07:00

	Batch B			Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 10:40 Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 10:06

Date Received: 11/08/13 07:00

Γ	-	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
	Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	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

Matrix: Solid

Matrix: Solid

Lab Sample ID: 600-82342-37 Matrix: Solid

10

Lab Sample ID: 600-82342-38 Matrix: Solid

Lab Sample ID: 600-82342-39 Matrix: Solid

Lab Sample ID: 600-82342-40

Matrix: Solid

Matrix: Solid

Client Sample ID: VGWU61-06-20

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

	. 11/00/15 07.0									
	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 10:10 Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 11:30 Date Received: 11/08/13 07:00

Ргер Туре	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 Date Collected: 11/06/13 11:32 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

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

Γ	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Amount	Amount	Number	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

Lab Sample ID: 600-82342-42

Lab Sample ID: 600-82342-43 Matrix: Solid

Lab Sample ID: 600-82342-44

Lab Sample ID: 600-82342-45

Matrix: Solid

Matrix: Solid

Lab Sample ID: 600-82342-47

Matrix: Solid

Matrix: Solid

5

10

Client Sample ID: VGWU61-08-15

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

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 11:38 Date Received: 11/08/13 07:00

Γ	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 11:40 Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Date Collected: 11/06/13 11:10 Date Received: 11/08/13 07:00

Ргер Туре	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 Date Collected: 11/06/13 11:12

Date Received: 11/08/13 07:00

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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 Sample ID: 600-82342-48

Matrix: Solid

Lab Sample ID: 600-82342-49

Lab Sample ID: 600-82342-50

Matrix: Solid

Matrix: Solid

Initial

Amount

5 g

5 mL

Final

Amount

50 mL

5 mL

Batch

Number

120083

120667

121126

Batch

Туре

Leach

Client Sample ID: VGWU61-09-15

Date Collected: 11/06/13 11:16

Date Received: 11/08/13 07:00

Analysis

Analysis

Batch

Method

Moisture

DI Leach

9056

Client Sample ID: VGWU61-09-10

Date Collected: 11/06/13 11:14

Date Received: 11/08/13 07:00

Prep Type

Total/NA

Soluble

Soluble

Lab Sample ID: 600-82342-51

Analyst

MJB

KRD

DAW

Matrix: Solid

TAL HOU

TAL HOU

TAL HOU

Lab

2 3 4 5 6 7 8 9

10

Lab Sample ID: 600-82342-52 Matrix: Solid

Prepared

or Analyzed

11/10/13 13:47

11/15/13 11:15

11/21/13 01:31

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	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

Dil

1

5

Factor

Run

Client Sample ID: VGWU61-09-20 Date Collected: 11/06/13 11:18 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	11/21/13 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

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	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

Lab Sample ID: 600-82342-53 Matrix: Solid

Lab Sample ID: 600-82342-54 Matrix: Solid

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				Chain of Custody Record	of Cus	stody	Reco	ord		
Client Information	Sample' WELLSA PHAN	キの光を	Z	Lat	Lab PM Kudchadkar, Sachin G	Sachin G		Q.	600-82342 Chain of Custody	
Client Contact Mr. Jonathan Olsen	Phone: 11391534800	84 65	8	E-N	E-Mail: sachin.kudchadkar@testamericainc.c	idkar@tes	tamericai	10.00m	Page Page	e of g
ARCADIS U.S., Inc.							Analysi	N.	Requested Job #	
Address. 2929 Brianpark Drive Suite 300	Due Date Requested:	ted:							Press	ration Cod
	TAT Requested (days):	lays):	1				_			NaOH N+None Zn Acetate O - AsNaO2
TX, 77042	STANDARD	APO				_		_	m 0 (D - Nibic Acid P - Na204S E - NaHSO4 D - Na2SO3
Phone: 113 1534 800	PO# Purchase Order Requested	r Requester)	_			G-A	H - Ascorbic Acid T - TSP Dodecahvdrate
arcadis-u	WO井	ľ					_		-	ler.
Projed Name: HES Transfer Sites, Lea County NM	Project # 60004633				_		-		tainer K-EDA	DA Z - other (specify)
NACHUM GLERENA WEST UNIT & 61	SSOW#				_	oride	-		of col	đ
Samola (deptification	Sample Date	Sample	Sample Type (C=comp,	Matrix (Wewater, Sesolid, Dewasteroit,	E Field Filtered Perform MS/N 1015B_DRO	1056_28D - Chi	021B- BTEX		Total Number	Special Instructions/Note:
	X	X	Preserv	0.1	X	Z	-		X	
VGWU61-02-02	n 5/13	1470	9	Solid		×				
NGW161-02-05	11/5/13	1422	-	Solid		×				
VGWW101-02-10	145/13	1424	_	Solid		X				
NGWUG1-02-15	115/12	1426	-	Solid		×				
VGWU61-02-25	14/5/13	1430		Solid		ÿ,				
VGWA61-01-02	11/5/13	1448	_	Solid		×				
1.	W6/13	1450	-	Solid		×	-			
NGWWW 1-01-10	11/5/13	1452	-	Solid		X	-			
VGWU61-01-15	in/5/13	1454	-	Solid		×				
NGWU61-01-20	w/5/13	1450		Solid		K	-			
NGWU1-01-25	11/5/13	1458	4	Solid		8.	-			
ammable Skin Imitant	Poison B Unknown		Radiological	-	Samp	Return To Client	al (A fee Client	may be as	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Month	or Months
ested: I, II, III, IV, Other (specify)					Speci	Special Instructions/QC Req	ons/QC F	uirer	> 0	
Empty Kit Relinquished by:	(tre	Date:			Time:		IVI	~ ~~	Method of Shipment	
Relinquished by [. Kul C	DeterTime: / 1	51/13	Seg	Company	R	Received by:	1	NON	CIISI IL Date THE CALL	-OULineauna QOL
Relinquished by	Date/Time.	-		Company	R	Received by:	8	1 1	Date/Timet	Company
Relinguished by	Date/Time;			Company	R	Received by:			Date/Time	Company
Custody Seals Intact: Custody Seal No.: Δ Yes Δ No					Q	Cooler Temperature(s) °C and	rature(s) °C	and Other Remarks	arks;	

6310 Rothway Street Houston, TX 77040 Phone (713) 690-4444 Fax (713) 690-5646			C	Chain of Custody Record	of Cu	stod	y Re	cord			
Client Information	Sampler: MELISA PHAN	ISA PH	PZ	Lab PM: Kudcha	Lab PM: Kudohadkar, Sachin G	Sachin C	42		Carrier Tracking No(s):	COC No 600-23595-8666.1	566.1
Client Contact Mr. Jonathan Olsen	Phone: 113	1139534800	8	E-Mail: sachi	E-Mail: sachin.kudchadkar@testamencainc.	adkar@t	estame	ncaine, com	3	Page 2of X	
Company: ARCADIS U.S., Inc.							Þ	Analysis	Requested	Job #	
Address: 2929 Brianpark Drive Suite 300	Due Date Requested:	led:			-		-			Preservation Codes:	Codes: M - Hexane
	TAT Requested (days): STAND	STANDARD								B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4	
Phone:	PO非					-	-				R-Na2S2SO3
113-9153-14800	Purchase Order Requested	r Requested			No)	_	-	-		G - Amchlor H - Ascorbic Acid	
Email Jonathan.olsen@arcadis-us.com	WO #						-	-		-	V - MCAA
Project Name HES Transfer Sites, Lea County NM	Project #: 60004633					_		-		L-EDA	Z - other (specify)
Sile NGWU WI	SSOW#:					oride	e	-		of co Other	
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Wawater, Sasahd, Dawaste/oli, BT=Tissue, AnAir)	Field Filtered Perform MS/N	8015B_DRO 9056_28D - Chi	8015B_GRO 8021B- BTEX			Total Number	Special Instructions/Note:
	X	X	CO L	on Code:	Ă	z	-	-			
VGWU61-03-02	1115/13	1515	9	Solid		×					
03	11/5/13	1517	1.	Solid		×					
1-60	inistra	1519	-	Solid		×	-				
NGW461-03-15	51/5/13	1521		Solid		X					
VGWU61-03-20	NIS/13	1523	_	Solid		X	-				
NGWN61-03-25	11/5/13	1525		Solid		X					
	n 5 13	1602		Solid		X					
NUMAI-04-05	FI S113	1604		Solid		X					
NEWN 61-04-10	11/5/13	1606		Solid		X					
NGWUBI- 04-15	11/5/13	1608		Solid		X					
VGWW61-04-20	11/5/13	1610	4	Salid		×					
Skin Irritant	Poison B Unknown	1.46.1	Radiological	5	Sam	Return	le Disposal (A f Return To Client	l fee may nt	Sample Disposal (A fee may be assessed if samples ar	are retained longer than 1 month) Archive For Mon	n 1 month) Manths
V, Other (specify)	. 1		1		Spec	Special Instructions/QC Req	ctions/C	2C Requir	uirements:		
Empty Kit Relinquisyed by:		Date:			Time:		>	2	Method of Shipment	1 1	
Reimquished by 1 JM [[]7]3	Date/Time			Company	20	Received by:	A	V	UNI/ Date/Time	118112J	00 company
Relinquished by	Date/Time:		0	Company	R	Received by	4	(V U / Date/Time		Company
Reilinquished by	Date/Time:		0	Company	R	Received by:			Date/Time		Company
Custody Seals Intact Custody Seal No.:					0	Cooler Temperature(s) °C and	perature()		Other Remarks:		
							1				

Phone (713) 690-4444 Fax (713) 690-5646														
Client Information	Sampler MELISA-PAAN	Poptan?		Lab PM Kudch	Lab PM. Kudchadkar, Sachin G	achin G			Carrier Tra	Carrier Tracking No(s)	2	0.0	COC No: 600-23595-8666.1	
Sient Contact: Mr. Jonathan Olsen	Phone: 11399	9153460r	8	E-Mail sachi	n.kudcha	dkar@te	stameric	E-Mail sachin.kudchadkar@testamericainc.com				71 70	Page Sof 8	
Company ARCADIS U.S., Inc.							An	Analysis Rec	Requested			6	Job #	
ladress. 2929 Briarpark Drive Suite 300	Due Date Requested:	H			_								ration Cod	
oly Houston	TAT Requested (days):	/s):			_	_			_	_	_		B - NeOH N	N - Hexane N - None
State.Zip: TX, 77042	SPANDARD	re-D							_		_			P - Na2045 Q - Na2SO3
Phone: 13953 URD	PO并 Purchase Order Requested	Requested)				_		_		G - Amehior Anid T	R - Na2S2SO3 S - H2SO4
inali onathan olsen@arcadis-us.com	WO #				-	_				_	_	-		U - Acetone V - MCAA
roject Name: ⊣ES Transfer Sites ↓ea County NM	Project #. 60004633				-					_	_			W - ph 4-5 Z - other (specify)
	SSUW#					ie	-			_	_	-	Other	
ACAUM GUEENA WEST UN IT THE	T		Cample	Matrix	IS/MS			_	_		_	ber of		
Sample Identification	Sample Date	Sample (I	Sample Type (C=comp, G=grab) er		Field Filter Perform M 8015B_DRO	9056_28D - 0	8015B_GRO 8021B- BTE					Total Num	Special Inst	Special Instructions/Note:
	X	1	Preservation Code:	-	X	Z	-					X		
JGWU61-0220	11/5/13	1428	9	Solid		×			1012			_		
VGWK61-04-25	11/5/13	1612	-	Solid		×								
VGWU61-05-02	1116/13	Sala	_	Solid		×								
NGWINE1-05-05	11/16/13	907	-	Solid	-	X								
NGWUG1-05-10	11/10/13	909		Solid		×								
VGWUBI-OS-IS	11/6/13	94		Solid		×								
VGWH61-05-20	11/16/13	913		Solid	-	×								
VGWUE1-05-25	11/6/13	915		Solid	_	×	_							
15-WM61-06-02	11/6/13	1000		Solid		X		9						
-	11/6/13	1002		Solid	_	X								
VGWU101-06-10	111613	1004	4	Solid	-	X	-	-				_		
n ble Skin Initant	Paison B Unknown	Sec. 1	Radiological		Samp	le Disp Return	Sample Disposal (A fee ma Return To Client	ee may be a	Disposal By Lab	if samp. Y Lab	es are r	etained long Archive For	y be assessed if samples are retained longer than 1 month)	onth) Months
ested: I, II, III, IV, Other (specify)					Specia	al Instru	tions/QC	Special Instructions/QC Requirements	its:					
Empty Kit Relipeuished by		Date:			Time:		3	V	Net	thod of Shipment	nent:			
telinquished by M (Date/Time/7/	2 XOO		Company	Re	Received by	0	MY.	D.	Dat	Date/Time(81	3760	Company
celinguished by:	Date/Time: 1	•		Company	Re	Received by	0	0	10	Dat	Date/Time: *	1		Company
Refinquished by:	Date/Time,		0	Company	Re	Received by,				Dat	Date/Time:			Company
A Yes A No					3			Conler Temperature/s) ⁰ C and Other Remarks:	madan	-				

11/21/2013

TestAmerica Houston

5 6

Phone (713) 690-4444 Fax (713) 690-5646								
Client Information	Sampler, MELL	MELISAPHAN	A	Lab PM: Kudcha	Lab PM: Kudchadkar, Sachin G	Q	Carrier Tracking No(s)	GOC No: 600-23595-8666.1
Client Contact Mr. Jonathan Olsen	Phone 7139	1139534800	O	E-Mait sachi	E-Mail: sachin.kudchadkar@testamericainc	mericainc.com		Page Hot S
Company ARCADIS U.S., Inc.						Analysis Requested	ested	Job #
Address 2929 Briarpark Drive Suite 300	Due Date Requested:	đ						Cod
		2 ys):						B - NaOH N - None C - Zn Acetate O - AsNaO2
State, Zio TX, 77042	SILAN	- ANDROU						
Phone 7139534800	Po # Purchase Order Requested	Requested	1)			
Email Ionathan.olsen@arcadis-us.com	WO #.				_			1- Ice J - DI Water
Project Name: HES Transfer Sites ea County NM	Project #; 60004633			3				_
	SSOW#				ISD (Y			of cor Other
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Wewater, Sesolid, Omwaste/oil, BToTissue, AmAir)	Field Filtered Perform MS/I 8015B_DRO 9056_28D - Chi 8015B_GRO	8021B- BTEX		Total Numbe Special Instructions/Note:
	X	\square		ion Code:	X N N N	Z		X
VGWUL61-07-02	51 0 11	1630	D	Solid	X			
VGWU61-07-05	11/6/13	1032		Solid	X			-
VGWUBI-07-10	11/10/13	1034	_	Solid	X			
NGWH61-07-15	11/10/13	1036	_	Solid	X			
VGWU61-07-20	11/10/13	3501		Solid	X			
- P	11/10/13	1040		Solid	X			
NGW461-06-15	11/6/13	hoole		Solid	X X			
VGWN61-06-20	21/3/11	1005		Solid	X			
VGWU61-06-25	11/6/13	0101		Solid	X			
VGWU61-08-02	11/6/13	1130		Solid	*			
VGWU61-08-05	11/6/13	1132	4	Solid	X			
Possible Hazard Identification	Poison B Unknown	6.15	Radiological		Sample Disposal (A t	fee may be	assessed if samples are Disposal By Lab	are retained longer than 1 month) Archive For Months
ested: I, II, III, IV, Other					Special Instruction	Special Instructions/QC Requirements	0	
Empty Kit Relinquished by:		Date:			Time:	12	Method of Shipment	
Relinquished by	Date/Time-7/13	Soc		Company	Received by:	MAN 11	MY YDaterTind	18/13 760 Company
Relinquished by	Date/Kime:		0	Company	Received by	TX N.	V / Date/Time:*	Company
Reinquished by:	Date/Time		0	Company	Received by		Date/Time:	Company
Custody Seals Intact: Custody Seal No.:								

3310 Rothway Street Houston, TX 77040 Phone (713) 690-4444 Fax (713) 690-5646			~	Chain of Custody Record	of Cu	stody	Reco	ord						
Client Information	Sampler MELLS	MELSA-DIAN	Z	E.	Lab PM: Kudchadkar, Sachin	Sachin G		-	Carrier Tracking No(s)	g No(s)	00	COC No: 600-23595-8666	66,1	
Client Contact: Mr. Jonathan Olsen	Phone 7139	11395834800	8	Sa	E-Mail: sachin.kudchadkar@testamericainc	adkar@tes	tamericair	IC COM			ס בר	Page Sof 8		
Company, ARCADIS U.S., Inc.							Analys	10	Requested		96	Job #		
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:	*			_	_		_			0	Preservation Codes:	odes:	
	TAT Requested (days):	‡(s)				_	_	_			0.00.3	B - NaOH C - Zn Acetate	N - None O - AsNaO2	ις f
State, Z)p TX, 77042	STANDARD	8					_	-		-		D - Nitric Acid E - NaHSO4	P - Na204S O - Na2SO3	36
Phone: 113 acaulan	PO#_ Purchase Order Requested	Paniested)	-		-	_	_	- G T	F - MeOH G - Amchlor		R - Na2S2S03 S - H2SO4 T - TSP Dodecatoriate
Email:	WO#				-	_	_			_	1	I - Ice		8
jonathan.olsen@arcadis-us.com +	Dravent #	l					_		_	-	1	K - EDTA	W - ph 4-5	
HES Transfer Sites, Lea County NM	60004633				-	1		-				- EDA	Z - other (specify)	specity)
Site: VACUULAN WEST GLOBETTA VINIT HOL	SSOW#:					oride					1	Other:		
Sample Identification	Sample Date	Sample	Sample Type (C=comp, G=grab)	Matrix (Wawater, S-solid, Dawaste/oit, BT=Tissue, 5=Alt	Field Filtered Perform MS/N	80158_DRO 9056_28D - Chi 80158_GRO	80218- BTEX				Total Number	Special	Special Instructions/Note:	s/Note:
	X	X	Preserva	Preservation Code:	X	Z	-				X	V	X	
NGWU61-08-10	11/6/13	124	9	Solid		-								
VGWM61-08-15	11/6/13	1136		Solid		×								
VGW161-08-20	11613	ころの		Solid		×								
WGWIN101-08-25	~	пно	-	Solid		×								
VGNU61-09-02	16/13	0111-99100	_	Solid		×								
VGWM61-09-05	11/6/13	1112		Solid		X					1.11			
VGWU61-09-10	11/6/13	1114		Solid	-	×.								l
VGWU101-09-15	11/6/13	116		Solid		×								
VGWU161-09-20	11/6/13	8111		Solid		×	-							
VGWU121-09-25	11/6/13	1120		Solid		X			-					
VGWUG1-11-02	11/5/13	1480	4	Solid		R	_					Hord Hord		ľ
Possible Hazard Identification	Poison B Unknown		Radiological		Sam	ple Disposal (A f Retum To Client	sal (A fee) Client	may be as:	assessed if san Disposal By Lab	amples ar ab	e retained long	Sample Disposal (A fee may be assessed if samples are retained longer than Return To Client Disposal By Lab	1 month) Months	
ested: I, II, III, IV, Other	61				Spec	Special Instructions/QC Req	ons/QC R	equirements						
Empty Kit Relinquished by		Date:			Time		2		Nechod o	Cerhod of Shipment.	1			
Relinquished by UUL	Date/Time / 13	800		Company	2 2	Received by: /	C	and 1	ALC DA	Date/Time	2113	766	Company	3
Relinquished by:	Date/Time			Company	20	Received by.		~		Date/Time:			Company	
Custody Seals Intact: Custody Seal No.: ∆ Yes ∆ No					0	Cooler Temperature(s) °C and	ature(s) °C :	and Other Remarks	arks:					
Dies Divo		ł												

6310 Rothway Street Houston, TX 77040 Phone (713) 690-4444 Fax (713) 690-5646				Chain	Chain of Custody Record	
Client Information	Sample WELLSA- DIAM	A pita	4	Lab	Lab PM Kudchadkar, Sachin G	Carrier Tracking No(s); COC Na 600-23595-8666.1
Client Contact Mr. Jonathan Olsen	Phone 713 9534800	84821	9	E-Mail Sachi	E-Mail: sachin.kudchadkar@testamericainc.com	Page April 2
Company ARCADIS U.S., Inc.					/sīs	Requested Job #
Advess 2929 Briarpark Drive Suite 300	Due Date Requested:	ed:				Preservation Coc
	TAT Requested (days):	ays):	Į			
State, Zip: 17X, 77042	SI ANNATON	ALL ALL				E - Natic Acid P - Na2SOS E - National Q - Na2SOS F - MeDH R - Na2SOS
Phone. 112 9534X00	Po # Purchase Order Requested	r Requester			>)	- Amchlor - Ascorbic Acid
arcadis-	WO #	Í			-	I - Ice J - DI Water
Project Name. HES Transfer Sites Lea County NM	Project #: 60004633				-	L-EDA
She VALWIM GLODETTA WEST WIT 61	SSOW#:		2		1SD ()	e of co Other:
	Sample Date	Sample	Sample Type (C=comp,	Matrix (www.ater, S=solid, G=wasto/oil,	Eleid Filtered Perform MS/I 1015B_DRO 1056_28D - Ch 1015B_GRO 1021B- BTEX	Total Number
equipte to surroutent	X	X	Preserv	0. L	X Z Z Z Z	X
Vanin/21-11-05	11/5/13	1402	9	Solid	~	theup
VGW/1/01-11-10	11/5/13	1404		Solid	×	HouD
NGWU61-11-15	11/5/13	1406		'Solid	,×	Hero
VG WAI 101-11-20	11/5/13	gonl		Salid	X	Hou
NGWM101-11-25	11[男13	1410	_	Solid	×	Hout
VGWU61-12-02	1115/13	1539		Solid	×	total total
12, NAWA61-12-05	11/5/13	1541		Solid	X	teus
VGWUB1-12-10	11/5/13	1543		Solid	×	thout
VGWU101-12-15	11/5/13	1545		Solid	X	Hous
VGWM161-12-20	11/5/13	1547		Solid	X	Edd Here
VGWU61-12-25	Internation	1547	6	Solid	X	0年
Possible Hazard Identification	Poison B Unknown	Π	Radiological	14	Sample Disposal (A fee may t	may be assessed if samples are retained longer than 1 month)
ested: I, II, III, IV, Other					Special Instructions/QC Require	equirements:
Empty Kit Relinguished by:		Date:			Time: 1 \\	Method of Shipment 1
Relinquisted by UWC		3		Company	Received by:	Company Date/Time: 12/12 10 Company
Relinguistred by	Date/Time			Company	Received by.	Date/Time: Company
Custody Seals Intact: Custody Seal No.:					Cooler Temperature(s) *C and Other Remarks:	her Remarks:

6370 Rothway Street Houston, TX 77040 Phone (713) 690-4444 Fax (713) 690-5646			0	Chain	Chain of Custody Record		
Client Information	Sampler NEUGA	A PHAN	~	Lab Ku	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s)	COC No: 600-23595-8666.1
Client Contact Mr. Jonathan Olsen	Phone: 713	113 953 4800	0281	E-Mait sachi	E-Mail [.] sachin.kudchadkar@testamericainc.com		Page of X
Company ARCADIS U.S., Inc.			1		Analysis	Analysis Requested	Job #
Address 2929 Briarpark Drive Suite 300	Due Date Requested:	ed:	1				ion Cod
	TAT Requested (days):	ays):	1				B - NaOH N - None C - Zn Acetate O - AsNaO2
State, Zip' TX, 77042	SAN	SAVAD					
phone 1139534800	PO # Purchase Order Requested	r Requested			>)		G - Amehlor S - H2SO4 H - Ascorbic Acid T - TSP Dodecalnydrate
Email ionathan.olsen@arcadis-us.com	WO#				-		I - Ice J - DI Water
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633						L-EDA Z-other (specify)
NACUUM GUDDETA WEST UNIT U	SSOW#				NSD ()		of co Other
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, C=wasteloil, BT=Tesue, A=Air	Eield Filtered Perform MS/I 8015B_DRO 9056_28D - Chil 8015B_GRO 8021B- BTEX		Total Number Special Instructions/Note:
	X	X		Preservation Code:	XXN N N N		X
NGN11101-13-02	11/6/13	1150	Ð	Solid	X		Herd
NGW461-13-05	Weliz	IISZ		Solid	X		HELD
NEWM61-13-10	11 6/13	HSH		Solid	X		Haud
NGWM61-13-15	11/6/13	1156		Solid	X		きい
VGWULE 1-13-20	11/4/13	1158		Solid			Hard
VGW461-13-25	11/6/13	1200		Solid	×		Houd
	11/5/13	hear		Solid	X		Houd
-14-	11/5/13	1626		Solid	X		ficul
VGWU101-14-10	11 5 13	1628	_	Solid	X		Hous
VGWU101-14-15	11/5/13	1630		Solid	X		Hout
NGWHU1-14-20	11/5/13	1632	4	Solid			一番
Possible Hazard Identification			Dentintration	l	Sample Disposal (A fee may	may be assessed if samples are i	samples are retained longer than 1 month)
V. Off	- 1 I	- 1			Special Instructions/QC Requirements:	ments:	
Empty Kit Relinquished by:	(1410),	Date:			Time: 11/1	Mathod of Shipment	
Reinquished by	Date(Time	3 800	0	Company	Received by:	Date/Times	CIR ADD Company
Relinquished by	Date/Tane:	0		Company	Received by	V V / Date/Time: L	Company
Reinquished by	Date/Time*			Company	Received by:	- Date/Time:	Company
Custody Seals Intact: Custody Seal No.: △ Yes △ No					Cooler Temperature(s) °C and Other Remarks	er Remarks,	

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6310 Rothwey Street Houston, TX 77040 Phone (713) 690-4444 Fax (713) 690-5646			~	Chain of Custody Reco	ofC	ust	od	× 7	ec	ord											5.0		
Client Information	Sampler. MELISA	A TYPE	艺	Lab	Lab PM: Kudchadkar,		Sachin G					Carrie	Carrier Tracking No(s)	ng No(S.		0.0	COC No:	COC No: 600-23595-8666.	666.1			
Client Contact. Mr. Jonathan Olsen	Phone: 7130	2	1800	E-M	E-Mail sachin.kudchadkar@testamericain	chadk	ar@t	estan	nerica	inc.com	m						5 7	Page Sof S	of	2			
Company: ARCADIS U.S., Inc.					57			21	Analy	lysis	s Rec	sis Requested	ed				5	Job #:	14				
Address: 2929 Briarpark Drive Suite 300	Due Date Requested	d,			-		-	_	-	-			-	-				resen	ration	Preservation Codes:	- 21 Line		
	TAT Requested (days);	iys);			_			_		_					-		0.0.1	B - NaOH C - Zn Acet	H		N - None O - AsNaO2	102 and	
State, Zip: TX, 77042	STANDARD	Net			_		_				-							D - Nitric Acid E - NaHSO4	D - Nithic Acid E - NaHSO4		P - Na204S Q - Na2SO3	503 503	
Phone: 7139534800	Po #: Purchase Order Requested	Requested)	_		_	_		-							- Amchic - Amchic	r - MeOH G - Amchior H - Ascorbic Acid		- H2S	D4 D4 Dodecat	K - NaZSZSU3 S - H2SO4 T - TSP Dodecahydrate
Email: ionathan olsen@arcadis-us.com	wO 非				_				-	-	-						-	1 - Ice J - DI Water	ater		U - Acetone V - MCAA	A	
Project Name:	Project #.				_		_	_	-	-			-				-	K-EDTA	Ъ	NE	W - ph 4-5 Z - other (s	W - ph 4-5 Z - other (specify)	3
Site.	SSOW#:						rido		_		-	_			-		_	Others					
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (www.ater. Sasolid, Owwasteioi, BTaTassue, AnAir	5 Field Filtered Perform MS/N	8015B_DRO	9056_28D - Chie	8015B_GRO	8021B-BTEX	-					1		Total Number	10	pecia	al Inst	ructio	Special Instructions/Note:	ġ.
	X	X	Preserva	Preservation Code:	X	-	-	-	-	-			_				X	I		V			
NGWU161-14-25	14stis	1634	9	Solid			×			111	T			-				Ŧ	言い				
				Solid	_			1															
				Solid	-			-		-					1								
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				Solid	-									-									
Possible Hazard Identification	Poison B Unknown		Radiological		S	Sample Disposal (A fee	le Disposal (A f Return To Client	osal To C	(A fe		y be a	may be assessed if samples are retained longer than 1 month)	ed if :	samp	les ai	e ret	stained long	long	er tha	n 1 m	onth) Months	hs	
sted: I, II, III, IV, Other					S	pecial	Instru	ctions	s/QC	Requ	Special Instructions/QC Requirements:	nts:	2										
Empty Kit Relinquished by:		Date:			Time:			-	\leq	-		_	Method	od of Shipment.	ment.			1			3		
Refinquished by	Date/Time/7/	ox bi	00	Company	Ì	Rece	Received by:	>	-		202	3	-	Dat	Date/Time	10	à	2	0	0	Company	B	5
Relinquished by	Date/Tinfe:			Company		Rece	Received by.	-	S	(-	20	-	Dat	Date/Time/	Y	1		4		Company	5	
Relinquished by	Date/Time:			Company	-	Rece	Received by							Dat	Date/Time:		1	1		0	Company	Y	
Custody Seals Intact: Custody Seal No.:						Coole	rTem	peratu	ne(s) er	and C	ther Re	Cooler Temperature(s) °C and Other Remarks.		ł					24				
10 140 LI 110						ľ											1						

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Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Login Number: 82342 List Number: 1

Creator: Capps, Dana R

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a<br 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	

List Source: TestAmerica Houston



Project Location:

Certificate of Analysis Summary 563441 Arcadis - Houston, Houston, TX Project Name: HES Transfer



Date Received in Lab: Wed Sep-20-17 03:45 pm

Report Date: 27-SEP-17 Project Manager: Kelsey Brooks

	I.ah Id:	563441-001
Analysis Romostod	Field Id:	<i>Field 1d</i> : VGWLL-61-003-W
narcanhavr credimity	Depth:	2- In
	Matrix:	SOIL
	Sampled:	Sep-20-17 09:00
Inorganic Anions by EPA 300/300.1	Extracted:	Extracted: Sep-25-17 17:20
	Analyzed:	Analyzed: Sep-26-17 12:20
	Units/RL:	mg/kg RL
Chloride		1240 4.97
		-

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing. Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Munz Moah Kelsey Brooks

Project Manager

Final 1.000
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,

Huns hoah

Kelsey Brooks Project Manager

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Sample Cross Reference 563441



Arcadis - Houston, Houston, TX

HES Transfer

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

Sample Id VGWLL-61-003-W



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





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample Id:	VGWLL-61-003-W 563441-001		Matrix: Date Collec	Soil ted: 09.20.17 09.00		Date Received: Sample Depth:		5
Analytical Metho	od: Inorganic Anions l	oy EPA 300/300.1				Prep Method:	E300P	
Tech: M	INV					% Moisture:		
Analyst: N	/INV		Date Prep:	09.25.17 17.20		Basis:	Wet Weight	
Seq Number: 3	028705							
Parameter		Cas Number	Result	RL	Units	Analysis Da	te Flag	Dil
Chloride		16887-00-6	1240	4.97	mg/kg	09.26.17 12.2	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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



QC Summary 563441

Arcadis - Houston HES Transfer

Analytical Method:	Inorganic Anions b	y EPA 300	/300.1					Pr	ep Metho	od: E30	OP	
Seq Number:	3028705			Matrix:	Solid				Date Pre	ep: 09.2	5.17	
MB Sample Id:	731508-1-BLK		LCS Sar	nple Id:	731508-1-	BKS		LCSI	O Sample	Id: 7315	508-1-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 b	y EPA 300/	300.1					Pr	ep Metho	od: E30)0P	
Seq Number:	3028705			Matrix:	Soil				Date Pro	ep: 09.	25.17	
Parent Sample Id:	563445-002		MS Sar	nple Id:	563445-00	02 S		MSI	D Sample	Id: 563	445-002 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	37

Analytical Method:	Inorganic Anions b	y EPA 300/	300.1					Pr	ep Metho	d: E300)P	
Seq Number:	3028705			Matrix:	Soil				Date Pre	ep: 09.2	5.17	
Parent Sample Id:	563777-001		MS Sar	nple Id:	563777-00	01 S		MSI	O Sample	Id: 5637	77-001 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	Х

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Stafford, Texas (281-240-4200) Dallas Texas (214-902-0300)			Ode	Odessa, Texas (432-563-1800) Norcross. Georgia (770-449-8800)	Lakeland, Florida (863-646-8526) Tampa. Florida (813-620-2000)
Dallas Texas (214-902-0300) Service Center - San Antonio, Texas (210-508-3334)	9	WWW. Janco com		Norcross, Georgia (770-449-8800) Xenco Quote # Q_14208 Xenco Job #	Tampa, Florida (813-620-2000) たいえロロー
	4	A DATE OF A		Analytical informati	5 65 991 Matrix Codes
Client / Reporting Information		Project Information			
Company Name / Branch: Arcadis - Houston		Project Name/Number: HES Transfer			S = Soil/Sod/Solid
Company Address: 10205 Westheimer Rd., Suite 800 Hiouston TX 77042		roject Location:			GW = Ground Water DW = Drinking Water
Email: Phone No: brett. krehbiel@arcadis.com		Involca To:			SW = Surface water SL = Sludge
Project Contact: Brett Krehblel		O Number	-		OW =Ocean/Sea Water W = Wipe
Samplers's Name					
		Collection	Number of preserved bottles		A = Air
No. Field ID / Point of Collection	Sample	Date Time Matrix bottles T 1907	Acetate HNO3 H2SO4		Field Comm
1 1/GWUL-61-00-3-W		17 CSEC 5 1	X		
2					
3					
4					
0					
6					
7					
8					
Ø					
10					
Turnaround Time (Business days)		Data Deliverable Information	formation	Temp: 2	
Same Day TAT	AT	Level II Std QC	Level IV (Full Data Pkg /raw data)	data) CF:(0-6: -0.200	I IR ID:R-8
Next Day EMERGENCY	AL.	Level III Std QC+ Forms	TRRP Level IV	(6-23: +	(6-23: +0.2°C)
2 Day EMERGENCY	t TAT	Level 3 (CLP Forms)	UST/RG -411	Corrected Temp:	Temp: 2 Q
3 Day EMERGENCY		TRRP Checklist			1
TAT Starts Day received by Lab, if received by 5:00 pm	by 5:00 pm			FED-EX / UPS: Tracking #	
	USTODY MUST BE DO	CUMENTED BELOW EACH TIME SAMPLES CHAN	GE POSSESSION, INCLUDING COURIER DELIVERY		-
	Date Time:		Relinquished By:	Plate Time: Received by:	NOWING .
Relinquished by:	Date Time:	Recoived By:	Relinquished By:	Date Time: Received By:	TALALAN L
Relinguished by:	Date Time:	3 Received By:	4 Custody Seal #	A A A Relinquished by: Date Time: Received By: Custody Seal # Preserved where applicable On Ice Cooler Temp. Thermo. Corr. Fa	On Ice Cooler Temp. Thermo. Corr. Factor

Final 1.000



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: Arcadis - Houston Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 09/20/2017 03:45:00 PM Temperature Measuring device used : R8 Work Order #: 563441 Comments Sample Receipt Checklist #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#:

Date: 09/21/2017

Checklist completed by: Connie Hernandez Checklist reviewed by: Kelsey Brooks

Date: 09/21/2017



Certificate of Analysis Summary 563445 Arcadis - Houston, Houston, TX Project Name: HES Transfer



Date Received in Lab: Wed Sep-20-17 04:00 pm

Contact: Project Location:

Report Date: 27-SEP-17 Project Manager: Kelsey Brooks

Analysis Requested Field Id. VGWU-61-002-W VGWU-61-005-W VGWU-61-006-W VGWU-61-006-W $Depth$: $Depth$: $2 \cdot \ln$ $2 \cdot \ln$ $2 \cdot \ln$ $2 \cdot \ln$ $Matrix$: $Soll$ $2 \cdot \ln$ $2 \cdot \ln$ $2 \cdot \ln$ $2 \cdot \ln$ $Matrix$: $Soll$ $Soll$ $Soll$ $Soll$ $Soll$ $Sampled$: $Sep-19-1715:00$ $Sep-19-1715:20$ $Sep-19-1715:20$ $Soll$ $Sampled$: $Sep-19-1715:00$ $Sep-19-1715:20$ $Sep-19-1715:20$ $Sep-19-1715:20$ $Madyzed$: $Sep-25-1717:20$ $Sep-25-1717:20$ $Sep-25-1717:20$ $Sep-26-1712:27$ $Madyzed$: $Sep-26-1712:27$ $Sep-26-1712:55$ $Sep-26-1712:20$ $Sep-26-1712:20$ $Madyzed$: mg/kg RL mg/kg RL mg/kg RL $Madyzed$: $Sep-26-1712:24$ $Sep-26-1712:25$ $Sep-26-1712:20$ $Sep-26-1712:20$ $Sep-26-1712:20$ $Madyzed$: mg/kg RL Mg/kg RL $RP/26-1712:20$ $RP/26-1712:20$		Lab Id:	563445-001	563445-002	563445-003	563445-004	
	A malucis Dominated	Field Id:	VGWU-61-002-W	VGWU-61-004-W	VGWU-61-005-W	VGWU-61-006-W	
	naisanhaw sissimuw	Depth:	2- In	2- In	2- In	2- In	
		Matrix:	SOIL	SOIL	SOIL	SOIL	
Chloride by EPA 300 Extracted: Sep-25-17 17:20 Sep-25-17 17:21 Analyzed: Sep-26-17 12:27 Sep-26-17 12:34 Sep-26-17 12:55 Sep-26-17 13:4 Sep-26-17 12:55 Sep-26-17 13:4 <i>Units/RL:</i> mg/kg RL mg/kg RL mg/kg RL mg/kg 3050 24.6 1310 4.91 1440 4.95 2200		Sampled:	Sep-19-17 15:00	Sep-19-17 15:15	Sep-19-17 15:21	Sep-19-17 15:26	
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	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	-
Units/RL: mg/kg RL mg/kg RL mg/kg RL mg/kg 3050 24.6 1310 4.91 1440 4.95 2200		Analyzed:	Sep-26-17 12:27	Sep-26-17 12:34	Sep-26-17 12:55	Sep-26-17 13:02	
3050 24.6 1310 4.91 1440 4.95 2200		Units/RL:		mg/kg RL	mg/kg RL	mg/kg RL	
	Chloride						

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results repressed throughout this analytical report represent the best judgment of XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing. Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Murs Doah Kelsey Brooks Project Manager

Final 1.000

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.

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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,

Huns hoah

Kelsey Brooks Project Manager

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Sample Cross Reference 563445



Arcadis - Houston, Houston, TX

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.





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample I	VGWU-61-002-W d: 563445-001		Matrix: Date Colle	Soil cted: 09.19.17 15.00		Date Received:09 Sample Depth: 2 In		0
5	ethod: Chloride by EPA	300				Prep Method: E3	00P	
Tech:	MNV			00 05 15 15 00		% Moisture:		
Analyst:	MNV		Date Prep:	09.25.17 17.20		Basis: We	et 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





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample I	VGWU-61-004-W d: 563445-002		Matrix: Date Colle	Soil cted: 09.19.17 15.15		Date Received:09. Sample Depth: 2 In		0
2	ethod: Chloride by EPA	300				Prep Method: E3	00P	
Tech: Analyst:	MNV MNV		Date Prep:	09.25.17 17.20		% Moisture: Basis: We	et 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





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample I	VGWU-61-005-W d: 563445-003		Matrix: Date Colle	Soil cted: 09.19.17 15.21		Date Received:09. Sample Depth: 2 In		0
Analytical M Tech:	ethod: Chloride by EPA MNV	300				Prep Method: E3	90P	
Analyst:	MNV		Date Prep:	09.25.17 17.20			t 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





Arcadis - Houston, Houston, TX

HES Transfer

Parameter		Cas Number	Result	RL	Units	Analysis D	ate	Flag	Dil
Seq Number:	3028705								
Analyst:	MNV		Date Prep:	09.25.17 17.20		Basis:	Wet V	Veight	
Tech:	MNV					% Moisture:			
Analytical M	ethod: Chloride by EPA	300				Prep Method:	E300I	Р	
Lab Sample I	d: 563445-004		Date Collect	ed: 09.19.17 15.26		Sample Depth	n:2 In		
Sample Id:	VGWU-61-006-W		Matrix:	Soil		Date Received	d:09.20	.17 16.00	

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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



QC Summary 563445

Arcadis - Houston HES Transfer

Analytical Method:	Chloride by EPA 30)0						Pr	ep Metho	d: E30	0P	
Seq Number:	3028705			Matrix:	Solid				Date Pre	ep: 09.2	5.17	
MB Sample Id:	731508-1-BLK		LCS Sar	nple Id:	731508-1-	BKS		LCSI	D Sample	Id: 731	508-1-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 30	00						Pr	ep Metho	d: E30	OP	
Seq Number:	3028705			Matrix:	Soil				Date Pre	ep: 09.2	5.17	
Parent Sample Id:	563445-002		MS Sar	nple Id:	563445-00)2 S		MS	D Sample	Id: 5634	445-002 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	Х

Analytical Method:	Chloride by EPA 30)0						Pr	ep Metho	od: E30	OP	
Seq Number:	3028705			Matrix:	Soil				Date Pro	ep: 09.2	5.17	
Parent Sample Id:	563777-001		MS Sar	nple Id:	563777-00	01 S		MSI	O Sample	Id: 5637	777-001 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	Х

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Stand	"X
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Stafford, Texas (281-240-4200)

CHAIN OF CUSTODY

Page 1 Of 1

Odessa, Texas (432-563-1800)

Lakeland, Florida (863-646-8526)

No. Samplers's Name 10205 Westheimer Rd., Suite 800 Hiouston TX 77042 Company Name / Branch: Arcadis - Houston 10 9 8 1 6 Project Contact: brett.krehbiel@arcadis.com CINAL Company Address: cn 4 ω N Relinquished by: Relinquished by Sampler Relinquished by: 3 Day EMERGENCY 2 Day EMERGENCY Next Day EMERGENCY 1 Service Center - San Antonio, Texas (210-509-3334) Dallas Texas (214-902-0300) NGWUL-TAT Starts Day received by Lab, if received by 5:00 pm Same Day TAT **Client / Reporting Information** VGWUL-VGWUL-16WU-61-002-W Turnaround Time (Business days) Secol 15,00 61 61 - COS - W Field ID / Point of Collection 6. **Brett Krehbiel** 1-004-0 006-W A 5 Day TAT Contract TAT 7 Day TAT SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVER Phone No: Date Time: Date Time: Date Time: Sample N 2 V 1 g Project Name/Number: HES Transfer Project Location: 9.9.17 9.19.17 2 9.6.17 PO Number: nvoice To: Collection A.n Date 1151 1526 Level II Std QC 1.51.5 Received By: **Received By:** TRRP Checklist 122/ **Received By:** 800 Time Level III Std QC+ Forms Project Information Level 3 (CLP Forms) lune Matrix 5 s CA 5 Data Deliverable Information www.xenco.com # of bottles ~ ñ HCI NaOH/Zn Acetate Number HNO3 of preserved bottles Custody Seal # **Relinquished By:** Relinquished By: UST / RG -411 TRRP Level IV Level IV (Full Data Pkg /raw data) H2SO4 NaOH 5 NaHSO4 MEOH 5 5 2 5 NONE * X × Xenco Quote # Norcross, Georgia (770-449-8800) 2 X Chlorides Preserved where applicable Date Time: 9-20-17/Loo Date Time: Analytical Information Q_14208 Temp: 3 +) CF:(0-6: -0.2°C) FED-EX / UPS: Tracking # Corrected Temp: 2 (6-23: +0.2°C) 14 Xenco Job # Received By: Received On Ice Tampa, Florida (813-620-2000) 63442 Cooler Temp. IR ID:R-8 Field Comments SW = Surface water SL = Sludge OW =Ocean/Sea Water W = Wipe O = Oll WW- Waste Water Thermo, Corr. Factor A = Air P = Product DW = Drinking Water S = Soil/Sed/Solid GW =Ground Water Matrix Codes

5 /2.

Final 1.000



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: Arcadis - Houston Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 09/20/2017 04:00:00 PM Temperature Measuring device used : R8 Work Order #: 563445 Comments Sample Receipt Checklist #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#:

Date: 09/21/2017

Checklist completed by: Connie Hernandez Checklist reviewed by: Kelsey Brooks

Date: 09/21/2017



Project Location:

Certificate of Analysis Summary 563446 Arcadis - Houston, Houston, TX Project Name: HES Transfer



Date Received in Lab: Wed Sep-20-17 04:00 pm Remort Date: 28-SFP-17

Report Date: 28-SEP-17 Project Manager: Kelsey Brooks

	Lab Id:	563446-001	563446-002	563446-003	563446-004	563446-005	563446-006
A malucia Domoctod	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
narcanhaw crechmutz	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					
	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					
Chloride		1040 25.0	1010 25.0	1020 5.00	1140 5.00	470 5.00	1160 5.00

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and revalts repressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing. Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Murs Roah Kelsey Brooks

Project Manager

Final 1.000



Project Location:

Certificate of Analysis Summary 563446 Arcadis - Houston, Houston, TX Project Name: HES Transfer



Date Received in Lab: Wed Sep-20-17 04:00 pm

Report Date: 28-SEP-17 Project Manager: Kelsey Brooks

	Lab Id:	563446-007	563446-008	
A malucia Domoctod	Field Id:	VGWU-61-005-E	VGWU-61-006-E	
naisanhay sissimity	Depth:	2- ft	2-	
	Matrix:	SOIL	SOIL	
	Sampled:	Sep-19-17 14:15	Sep-19-17 14:22	
Chloride by EPA 300	Extracted:	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	ш	
Chloride		1040 4.94		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing. Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Rung Moah Kelsey Brooks

Project Manager

Final 1.000

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,

Huns hoah

Kelsey Brooks Project Manager

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Sample Id

VGWU-61-003-E VGWU-61-004-E VGWU-61-007-E VGWU-61-008-E VGWU-61-002-E VGWU-61-002-E VGWU-61-005-E VGWU-61-006-E

Sample Cross Reference 563446



Arcadis - Houston, Houston, TX

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





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample I	VGWU-61-003-E d: 563446-001		Matrix: Date Colle	Soil cted: 09.19.17 10.00		Date Received:09. Sample Depth: 2.5		0
2	ethod: Chloride by EPA	300				Prep Method: E30	00P	
Tech: Analyst:	MNV MNV		Date Prep:	09.26.17 12.00		% Moisture: Basis: We	t 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





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample I	VGWU-61-004-E d: 563446-002		Matrix: Date Colle	Soil cted: 09.19.17 10.10		Date Received:09. Sample Depth: 3 ft		0
Analytical M	ethod: Chloride by EPA	300				Prep Method: E3	00P	
Tech:	MNV					% Moisture:		
Analyst:	MNV		Date Prep:	09.26.17 12.00		Basis: We	t 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





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample I	VGWU-61-007-E d: 563446-003		Matrix: Date Colle	Soil cted: 09.19.17 10.15		Date Received:09. Sample Depth: 2 f		0
Analytical Mo Tech:	ethod: Chloride by EPA MNV	300				Prep Method: E3 % Moisture:	00P	
Analyst:	MNV		Date Prep:	09.26.17 12.00			et 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





Arcadis - Houston, Houston, TX

HES Transfer

Sample Id: Lab Sample I	VGWU-61-008-E d: 563446-004		Matrix: Date Collec	Soil ted: 09.19.17 10.20		Date Received: Sample Depth:	0	
Analytical Mo Tech:	ethod: Chloride by EPA MNV	300				Prep Method: % Moisture:	E300P	
Analyst:	MNV		Date Prep:	09.26.17 12.00		Basis:	Wet Weight	
Seq Number:	3028851							
Parameter		Cas Number	Result	RL	Units	Analysis Da	te Flag	Dil

16887-00-6 1140

5.00

mg/kg 09.26.17 13.44

1

Page 10 of 18





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample I	VGWU-61-001-E d: 563446-005		Matrix: Date Colle	Soil cted: 09.19.17 13.58		Date Received:09. Sample Depth: 2 f		0
Analytical M Tech:	ethod: Chloride by EPA MNV	300				Prep Method: E3 % Moisture:	00P	
Analyst:	MNV		Date Prep:	09.26.17 12.00			et 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





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample I	VGWU-61-002-E d: 563446-006		Matrix: Date Collec	Soil cted: 09.19.17 14.07		Date Received:09 Sample Depth: 2 f		0
2	ethod: Chloride by EPA MNV	300				Prep Method: E3 % Moisture:	00P	
Tech: Analyst:	MNV		Date Prep:	09.26.17 12.00			et 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





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample I	VGWU-61-005-E d: 563446-007		Matrix: Date Colle	Soil cted: 09.19.17 14.15		Date Received:09. Sample Depth: 2 ft		0
Analytical Mo Tech:	ethod: Chloride by EPA MNV	300				Prep Method: E3	00P	
Analyst:	MNV		Date Prep:	09.26.17 12.00			et 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





Arcadis - Houston, Houston, TX

Sample Id: Lab Sample I	VGWU-61-006-E d: 563446-008		Matrix: Date Colle	Soil cted: 09.19.17 14.22		Date Received:09. Sample Depth: 2	20.17 16.0	0
Analytical M Tech:	ethod: Chloride by EPA MNV	300				Prep Method: E3 % Moisture:	00P	
Analyst:	MNV		Date Prep:	09.26.17 12.00			t 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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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

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



QC Summary 563446

Arcadis - Houston HES Transfer

Analytical Method:	Chloride by EPA 30	00						Pr	ep Metho	od: E30	0P	
Seq Number:	3028851			Matrix:	Solid				Date Pro	ep: 09.2	6.17	
MB Sample Id:	731556-1-BLK		LCS Sar	nple Id:	731556-1-	BKS		LCSI	D Sample	Id: 731	556-1-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 30	00						Pr	ep Metho	d: E30	0P	
Seq Number:	3028851			Matrix:	Soil				Date Pre	ep: 09.2	6.17	
Parent Sample Id:	563566-010		MS Sar	nple Id:	563566-0	10 S		MSI	D Sample	Id: 563	566-010 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 30)0						Pr	ep Metho	od: E300)P	
Seq Number:	3028851			Matrix:	Soil				Date Pre	ep: 09.2	6.17	
Parent Sample Id:	563567-004		MS Sar	nple Id:	563567-00)4 S		MSI	O Sample	Id: 5635	67-004 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	Х

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CHAIN OF CUSTODY

Odess, Texas (422-65-1900) Lakel Information Norross, Georgia (770-448-9800) Tanp Information Norross, Georgia (770-448-9800) Norross, Georgia (770-448-9800) Information Norross, Georgia (770-448-980) Norross, Georgia (770-448-980) Information Norross, Georgia (770-448-980) Noross, Georgia (770-480)
exas (432-563-1800) Lakeland, Florida (Georgia (770-449-8800) Tampa, Florida (81 * Q_14208 Xenco Jobs 5 6 3 41 40 Analytical Information Analytical Information FED-EX / UPS: Tracking # Date Time: Received By: Pred vibare applicable Onlege Cooler Temp.
exas (432-563-1800) Lakeland, Florida (Georgia (770-449-8800) Tampa, Florida (81 * Q_14208 Xenco Jobs 5 6 3 41 40 Analytical Information Analytical Information Temp: 5 6 3 41 40 Temp: 7 6 7 6 7 6 7 6 7 7 7 7 7 7 7 7 7 7 7
exas (432-563-1800) Lakeland, Florida (Georgia (770-449-8800) Tampa, Florida (81 * Q_14208 Xenco Jobs 5 6 3 41 40 Analytical Information Analytical Information Temp: 5 6 3 41 40 Temp: 7 6 7 6 7 6 7 6 7 7 7 7 7 7 7 7 7 7 7
exas (432-563-1800) Lakeland, Florida (Georgia (770-449-8800) Tampa, Florida (81 * Q_14208 Xanco Job * 5 6 3 41 40 Analytical Information Analytical Information Temp: 5 6 3 41 40 Temp: 7 60; -0, 2°C, IR ID; CF: (0-6: -0, 2°C, IR ID; COT rected Temp: 7 40, 2°C, IR ID; Date Time: Received By: rvid where applicable On Lee Cooler Temp.
exas (432-563-1800) Lakeland, Florida (Georgia (770-449-8800) Tampa, Florida (81 * Q_14208 Xanco Job * 5 6 3 41 40 Analytical Information Analytical Information Temp: 5 6 3 41 40 Temp: 7 60; -0, 2°C, IR ID; CF: (0-6: -0, 2°C, IR ID; COT rected Temp: 7 40, 2°C, IR ID; Date Time: Received By: rvid where applicable On Lee Cooler Temp.
exas (432-563-1800) Lakeland, Florida (Georgia (770-449-8800) Tampa, Florida (81 * Q_14208 Xenco Job * 5 63 (14 (4) Analytical Information Analytical Information Temp: 5 63 (14 (4) Temp: 6 (6) - 0.2°C) (6-23: +0.2°C) (6-23: +0.2°C) (6-23: +0.2°C) (6-23: +0.2°C) (6-23: +0.2°C) (6-23: +0.2°C) (6-23: +0.2°C) (6-23: +0.2°C) (6-23: +0.2°C) (6-23: +0.2°C) CF(Cled Temp: 7 (4) 2°C) Date Time: Received By: Onice Cooler Temp.
Lakeland, Florida (81 Tampa, Florida (81 S. 6.3.41 41 S. 6.3.41 41 C. 6.2.0°C) S. 2.3: +0.2°C) Cted Temp: Cted Temp: Cted Temp: Onlee Cooler Temp.
Lakeland, Florida (81 5.63440 5.63440 0.2°C) IR ID: emp: 2 1R ID:
Imatrix Codes Matrix Codes S = Soil/Soil/Soild GW = Ground Water S = Producing Water S = Soil/Sed/Soild GW = Ground Water S = Soil/Sed/Soild GW = Ground Water S = Soil/Sed/Soild S = Soil/Sed/Soild GW = Ground Water S = Soil/Sed/Soild W = Wipe OW = Ocean/Sea W = Wipe OW = Ocian/Sea Water A = Air d Comments d Comments B 8 8 8

Page 17 of 18



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: Arcadis - Houston Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 09/20/2017 04:00:00 PM Temperature Measuring device used : R8 Work Order #: 563446 Comments Sample Receipt Checklist #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#:

Date: 09/21/2017

Checklist completed by: Connie Hernandez Checklist reviewed by: Kelsey Brooks

Date: 09/21/2017



Project Location:

Certificate of Analysis Summary 564445 Arcadis - Houston, Houston, TX



Date Received in Lab: Tue Oct-03-17 10:11 am

Project Manager: Kelsey Brooks **Report Date:** 04-OCT-17

	Lab Id: Field Id:	56445-001 VGWU-61-008-W	564445-002 VGWU-61-009-W	564445-003 VGWU-61-010-W	
Anurysis Requested	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	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and result expressed throughout this analytical report represent the best judgement of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Murs Roah Kelsey Brooks

Project Manager

Final 1.000

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,

Huns hoah

Kelsey Brooks Project Manager

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Sample Cross Reference 564445



Arcadis - Houston, Houston, TX

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



CASE NARRATIVE

Client Name: Arcadis - Houston Project Name: HES Transfer

Project ID: Work Order Number(s): 564445 Report Date: 04-OCT-17 Date Received: 10/03/2017

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

1	VGWU-61-008-W		Matrix:	Soil		Date Received	:10.03.17 10.1	1
Lab Sample Id: 5	564445-001		Date Collec	eted: 10.02.17 08.50		Sample Depth:	:3 ft	
Analytical Metho	od: Inorganic Anions b	by EPA 300/300.1				Prep Method:	E300P	
Tech: N	INV					% Moisture:		
Analyst: N	INV		Date Prep:	10.03.17 13.45		Basis:	Wet Weight	
Seq Number: 3	029501							
Parameter		Cas Number	Result	RL	Units	Analysis Da	ate 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

Sample Id: VGWU-61-00	9-W	Matrix:	Soil	-	Date Received:1		
Lab Sample Id: 564445-002		Date Collec	eted: 10.02.17 08.54		Sample Depth: 3	ft	
Analytical Method: Inorganic	Anions by EPA 300/300.1]	Prep Method: E	E300P	
Tech: MNV				(% Moisture:		
Analyst: MNV		Date Prep:	10.03.17 13.45]	Basis: V	Wet Weight	
Seq Number: 3029501							
Parameter	Cas Number	Result	RL	Units	Analysis Date	e Flag	Dil
Chloride	16887-00-6	630	4.97	mg/kg	10.03.17 19.07	7	1



Certificate of Analytical Results 564445



Arcadis - Houston, Houston, TX

Sample Id: Lab Sample Id	VGWU-61-010-W		Matrix: Date Collec	Soil sted: 10.02.17 08.58		Date Received: Sample Depth:		l
	thod: Inorganic Anions	by EPA 300/300.1	Dute Cone			Prep Method:		
Tech:	MNV					% Moisture:		
Analyst:	MNV		Date Prep:	10.03.17 13.45	i	Basis:	Wet Weight	
Seq Number:	3029501							
Parameter		Cas Number	Result	RL	Units	Analysis Da	te Flag	Dil
Chloride		16887-00-6	360	4.97	mg/kg	10.03.17 19.1	5	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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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

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5332 Blackberry Drive, San Antonio TX 78238	(210) 509-3334	(210) 509-3335
1211 W Florida Ave, Midland, TX 79701	(432) 563-1800	(432) 563-1713
2525 W. Huntington Dr Suite 102, Tempe AZ 85282	(602) 437-0330	



QC Summary 564445

Arcadis - Houston HES Transfer

Analytical Method:	Inorganic Anions b	organic Anions by EPA 300/300.1						Prep Method: E300P					
Seq Number:	3029501	29501 Matrix:							Date Pre	ep: 10.0	3.17		
MB Sample Id:	7632000-1-BLK		LCS Sar	nple Id:	7632000-	1-BKS		LCSI	O Sample	Id: 7632	2000-1-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 b	norganic Anions by EPA 300/300.1 Prep Method:								d: E30	E300P		
Seq Number:	3029501			Matrix:	Soil				Date Pre	ep: 10.0	03.17		
Parent Sample Id:	564347-001		MS Sar	nple Id:	564347-00	01 S		MSI	D Sample	Id: 564	347-001 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:								d: E30	E300P		
Seq Number:	3029501	· · · · · · · · · · · · · · · · · · ·						ep: 10.0	10.03.17			
Parent Sample Id:	564445-003		MS Sar	nple Id:	564445-00)3 S		145-003 SD	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	Х

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	0	whit	ab, if received by 5:00 pm		Contract TAT	7 Day TAT	5 Day TAT	-							eie-w		100-41	008-W	Connection				Phone No:					ıs (210-509-3334)		
Date Time:	Date Time:	Date Time:	00 pm						-						2	1	1 2	31	Sample Depth											
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Thermo, Corr. Factor																			Field Comments	A = AIr	ww= waste water	W = Wipe 0 = Oil	SW = Surface water SL = Sludge OW =Ocean/Sea Water	GW =Ground Water DW = Drinking Water P = Product	S = Soil/Sed/Solid		Matrix Codes		-2000)	



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: Arcadis - Houston Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 10/03/2017 10:11:00 AM Temperature Measuring device used : R8 Work Order #: 564445 Comments Sample Receipt Checklist #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#:

Date: 10/03/2017

Checklist completed by: Connie Hernandez 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)



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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,

Huns Boah

Kelsey Brooks Project Manager

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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

Kms Boah

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	e Depth:		
Lab Sample Id	: 556452-001		Date Collecte	ed: 06.27.17	13.27	Date R	eceived: 06.28.	17 10.0	00
Analytical Me	thod: Inorganic Anions by	EPA 300/300.1				Prep N	1ethod: E300P		
Analyst:	MGO		% Moist:			Tech:	MGO		
Seq Number:	3021487		Date Prep: 06	5.30.17 13.30					
			Prep seq: 72	27067					
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	e Depth:		
Lab Sample Id	: 556452-002		Date Collecte	ed: 06.27.17	13.41	Date R	eceived: 06.28.	17 10.0	00
Analytical Me	thod: Inorganic Anions by	EPA 300/300.1				Prep N	fethod: E300P		
Analyst:	MGO		% Moist:			Tech:	MGO		
Seq Number:	3021487		Date Prep: 06	5.30.17 13.30					
			Prep seq: 72	27067					
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	e Depth:		
Lab Sample Id	: 556452-004		Date Collecte	ed: 06.27.17	13.34	Date R	eceived: 06.28.	17 10.0	00
Analytical Me	thod: Inorganic Anions by	EPA 300/300.1				Prep N	fethod: E300P		
Analyst:	MGO		% Moist:			Tech:	MGO		
Seq Number:	3021487		Date Prep: 07	7.03.17 16.00					
			Prep seq: 72	27067					
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	1	Matrix:	Water		Sample	Depth:		
Lab Sample Id:	727067-1-BLK]	Date Collected:			Date Re	eceived:		
Analytical Met	hod: Inorganic Anions by EPA 30	0/300.1				Prep M	ethod: E300P		
Analyst:	MGO		% Moist:			Tech:	MGO		
Seq Number:	3021487	1	Date Prep: 06.3	0.17 13.30					
		1	Prep seq: 727	067					
Parameter		CAS Imber	Result	MQL	SDL	Units	Analysis Date	Flag	Dil Factor
Chloride	1688	7-00-6	< 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
Work Order #:	556452

Date Received: 06/28/17

Client : Arcadis - Roseville, CA

Project ID:

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	Р
MW-1-W-170627	556452-002	06/27/17				06/30/17	28	3	Р
EB-01-W-170627	556452-004	06/27/17				07/04/17	28	7	Р

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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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

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

Analytical Log

Analytical Method:	Inorganic Anions by EPA 300/3	00.1	Batch #:	3021487
Project Name:	VGWU-61		Project ID:	
Client Name:	Arcadis - Roseville, CA		WO Number:	556452
Client San		Lab Sample Id		QC Types
EB-01-W-1	70627	556452-004		SMP

556452-002

556452-001

556451-001 S

556451-001 SD

727067-1-BKS

727067-1-BLK

727067-1-BSD

SMP

SMP

MS

MSD

BKS

<u>BLK</u>

BSD

MW-1-W-170627

MW-2-W-170627



Project Name: VGWU-61



ler ≠		ŝ	\$		t			Project ID:	ct ID:	0	
Analyst: MGO		D	ate Prepar	Date Prepared: 06/30/2017	/			Date Ans	Date Analyzed: 06/30/2017	6/30	/.107/
Lab Batch ID: 3021487	Sample: 727067-1-BKS	BKS	Batch #:	h#: 1				N	Matrix: W	Water	
Units: mg/L			BLAN	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	SPIKE / I	3LANK S	PIKE DUP	LICATE R	ECOVE	RY	STUI
Inorganic Anions by EPA 300/300.1	v EPA 300/300.1	Blank	Spike	Blank	Blank	Spike	Blank	Blk. Spk		Cont	rol
D	\$	Sample Result [A]	-	Spike Result	Spike %R	Added	Spike Duplicate	Dup. %R	RPD %	Limits %R	R Its
Analytes			[B]	[C]	[D]	[E]	Result [F]	[6]			

Flag

20

90-110

-

95

23.8

25.0 Ξ

2

23.5

25.0 B

<0.0858

Analytes Chloride 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

Page 11 of 19



Form 3 - MS / MSD Recoveries

Project Name: VGWU-61

Control	Control Control	Spiked	Duplicate Spiked		ole Spiked	Spiked Sample Spiked	Parent	Tunumuin Auinus hu EDA 200/200 1	
	N STUDY	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY	DUPLICA'	RIX SPIKE	KE / MATI	MATRIX SPI		mg/L	Reporting Units: mg/L
			0	Analyst: MGO	An	06/30/2017	Date Prepared: 06/30/2017	06/30/2017	Date Analyzed:
		r: Water	Matrix: Water	Batch #: 1	Bat	556451-001 S	QC- Sample ID: 556451-001 S	3021487	Lab Batch ID:
		ë	Project ID:					556452	Work Order # :

Increanic Anione by FDA 200/200 1	1 41 111		alding navide			Duplicate	opikeu		COLLEGE	CUILLU		
THUI SAME AMOUNT UT THE TANK OUT THE	Sample	Spike	Result		Spike	Spiked Sample	Dup.	RPD	Limits	Limits	Flag	
	Result	Added	[C]		Added	Result [F]	%R	%	%R	%RPD		
Analytes	[A]	[B]		[D]	E		[6]					
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)/BRelative Percent Difference RPD = 200*(C-F)/(C+F)

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

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

Final 1.000

Page 12 of 19

Attachment A Laboratory Data Package Cover Page

Laboratory Batch No(s) 727067

Project Name:

This Data package consists of :

Laboratory Number: 556452

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

VGWU-61

- 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;
- $\boxed{\mathbf{X}}$ 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.

 \boxed{X} R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;

 \mathbf{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 official 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.

Kmis hoah

Kelsey Brooks Name (Printed)

Signature

Project Manager Official Title (printed)

06-JUL-17 Date

Labo	orator	y Name: XENCO LABORATORIES	LRC Date : 06-JUL-17					
Proje	ect Na	ame: VGWU-61	Laboratory Job Number : 556452					
Revi	ewer	Name: KEB	Batch Number(s) : 727067					
$\#^1$	A ²	Description		Yes	No	NA ³	NR ⁴	⁴ ER#
R1	OI	Chain-of-Custody (COC)		1		1111		
		Did samples meet the laboratory's standard condition	ons of sample accentability upon receipt?	X				-
		Were all departures from standard conditions descr				X		+
R2	OI	Sample and Quality Control (QC) Identified		1				
		Are all field sample ID numbers cross-referenced to		X				-
		Are all laboratory ID numbers cross-referenced to t		X				+
R3	OI	Test Reports		1				
		Were all samples prepared and analyzed within hol	ding times?	X				+
		Other than those results $<$ MQL, were all other raw	-	X				+
		Were calculations checked by a peer or supervisor?		X				+
		Were all analyte identifications checked by a peer of		X				+
		Were sample detection limits reported for all analy	*	X				+
		Were all results for soil and sediment samples repo	rted on a dry weight basis?	1		X		\top
		Were % moisture (or solids) reported for all soil an	*			X		1
		Were bulk soil/solid samples for volatile analysis e	xtracted with methanol per SW846 Method 5035?			X		
		If required for the project, were TICs reported?				X		
R4	0	Surrogate Recovery Data						
		Were surrogates added prior to extraction?				X		
		Were surrogate percent recoveries in all samples w				X		
R5	OI	Test Reports/Summary Forms for Blank S	amples					
		Were appropriate type(s) of blanks analyzed?		Х				
		Were blanks analyzed at the appropriate frequency		Х				
			tical procedure, including preparation and, if applicable, cleanup	X				
		procedures ? Were Blank Concentrations <mql?< td=""><td></td><td>X</td><td></td><td></td><td></td><td>+</td></mql?<>		X				+
R6	OI	Laboratory Control Samples (LCS):						
100		Were all COCs included in the LCS?		X				-
		Was each LCS taken through the entire analytical p	rocedure including prep and cleanup steps?	X	┼───			+
		Were LCSs analyzed at the required frequency?	rocodure, meruaning prop and creanup steps:	X				+
		Were LCS (and LCSD, if applicable) %Rs within the	he laboratory QC limits?	X				+
			the laboratory's capability to detect the COCs at the MDL used to	X				+
		calculate the SDLs?						
		Was the LCSD RPD within the QC limits?		X				
R7	01	Matrix Spike (MS) and Matrix Spike Dupl						
		Were the project/method specified analytes include		X	\square			_
		Were MS/MSD analyzed at the appropriate frequent	•	X	<u> </u>			_
		Were MS (and MSD, if applicable) %Rs within the		X				_
DQ		Were MS/MSD RPDs within the laboratory QC lin	118?	X				
ко		Analytical Duplicate Data	1					-
		Were appropriate analytical duplicates analyzed for		<u> </u>	──	X		
		Were analytical duplicates analyzed at the appropri Were RPDs or relative standard deviations within t		<u> </u>	──	X X		-
R9				1		Λ		
17		Method Quantitation Limits (MQLs)	the laboratomy data people and	v				-
		Are the MQLs for each method analyte included in Do the MQLs correspond to the concentration of th		X X	──		<u> </u>	+
		Do the MQLs correspond to the concentration of the Are unadjusted MQLs and DCSs included in the lai		X	──			+
210	OT		una parkage:					
		Other Problems/Anomalies	ns noted in this LDC and ED?	v				-
		Are all known problems/anomalies/special condition Is the laboratory NELAC-accredited under the Tex	as Laboratory Accreditation Program for the analytes, matrices and	X X	 			+
		methods associated with this laboratory data packag						
			wer the SDL to minimize the matrix interference effects on the	X	<u> </u>			+

Labo	rator	y Name: XENCO LABORATORIES LI	RC Date : 06-JUL-17					
Proie	ect N	ame: VGWU-61 La	aboratory Job Number : 556452					
-			atch Number(s) : 727067					
#1		Description		Vas		NA ³	NR ⁴	FD //
				Yes	No	NA	NK	EK#
S1	01	Initial Calibration (ICAL)						
		Were response factors and/or relative response factors for eac	h analyte within QC limits?	X				<u> </u>
		Were percent RSDs or correlation coefficient criteria met? Was the number of standards recommended in the method use	ad for all analytas?	X X				
		Were all points generated between the lowest and the highest	-	X				
		Are ICAL data available for all instruments used?	sundard used to calculate the curve.	X				
		Has the initial calibration curve been verified using an approp	riate second source standard?	X				
S2	OI	Initial and Continuing Calibration Verification (IC						
		Was the CCV analyzed at the method-required frequency?	ev and eev) and continuing canoration blank	X				
		Were percent differences for each analyte within the method-r	required OC limits?	X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inor	rganic CCB <mdl?< td=""><td></td><td></td><td>X</td><td></td><td></td></mdl?<>			X		
S3	0	Mass Spectral Tuning	-					
		Was the appropriate compound for the method used for tuning	<u>2</u> ?			X		
		Were ion abundance data within the method-required QC limit				X		
S4	0	Internal Standard (IS)						
		Were IS area counts and retention times within the method-red	quired QC limits?			X		
S5	OI	Raw Data (NELAC 5.5.10)	A ~ ~					
		Were the raw data (for example, chromatograms, spectral data	a) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the		X				
S6	0	Dual Column Confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			X		
S7	0	Tentatively Identified Compounds (TICs)						
		If TICs were requested, were the mass spectra and TIC data su	ubject to appropriate checks?			X		-
S8	Ι	Interference Check Sample (ICS) Results						
		Were percent recoveries within method QC limits?				X		
S9	Ι	Serial Dilutions, Post Digestions Spikes, and Metho	d of Standard Additions					
		Were percent differences, recoveries, and the linearity within				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 DC	CSs?	X				
511	OI	Proficiency Test Reports						
		Was the laboratory's performance acceptable on the applicable	e proficiency tests or evaluation studies?	X				
512	OI	Standards Documentation						
		Are all standards used in the analyses NIST-traceable or obtai	ned from other appropriate sources?	X				
513	OI	Compound/Analyte Identification Procedures	neu nom oner appropriate sources.					
	01	Are the procedures for compound/analyte identification docur	nented?	X				
\$14	OI	* * *		Λ				
	51	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 c	nn file?	X X				-
\$15	OI			Λ				
515		Verification/Validation Documentation for Methods Are all methods used to generate the data documented, verifie		X				
S16	OT	-		Λ				
210		Laboratory Standard Operating Procedures (SOPs)					

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. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

2.

NA = Not applicable;
 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 C	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).

DCS Summary

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

d by A	Lab copy	YELLOW – Lab copy	WHITE - Laboratory returns with results	Distribution: WHITE	20730826 CofC AR Form 01.12.2007
Dateman 1/20/17 100 0	Date/Time:	1001 MILLING	c/23/12/1602	Condition/Cooler Temp:	an Romanna Brandahan
NON	Firm/Couner	FIRMULAUNION	ARCATES		Stander J
when we we we wanted	ognatura.	Strang widnes	Cassel		Specify Jumaround Regultements:
MARY A Newron	Frinned Ivame,	Brianne Widner	my Shargerell		Xence With los (V)
Relinquished By Laboratory Received By	Relin	Received By	Relinquished By	du Seel (2)	Laboratory Information and Receipt Lab Name:
Concorrect Lettip: 4.7.C		☐ Special QA/QC Instructions(✓):			o perviri ni su nocional committenas.
(o-z3: +U.2°C)			1	CA X / Plan	DUP-01-W-170CT
.2°C)				8	
Temp: 4.9% IR ID:R-8				<u></u>	
)					
/					
/			K	æ	
/				1	
/					
/					
			-	X X 401 1/21/20	EB-01-W-A0527
6			-	CM X 00 PI + U/2/30	MW-3-W-170 (27
b			-	WEARD 1341 X W	1-2001 - M-1-50M
VEWU-61 Songoles			Y	CN X E25/ 5/23/2	MW-2-W-170627
REMARKS	/ /			Time Co	Campie in
W - Water SL - Sludge SW - Sample Wipe T - Tissue A - Air Other:	/	1 1 1	1 4 /	Collection Type (*)	Samuel
: SE - Sediment	/	/ / /	1 2 1	Sakpler's Signature:	Sampler's Printed Name
9.	/	/ / /	/ / /	Project #	- 61 Buche
F. Other: 6. 2 oz. Glass	DD	ER ANALYSIS & METHOD	PARAMETER ANA	Read And hickor and Discon	Resconte CA.
σ 4 r0			Container Information	K.mail Addease:	R Cash: Soite 200
			# of Containers	Fax	Sult Magness Creekisz Todse
A. H,SO, A.			Filtered (*)	5 916-786-5392	2 Bres Krehbiel / ARCAD
Keys			Preservative	Telephone:	Contact & Company Name:
C9/1999 +	Page of _		ANALYSIS REQUEST FORM	AN	Infrastructure Water Environment Buldings
Ish Work Order #		ABORATORY	CHAIN OF CUSTODY & LABORATORY	CHAIN C	G ARCANIC ID#:

Final 1.000



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 06/28/2017 10:00:00 AM

Work Order #: 556452

Client: ARCADIS

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

Date: 06/28/2017

Checklist completed by: Jessica WAMER Jessica Kramer Checklist reviewed by: 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,

Huns hoah

Kelsey Brooks Project Manager

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

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



Sample Cross Reference 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



Client Name: Arcadis - Houston Project Name: Hes Transfer Sites

Project ID: Work Order Number(s): 560289 Report Date: 22-AUG-17 Date Received: 08/16/2017

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.



Buckeye NM

Project Location:

Certificate of Analysis Summary 560289 Arcadis - Houston, Houston, TX Project Name: Hes Transfer Sites



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

Report Date: 22-AUG-17 Project Manager: Kelsey Brooks

	Lab 1a:	560289-001	560289-002	560289-003	
	Field Id:	VGWU61-MW1	DUP-1	EB-1	
naisanhay sistimuty	Depth:				
V	Matrix:	WATER	WATER	WATER	
Sa	Sampled:	Aug-15-17 14:37	Aug-15-17 00:00	Aug-15-17 13:00	
Inorganic Anions by EPA 300/300.1 Ext	Extracted:	Aug-18-17 15:00	Aug-18-17 15:00	Aug-18-17 15:00	
An	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	

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results repressed throughout this analytical report represent the best judgment of XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing. Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Murs Roah Kelsey Brooks

Final 1.000

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 LimitSDL Sample Detection LimitLOD Limit of DetectionPQL Practical Quantitation LimitMQL Method Quantitation LimitLOQ 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

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



BS / BSD Recoveries





Work Order #: 560289								Proje	Project ID:			
Analyst: MGO		D	Date Prepared: 08/18/2017	I: 08/18/201	7			Date An	Date Analyzed: 08/18/2017	8/18/2017		
Lab Batch ID: 3025544	Sample: 729634-1-BKS	KS	Batch #: 1	#: 1					Matrix: Water	/ater		
Units: mg/L			BLANK	/BLANK	SPIKE / B	LANK SI	BLANK /BLANK SPIKE / BLANK SPIKE DUPLICATE RECOVERY STUDY	LICATE F	RECOVE	RY STUD	Y	
Inorganic Anions by EPA 300/300.1	y EPA 300/300.1	Blank Spike	Spike	Blank	Blank Spike	Blank Spike	Blank	Blk. Spk		Control Control	Control	5

Inorganic Anions by EPA 300/300.1	Blank Sample Result	Spike Added	Blank Spike	Blank Spike	Spike Added	Blank Spike	Blk. Spk Dup.	RPD	Control Limits	Control Limits	Flag
	[V]		Result	%R		Duplicate	%R	%	%R	%RPD	D
Analytes		[B]	[C]	[D]	Ε	Result [F]	[G]				
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 ID:	-001 S Batch #: 1 Matrix: Water	017 Analyst: MGO	MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY
	QC- Sample ID: 560289-001 S	Date Prepared: 08/18/2017	M
560289	3025544	08/18/2017	mg/L
Work Order #:	Lab Batch ID:	Date Analyzed:	Reporting Units:

Increanic Anions by FDA 300/300 1	Parent		Spiked Sample	Spiked		Duplicate	Spiked		Control	Control	
THUT SAME AMOUS BY LT A JUN/JUNIT	Sample	Spike	Result	Sample	Spike	Spiked Sample	Dup.	RPD	Limits	Limits	Flag
	Result	Added	[C]	%R	Added	Result [F]	%R	%	%R	%RPD	1
Analytes	[A]	[B]	1	[<u>n</u>]	Ε	1	[6]				
Chloride <08/21/2017 14:33>	189	125	323	107	125	328	111	2	90-110	20	X
			-								

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

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

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

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Final 1.000

Results to Jon + then Olsen Arcarly Advess 10205 with e: mu Road Suite 800 Suite 800	Telephone: 713-953-4874 Fex: MA E-mail Address:	Preservative E Filtered (*)		Keys Keys Preservation Key: Container Information Key: A. H _x SO ₄ 1. 40 ml Vial B. HCL 2. 1 LAmber C. HNO ₃ 3. 250 ml Plastic D. NaOH 4. 500 ml Plastic E. None 5. Encore F. Other 5. Encore
ty. State):	Pro		ETER ANALYSIS & METHOD	F. Other.
Sample's Printed Name: Styley North of the State State State State State States	Sample's Signature:	1200	111	
Sample ID	Collection Type (V)	Matrix 10	/ / /	W - Water SL - Studge T - Tissue A - Air
	Date Time Comp Grab	1	/ / /	/ REMARKS
V6WU61-MW1	8-15-17 1437 1/ 1	-		Run Samply
Dup-1	8-15-17 - VI	6 1		
1-01	8-15-17 1300 ~	3		Run Sample
			/	/
				=/
				CF:(0-6: -0.2°C) (6-23: +0.2°C)
Special Instructions/Comments:			☐ Special QA/QC Instructions(✓):	Corrected Temp: 1.2
Laboratory Information and Receipt Lab Name Cooler Custo	on and Receipt Cooler Custody Seal (イ)	Relinquished By Printed Name:	Received By Prighted/Name:	Relinquished By Laboratory Received By Printed Name: 1 Printed Name:
X cn Co Er Cooler packed with ice (*)	Intact Not Intact	Lungy with	Land Contraction	Signature: Printed Name: Signature: Signatur
Specily Turnaround Requirements Staroola col TAT	Sample Receipt:	for C	Firm/Courier:	Finn/Courier: Finn
Shipping Tracking #:	Condition/Cooler Temp: AO.O	Date/Time:	Date/Time:	Date/Time: Date/Time:



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In



Client: Arcadis - Houston Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 08/16/2017 10:00:00 AM Temperature Measuring device used : R8 Work Order #: 560289 Comments Sample Receipt Checklist 1.2 #1 *Temperature of cooler(s)? #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 relinguished/ 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

Date: 08/16/2017

Checklist completed by: Jane Mato Shawnee Smith Checklist reviewed by: Mark Moak Kelsey Brooks

Date: 08/16/2017

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

Certificate of Analysis Summary 594041 ARCADIS, Midland, TX

Project Name: VGWU-61

Date Received in Lab:Mon Jul-30-18 04:20 pmReport Date:01-AUG-18

Project Manager: Kelsey Brooks

	Lab Id:	594041-001	594041-002	594041-003	594041-004
A malucic Dominated	Field Id:	Dup-1 (0272818)	VGWU61 - MW-1 (027281 VGWU61 - MW-2 (02728	VGWU61 - MW-2 (02728	EB1 (0272818)
naisanbay sistinity	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

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results repressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing. Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Hund Moah Kelsey Brooks Project Manager

Final 1.000

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,

Huns Hoah

Kelsey Brooks Project Manager

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Sample Cross Reference 594041

ARCADIS, Midland, TX

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



CASE NARRATIVE

Client Name: ARCADIS Project Name: VGWU-61

Project ID:B0048618Work Order Number(s):594041

Report Date: 01-AUG-18 Date Received: 07/30/2018

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



ARCADIS, Midland, TX

Sample Id: Lab Sample Id:	Dup-1 (0272818) : 594041-001		Matrix: Date Colle	Wat cted: 07.2	er 28.18 00.00		Date Received:07.3	30.18 16.2	20
-	hod: Chloride by EPA RNL	300					Prep Method: E30 % Moisture:	00P	
100111	RNL		Date Prep:	07.3	31.18 14.00		70 Ivioisture.		
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



ARCADIS, Midland, TX

Sample Id: Lab Sample I	VGWU61 - MW-1 (1 d: 594041-002	0272818)	Matrix: Date Colle	Wat cted: 07.2	er 8.18 13.50		Date Received:07.3	30.18 16.2	20
Analytical M Tech:	ethod: Chloride by EPA RNL	300					Prep Method: E30 % Moisture:	00P	
Analyst:	RNL		Date Prep:	07.3	1.18 14.00		70 WOIsture.		
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



ARCADIS, Midland, TX

Sample Id: Lab Sample Id	VGWU61 - MW-2 (0 d: 594041-003)272818	Matrix: Date Colle	Wat cted: 07.2	er 8.18 15.20		Date Received:07.3	30.18 16.2	0
Analytical Me Tech:	ethod: Chloride by EPA RNL	300					Prep Method: E30 % Moisture:	00P	
Analyst:	RNL		Date Prep:	07.3	1.18 14.00		70 INIOISture.		
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



ARCADIS, Midland, TX

Sample Id: EB1 (0272818)		Matrix:	Wate	er		Date Received:07.3	30.18 16.2	0
Lab Sample Id: 594041-004		Date Colle	ected: 07.2	8.18 15.35				
Analytical Method: Chloride by EPA	300					Prep Method: E30	90P	
Tech: RNL						% Moisture:		
Analyst: RNL		Date Prep:	. 07.3	1.18 14.00				
Seq Number: 3058427								
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 Clie	ent Sample	BLK	Method Blank	
BKS/LCS	S Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labo	ratory 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



ARCADIS

VGWU-61

Analytical Method:	Chloride by EPA 30	00						Pr	ep Metho	d: E30	OP 90	
Seq Number:	3058427			Matrix:	Water				Date Pre	p: 07.3	1.18	
MB Sample Id:	7659486-1-BLK		LCS Sar	nple Id:	7659486-	1-BKS		LCSI	O Sample	Id: 7659	9486-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD I	RPD Limi	t 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 30	00						Pr	ep Metho	d: E30	0P	
Seq Number:	3058427			Matrix:	Waste Wa	ıter			Date Pre	p: 07.3	1.18	
Parent Sample Id:	593949-001		MS Sar	nple Id:	593949-00	01 S		MSI	O Sample	Id: 593	949-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	t 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 30	00						P	rep Metho	od: E30	0P	
Seq Number:	3058427			Matrix:	Water				Date Pro	ep: 07.3	1.18	
Parent Sample Id:	593985-001		MS Sar	nple Id:	593985-00	01 S		MS	D Sample	Id: 593	985-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	it 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 Relative Percent Difference LCS/LCSD Recovery Log Difference [D] = 100*(C-A) / B RPD = 200* | (C-E) / (C+E) | [D] = 100 * (C) / [B] Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result MS = Matrix Spike B = Spike Added D = MSD/LCSD % Rec

ARCADIS	ID#:	CHAIN O	DF CUSTO	DV & LA	IN OF CUSTODY & LABORATORY		Lab Work Order #
59404		AN	ANALYSIS REQUEST FORM	EQUEST	FORM	Page (of /	594041
0	Telephone:		Preservative	-			Koure
Dratt Kon Miel (Have	15 916-286-5382			1		à	
auth Address: 1004 N. Bis 5/12-9 54.			# of Containers				H_SO_ HCL
			Container 3				HNO ₃ NaOH
City State	E-mail Address:			PARAMETER ANALYSIS	ANALYSIS & METHOD		None 5. Other
Midland to 79701	Part Kin heir 10	alex 1:5,00					G. Other: 7.4 oz. Glass
Voject Name/Location (City, State): VGuu-61/Holbs, NM	Project #		5 2			Н / Н.	ේ ත්
me:	Sampler's Signature:		011			Ma	10. Other:
Samula ID	Collection Type (1)		914				SO - Soil SE - Sediment NL - NAPL/Oil W - Water SL - Sludge SW - Sample Wipe T - Tissue A - Air Other
Sample ID	e Comp	Grab Matrix	0		/		IIV-V
Dup-1(072818)	7-28-18	3					
V6W U61-MW (07218)	7-28-1350	3					- (
V6WU61-MW 2 (07218)		1 m					de
EA-1677818)		1	4.		_		0
10102101-17	1211 122	3					5
	1						
		6					
		P					
Special Instructions/Comments:					Cancial OA/OC Instantioned ()		
JR.	もしのもく しんち	P]			
Laboratory Information and Receipt	tion and Receipt		Relinquished By	-	Received Bv	Delineniched D.	
Lab Name:	Cooler Custody Seal (✓)	PrintedName		Printed Name	نة	Printed Name:	Laboratory Received By Printed Name:
Confernanced with ina (2)	D Intact		yan Nan	N	SPENDA WAR	0	
			S	Signature	made Ward	Signature:	Signature:
Specity lumatound Requirements:	Sample Receipt:	C I	1.c	Firm/Courier.	ier	Firm/Courier:	Firm:
Shipping Tracking #:	Condition/Cooler Temp: 28	Date/Time:	ate/Time:	Date/Time	21/10	Date/Time:	Date/Time:
20730826 CofC AR Form 08.27.2015	Distribution:	WHITE - L	WHITE - Laboratory returns with results	with results	VIII N. N. OU	ah 2000.	
			framesan	A MINON INI		тесьсот – сар сору	PINK – Retained by Arcadis

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Final 1.000



XENCO Laboratories XENCO ABORATORIES 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 Rece	pt 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?	Νο				
#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)?	Νο				
#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

Date: 07/30/2018

Checklist completed by: Checklist reviewed by: Mand Brenda Ward Checklist reviewed by: Kelsey Brooks

Date: 08/01/2018