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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: CHEVRON U.S.A. Inc.	Contact: Edem Sededji
Address: 56 Texas Camp Road, Lovington NM 88260	Telephone No.: Office: (575) 396-4414 Mobile: (432) 234-4437
Facility Name: Skelly Unit 936	Facility Type: Production Well

Surface Owner: Federal	Mineral Owner: State of New Mexico	API No. 30-015-32595 / Lease No. NM-98122

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	21	17.0S	31E					Eddy

Latitude _____ **Longitude** _____

NATURE OF RELEASE

Type of Release: Crude Oil and produced Water Spill	Volume of Release: 8.6 bbls fluid	Volume Recovered: Unknown
Source of Release: Flow Line	Date and Hour of Occurrence: 01/24/12 10:45 AM	Date and Hour of Discovery: 01/24/12 11:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mr. Leking via voicemail	
By Whom? David Pagano	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*

It appears someone drove around wellhead and snagged out poly gas line, causing 8.6 bbls fluid spill, mostly oil with a small amount of produced water. Chemical rep notified pumper of spill to land at 10:45 and pumper immediately drove to well and shut well in to contain release. Well shut in at approximately 11:00 AM.

Describe Area Affected and Cleanup Action Taken.*
Approx. 8.6 bbls of fluid mostly oil spilled on pad and worked its way to the road as well as foot wide path that ran into the pasture. Vacuum truck vacuumed up standing liquid on pad and road. Chevron received Archeological/wildlife clearance from BLM. Backhoe excavated contaminated soil on pad and road and contaminated soil was taken offsite for disposal. Spray off of pad into the pasture was remediated by knocking off fluids from vegetation using biodegradable soap, and then used micro blaze to remediate contaminated soil.

Two discrete soil confirmation samples were collected from the base of the excavation before the excavated area was reportedly backfilled with imported soils. These sampling results indicated the presence of chloride concentrations in shallow soils at levels of regulatory concern.

In response to these results, an additional site assessment was conducted to confirm the extent of soil impacts.

Analytical results of the additional assessment are attached.

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

Signature: Luke Welch	OIL CONSERVATION DIVISION	
Printed Name: Luke Welch	Approved by Environmental Specialist:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: LWelch@chevron.com	Conditions of Approval:	Attached ☐
Date: 8/12/14 Phone: (713) 372-0292		

* Attach Additional Sheets If Necessary

ARCADIS U.S., Inc.
2929 Briarpark Drive
Suite 300
Houston
Texas 77042
Tel 713 953 4800
Fax 713 977 4620
www.arcadis-us.com

ENVIRONMENT

Mr. Luke Welch
Project Manager
Chevron Environmental Management Company
1400 Smith Street, Room 07069B
Houston, Texas 77002

Subject:
Site Assessment Report
Skelly Unit #936
Eddy County, New Mexico

Date:
July 29, 2014

Contact:
Jonathan Olsen

Phone:
713.953.4874

Email:
Jonathan.Olsen@arcadis-us.com

Our ref:
B0048607.0000

Dear Mr. Welch:

On behalf of Chevron Environmental Management Company (CEMC), ARCADIS U.S., Inc. (ARCADIS) prepared this Site Assessment Report (report) to document cleanup actions and soil sampling activities performed in response to a release of approximately 8.6 barrels (bbls) of oil mixed with a small quantity of produced water that occurred at the Skelly Unit (SKU) #936 located in Eddy County, New Mexico (site; Figure 1).

To evaluate the potential for this release to impact groundwater, a Site Conceptual Model was developed (Attachment 1). Potential impacts to groundwater are not considered possible due to the following:

- The volume of material released was relatively small (8.6 total bbls);
- Response activities included removal of liquids and impacted surface soil;
- Local climatic conditions are not conducive to leaching due to low rainfall and high evapotranspiration;
- The presence of a caliche layer impedes the vertical migration of liquids; and
- Groundwater is encountered at significant depth (263 feet below ground surface).
- Based on geochemical modeling using USEPA Multimedia Exposure Assessment Model (MULTIMED) Version 2.0 (USEPA 1996), a significantly larger release would be necessary to cause an exceedance of regulatory criteria in groundwater.

This report describes spill response activities for a release that occurred on January 24, 2012 and follow-up soil assessment activities that occurred on November 4 and 5, 2013.

Background Information

This section summarizes the site location and description, as well as the regional setting including geology, hydrogeology, nearby drinking water wells, surface water, and climate.

Site Location and Description

The site is located within the Chevron-operated Vacuum Unit approximately 30 miles southeast of Artesia, New Mexico. New Mexico Highway 82 (Lovington Highway) is located approximately 0.8 mile south of the site.

The site is located in the western edge of the Permian Basin, a 75,000-square-mile area in west Texas and New Mexico that is populated by numerous oil and gas production wells. In New Mexico, the Permian Basin is bounded by the Texas state lines to the south and east, by Roosevelt County to the north, and Chavez County to the west. Artesia (the closest town) is approximately 30 miles northwest of the site and the closest agricultural area is more than 25 miles west of the site.

The site is located directly north of the SKU #936 wellhead. The release described below occurred mostly on the well pad. A photolog of the site is included as Attachment 2.

Nearby Water Wells and Surface Water

In November 2013, ARCADIS field verified that no surface-water bodies are located within 1,000 feet of the site. Based on satellite imagery, no surface-water bodies were identified within 3 miles of the site (GoogleEarth 2014).

In June 2014, ARCADIS reviewed information obtained from the New Mexico Office of the State Engineer (NMOSE) online database (NMOSE 2011), which indicates that no water-supply wells are located within 1,000 feet of the site. The NMOSE online database identified four petroleum-industry-related water-supply wells (NMOSE 2011). A petroleum-industry-related water supply well, located approximately 2.1 miles south (i.e., hydraulically crossgradient) of the site was identified as the closest well to the site.

Climate

Monthly average temperatures near the site vary from a minimum of 23.5 degrees Fahrenheit (°F) in January to a maximum of 94.8°F in July (Western Regional Climate Center (WRCC) Artesia, New Mexico (290600) weather station). Total average precipitation in the area of the site recorded from the available WRCC period of record between 1914 and 2005 was approximately 11.90 inches per year (WRCC 2014a).

Due to the arid climate, the site experiences low precipitation and high evapotranspiration rates. The total average evapotranspiration from the available WRCC period of record between 1914 and 2005 was approximately 87.68 inches per year (WRCC 2014b).

Regional Geology and Hydrogeology

The site elevation is approximately 3,750 feet above mean sea level and is located in the Querecho Plains immediately west of the Mescalero Ridge, which demarcates the western boundary of the (Miocene to Pliocene) High Plains Ogallala Formation (Reeves 1972; and Nicholson and Clebsch 1961). A rapid drop in elevation of 200 to 250 feet occurs west of the northwest-trending Mescalero Ridge, located approximately 6 miles northeast of the site.

The Querecho Plain is 80 percent covered by a moderately stable dune field (Reeves 1972) that is deposited on top of Triassic Dockum red beds. The red bed surface, which is 400,000 to 500,000 years old, is relatively flat with minor erosional incisions in an area of regionally variable topography in the context of the Mescalero Ridge and an elongate, southwestward-trending depression associated with the Cedar Lake Draw. The site is located in the headwaters of the draw. The red beds in the area typically have a 3- to 13-foot-thick near-surface caliche layer (Bachman 1980). The stabilized dune field is deposited on this surface.

Deposition of sand and the formation of the dune field began 60,000 years ago, with additional development beginning 9,000 years ago (Hall 2002). The surface and interior of these dunes do not contain caliche; however, a 1-foot layer of caliche is common at the bottom of the dunes at the contact with the red bed surface.

Groundwater near the site is encountered in the Dockum Group, at a depth of approximately 263 feet bgs (NMOSE 2014; Attachment 3). Compared to the Ogallala Formation to the west of the site, the Dockum Group groundwater is not a major

resource in the area, with poor potential water production rates and elevated natural dissolved solids.

Water supply wells in central Eddy County and near the site, as discussed in the Nearby Water Wells and Surface Water section of this report, are completed in underlying Triassic age sandstone units of the Dockum Group that outcrop on the surface of the Querecho Plains in this area. Based on topography, with the surface elevation dropping from 3,750 feet to 3,320 feet at the Pecos River 33 miles to the west-southwest, the regional groundwater flow direction is most likely to the west-southwest towards the Pecos River.

Initial Release Response Activities

A release of approximately 8.6 bbls of oil mixed with a small quantity of produced water occurred at the site on January 1, 2012 due to a release from a high-density polyethylene gas line. Chevron personnel from the Mid-Continent Business Unit (MCBU) stopped the release and recovered an unknown quantity of fluids using a vacuum truck. Chevron MCBU personnel excavated visually impacted soil in the area to a depth of approximately 2 feet bgs and collected two discrete confirmation soil samples from the base of the excavation on May 7, 2012. 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.

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 David Pagano with Chevron MCBU. The original and updated C-141 forms are included as Attachment 4.

Confirmation Soil Sampling

Two discrete confirmation soil samples were collected from the base of the excavation on May 7, 2012. In accordance with the laboratory analytical report (Attachment 5), soil sample containers were transported, on ice, under chain of custody procedures to Cardinal Laboratories Environmental Analytical Services for the following analyses:

- Benzene, toluene, ethylbenzene, and xylene (BTEX) by United States Environmental Protection Agency (USEPA) Method 8021B

- Total petroleum hydrocarbons as gasoline range organics (TPH-GRO) and total petroleum hydrocarbons as diesel range organics (TPH-DRO) by USEPA Method 8015M

- Chloride by USEPA Method SM4500Cl-B

Confirmation soil sample results are presented in Table 1. The complete laboratory analytical results with chain of custody documentation are included in Attachment 5.

Data Evaluation Approach

Chevron MCBU personnel compared data from the two May 2012 confirmation soil samples to regulatory criteria to provide context for the concentrations of analytes detected and to evaluate if additional sampling was necessary. The regulatory criteria selected are based on potential receptors near the site and consist of the following:

- NMOCD risk-based soil remediation action levels (SRALs) for benzene, total BTEX, and total petroleum hydrocarbons (TPH) for leaks, spills, and releases (NMOCD 1993). SRALs were calculated using the NMOCD criteria presented in the tables below.

Criteria	Site-Specific Result	Ranking Score
Depth to groundwater	>100 feet	0
Wellhead protection area	No	0
Distance to surface-water body	>1,000 feet	0
Total Ranking Score		**0**

SRALs	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH (mg/kg)
	10	50	5,000

Note:

mg/kg = milligrams per kilogram

- New Mexico Administrative Code (NMAC) closure criteria for soil beneath belowgrade tanks, drying pads associated with closed-loop systems, and pits where contents are removed (NMAC 2009).

Criteria	Site-Specific Result	Chloride (mg/kg)
Depth below bottom of pit to groundwater	>100 feet	1,000

Confirmation Soil Sample Results

The analytical results for BTEX, TPH-GRO, TPH-DRO, and chloride for the two discrete confirmation soil samples collected in May 2012 are provided in Table 1 and summarized below:

- Benzene and BTEX were not detected above the laboratory reporting limits (LRLs) or above the SRALs of 10 and 50 mg/kg, respectively.

- TPH-GRO was not detected above LRLs. TPH-DRO was detected in both confirmation samples at concentrations ranging from 3,070 mg/kg (SKU 936 Pad #1) to 3,280 mg/kg (SKU 936 Pad #2).

- TPH (TPH-DRO and TPH-GRO) was detected at 3,070 mg/kg (SKU 936 Pad #1) and 3,280 mg/kg (SKU 936 Pad #2). TPH was not detected above the SRAL of 5,000 mg/kg in the two discrete confirmation samples that were collected.

- Chloride was detected in both confirmation samples collected, at 9,730 mg/kg (SKU 936 Pad #2) and 16,000 mg/kg (SKU 936 Pad #1). Chloride was detected above the NMAC closure criterion of 500 mg/kg in both soil samples collected.

The complete laboratory analytical results with chain of custody documentation are included in Attachment 5.

Chloride concentrations in confirmation soil samples SKU 936 Pad #1 and SKU 936 Pad #2 were above the regulatory criteria, which prompted additional site assessment activities.

Site Assessment Activities

In November 2013, ARCADIS conducted site assessment activities to characterize the lateral and vertical extents of soil impacts at the site. Soil boring locations were selected based on the results of confirmation soil sampling completed at the site in May 2012, locations of pipelines and other equipment at the site, and the extent of

the release as documented by Chevron MCBU personnel during the initial response activities. The site assessment activities and results are discussed below.

Pre-Field Activities

Prior to initiating field activities, ARCADIS updated the site-specific Health and Safety Plan in accordance with state and federal requirements. Prior to initiating drilling activities, underground utilities and other potential subsurface obstructions near the proposed boring locations were located and marked. A New Mexico One Call ticket was issued for the site, and a private third-party utility locator cleared all proposed boring locations for potential on- and off-site utilities that were not otherwise identified. Finally, ARCADIS staff conducted a visual inspection of the site to identify potential utility lines. Boring locations were flagged during the utility locate and coordinates were recorded using a Trimble® global positioning unit with differential capability.

Soil Sampling

To evaluate the potential extent of impacts to soil at the site, ARCADIS advanced four soil borings (SKU936-01, SKU936-02, SKU936-03, and SKU936-04) on November 4 and 5, 2013. Soil sampling locations are shown on Figure 2.

Prior to conducting drilling activities, each boring location was cleared for subsurface utilities with an air knife. The air knife could not be advanced more than 2 to 3 inches bgs due to the presence of a thick caliche layer. Each soil boring was then advanced to a total depth of approximately 25 feet bgs using air rotary drilling equipment.

Soil was continuously logged for stratigraphic characteristics. The soil samples were field screened for the presence of volatile organic compounds using a photo ionization detector (PID) in combination with visual and olfactory screening methods for evidence of petroleum hydrocarbons. The PID used during this investigation was calibrated daily with fresh air and isobutylene gas. Field personnel recorded PID readings, soil types, and other pertinent geologic data on the boring logs (Attachment 6). No staining or elevated PID readings were observed.

Lithologic data indicate that the subsurface material primarily consists of a sandy clay layer over a thick sandy caliche (soil carbonate) layer, with a clayey sand layer beneath to approximately 25 feet bgs (Attachment 6).

Soil Assessment Sampling

Six soil samples were collected from each of the four boring locations (for a total of 24 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.

The assessment soil samples were retained in clean, laboratory-supplied glass jars, labeled, placed in an ice-chilled cooler, and submitted under appropriate chain of custody protocols to TestAmerica Laboratories.

Soil Assessment Sample Analysis

Soil samples collected from each boring were analyzed for the following constituents:

- BTEX by USEPA Method 8021B
- TPH-GRO by USEPA Method 8015B
- TPH-DRO by USEPA Method 8015B
- Chloride by USEPA Method 9056
- Percent moisture by ASTM International Method D2216

Boring Abandonment

Following sampling, the boreholes were filled with soil cuttings from the total depth to ground surface. The ground surface was restored to match the surrounding conditions.

Soil Assessment Comparison Criteria

ARCADIS evaluated soil assessment analytical results for benzene, total BTEX, and TPH by comparing the data with the NMOCD SRALs (NMOCD 1993), as presented in the Data Evaluation Approach section of this report.

To develop an appropriate site-specific soil screening level (SSL) for chloride for use at the site, ARCADIS performed simulations of unsaturated zone flow, transport, and saturated zone mixing of chloride using the MULTIMED model Version 2.0 (USEPA 1996). The NMAC chloride standard for domestic water supply of 250 milligrams per liter (NMAC 2001) was used to estimate a maximum allowable concentration of chloride in soil that would not leach to groundwater above the standard. The NMAC chloride standard is consistent with the National Secondary Drinking Water Standard for chloride, addressing taste and odor concerns (USEPA 2010).

Conservative site-specific input parameters were used in the MULTIMED (USEPA 1996) simulations compared to actual site and release conditions. Specifically:

- Modeled source lengths and areas modeled are generally significantly larger than the actual chloride-impacted soil areas.
- Chloride-impacted soil was modeled as having a uniform chloride concentration for the entire volume (i.e., area x depth) of specified soil.
- A reduction in chloride concentrations in subsurface soil due to soil chemical transformation or adsorption mechanisms was not included in the model calculations.

Based on the depth to groundwater and the aerial and vertical extents of each of the MULTIMED (USEPA 1996) simulations, with these conservative site-specific input parameters, modeled peak chloride concentrations will reach groundwater in approximately 540 to 860 years.

The Chloride MULTIMED Simulated Soil Screening Levels for the Protection of Groundwater memo is included as Attachment 7. The site-specific SSL was calculated using the input parameters presented in the table below.

Site-Specific Input Parameters	
Source length (m)	20
Source area (m^2)	400
Source depth (m)	0 to 1
Depth to groundwater (m)	20
Chloride SSL (mg/kg)	**100,000**[1]

[1] A chloride SSL of 266,100 mg/kg was calculated using MUTLTIMED (USEPA 1996); however, a maximum allowable soil concentration of 100,000 mg/kg is recommended in accordance with the New Mexico Environment Department (NMED) risk assessment guidance (NMED 2012).
m = meter
m^2 = square meter

Soil Assessment Sample Results

The analytical results for BTEX, TPH-GRO, TPH-DRO, chloride, and moisture for the 24 soil assessment samples are provided in Table 1 and summarized below:

- Benzene and ethylbenzene were not detected above LRLs in any of the 24 soil samples collected.

- Of the 24 soil assessment samples collected, toluene (0.038 mg/kg) and total xylenes (0.081 mg/kg) were detected above the LRLs in only one soil sample collected at 2 feet bgs at SKU936-03.

- TPH-GRO was detected in all soil samples at concentrations ranging from 1.6 mg/kg (SKU936-03 at 20 feet bgs) to 3.4 mg/kg (SKU936-02 at 2 feet bgs).

- TPH-DRO (12 mg/kg) was detected above the LRLs in only one soil sample collected at 5 feet bgs at SKU936-02.

- Chloride was detected in all soil samples at concentrations ranging from 7.7 mg/kg (SKU936-03 at 10 feet bgs) to 390 mg/kg (SKU936-04 at 2 feet bgs). Chloride concentrations were not detected above the site-specific SSL of 100,000 mg/kg.

Laboratory analytical results with chain of custody documentation are provided in Attachment 5.

Summary and Conclusions

A release of produced water and oil occurred at the site on January 1, 2012, due to a polyethylene gas line release. Visually impacted soil was excavated to a depth of approximately 2 feet bgs and two discrete confirmation soil samples were collected from the base of the excavation in May 2012. Both confirmation soil samples had and chloride concentrations above regulatory criteria, which prompted an additional investigation. In November 2013, additional soil samples were collected to assess soil impacts within the observed aerial extent of the release. None of the soil samples collected during the 2013 assessment exceeded the NMOCD SRALs. In addition, chloride concentrations were reported below the site-specific SSL using the MULTIMED model (USEPA 1996).

Although not all chloride concentrations were reported below the NMAC closure criterion of 250 mg/kg (Table 1; NMAC 2009), all chloride concentrations in samples collected during the 2013 assessment were below the site-specific SSL (Attachment

7). Chloride impacts in shallow soil potentially associated with the release were delineated.

Potential migration of remaining petroleum hydrocarbons or chloride to groundwater is not expected due to the small size of the release, low precipitation (WRCC 2014a), and high evapotranspiration rates (WRCC 2014b), and the fine-grained nature of caliche layers present beneath the site. MULTIMED model results demonstrate that the remaining soil concentrations associated with the release do not pose significant risk to groundwater resources or other receptors.

Soil data presented in this report support a conclusion that impacted soil associated with the reported release at the site poses no significant threat to groundwater resources or other receptors. ARCADIS recommends that CEMC submit a request to the NMOCD that no further investigations or additional cleanup actions need to be performed at the site and that the NMOCD grant No Further Action status to the site.

If you have any questions or comments regarding the information presented in this report, please contact Jonathan Olsen at 713.953.4874 or Jonathan.Olsen@arcadis-us.com, or Kathleen Abbott at 925.296.7827 or Kathleen.Abbott@arcadis-us.com.

Sincerely,

ARCADIS U.S., Inc.

Jonathan Olsen
Certified Project Manager

Kathleen M. Abbott, PG
Program Manager

Enclosures:

Table 1	Soil Sampling Analytical Results
Figure 1	Site Location Map – SKU 936
Figure 2	Release and Soil Boring Locations – SKU 936

Attachments:

Attachment 1	Site Conceptual Model
Attachment 2	Photolog
Attachment 3	New Mexico Office of the State Engineer – Depth to Water
Attachment 4	Release Notification and Corrective Action (C-141 Form)

Attachment 5 Laboratory Analytical Reports
Attachment 6 Boring Logs (November 2013)
Attachment 7 Chloride Multimedia Exposure Assessment Model Simulated Soil Screening Levels for the Protection of Groundwater Memo

References:

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Western Regional Climate Center. 2014b. Artesia, New Mexico, monthly average pan evaporation. http://www.wrcc.dri.edu/htmlfiles/westevap.final.html#NEW MEXICO. Viewed on May 6.

ARCADIS

Table

Table 1
Soil Sampling Analytical Results

Site Assessment Report
Skelly Unit 936
Lea County, New Mexico

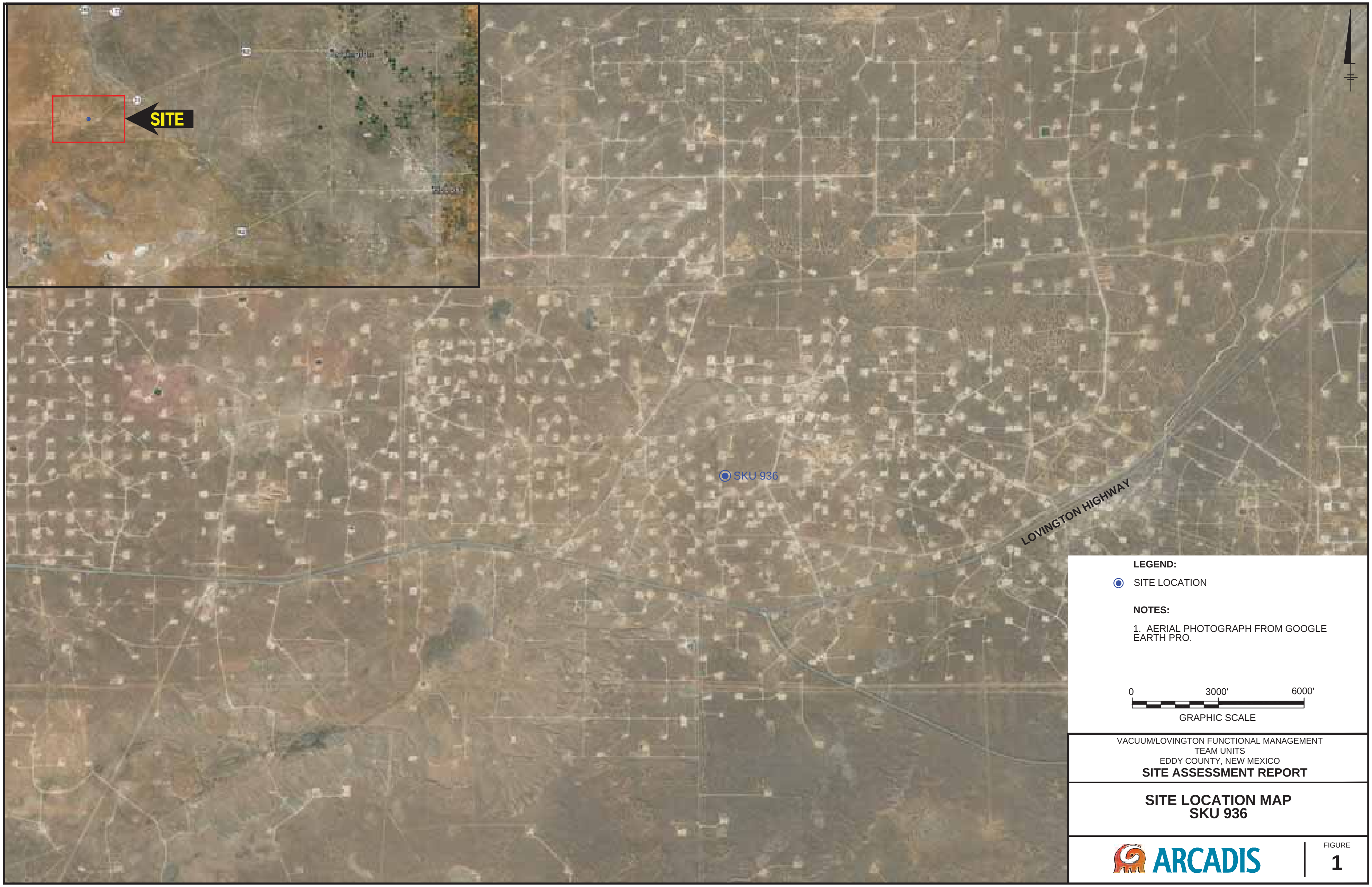
Boring Location ID	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	Chloride (mg/kg)	% Moisture
		SRALs [a]	**10**	---	---	---	**50**	**5,000**		---	---
		NMAC Closure Criteria [b]	---	---	---	---	---	---	---	**1,000**	---
		MULTIMED Site-Specific SSL [c]	---	---	---	---	---	---	---	**100,000**	---
SKU 936 Pad #1	5/7/2012	0	<0.050	<0.050	<0.050	<0.15	--	<20.0	3,070	16,000	--
SKU 936 Pad #2	5/7/2012	0	<0.050	<0.050	<0.050	<0.15	--	<10.0	3,280	9,730	--
SKU936-01	11/4/2013	2	<0.025	<0.025	<0.025	<0.025	<0.025	3.3	<10	290	19
	11/4/2013	5	<0.020	<0.020	<0.020	<0.020	<0.020	2.5	<8.5	34	2
	11/4/2013	10	<0.020	<0.020	<0.020	<0.020	<0.020	2.5	<8.4	23	1
	11/4/2013	15	<0.020	<0.020	<0.020	<0.020	<0.020	2.7	<8.4	19	2
	11/4/2013	20	<0.020	<0.020	<0.020	<0.020	<0.020	2.6	<8.4	76	1
	11/4/2013	25	<0.021	<0.021	<0.021	<0.021	<0.021	2.9	<8.9	180	7
SKU936-02	11/4/2013	2	<0.020	<0.020	<0.020	<0.020	<0.020	3.4	<8.4	150	2
	11/4/2013	5	<0.020	<0.020	<0.020	<0.020	<0.020	2.9	12	23	1
	11/4/2013	10	<0.021	<0.021	<0.021	<0.021	<0.021	2.6	<8.5	22	3
	11/4/2013	15	<0.020	<0.020	<0.020	<0.020	<0.020	2.3	<8.5	12	2
	11/4/2013	20	<0.021	<0.021	<0.021	<0.021	<0.021	2.4	<8.7	24	4
	11/4/2013	25	<0.021	<0.021	<0.021	<0.021	<0.021	2.0	<8.6	150	4
SKU936-03	11/4/2013	2	<0.021	0.038	<0.021	0.081	0.119	2.0	<8.9	28	7
	11/4/2013	5	<0.020	<0.020	<0.020	<0.020	<0.020	1.9	<8.4	21	2
	11/4/2013	10	<0.020	<0.020	<0.020	<0.020	<0.020	1.9	<8.5	7.7	2
	11/4/2013	15	<0.020	<0.020	<0.020	<0.020	<0.020	1.7	<8.5	11	2
	11/4/2013	20	<0.021	<0.021	<0.021	<0.021	<0.021	1.6	<8.6	29	3
	11/4/2013	25	<0.021	<0.021	<0.021	<0.021	<0.021	2.0	<8.7	300	5
SKU936-04	11/5/2013	2	<0.020	<0.020	<0.020	<0.020	<0.020	2.2	<8.5	390	2
	11/5/2013	5	<0.020	<0.020	<0.020	<0.020	<0.020	2.5	<8.5	23	2
	11/5/2013	10	<0.021	<0.021	<0.021	<0.021	<0.021	2.6	<8.7	150	5
	11/5/2013	15	<0.021	<0.021	<0.021	<0.021	<0.021	2.7	<8.7	28	5
	11/5/2013	20	<0.021	<0.021	<0.021	<0.021	<0.021	1.8	<8.8	93	6
	11/5/2013	25	<0.020	<0.020	<0.020	<0.020	<0.020	1.9	<8.4	71	2

Notes:

%	Percent
mg/kg	Miligram(s) per kilogram
<	Analyte was not detected above the specified method reporting limit
--*	Information regarding the depth of these samples is not available.
--	Not Analyzed/Not Listed
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, and total xylenes
MULTIMED	Multimedia Exposure Assessment Model
NMAC	New Mexico Administrative Code
TPH-GRO	Total Petroleum Hydrocarbons as Gasoline Range Organics
TPH-DRO	Total Petroleum Hydrocarbons as Diesel Range Organics

ARCADIS

Figures



LEGEND:

SITE LOCATION

NOTES:

1. AERIAL PHOTOGRAPH FROM GOOGLE EARTH PRO.

0 3000' 6000'
GRAPHIC SCALE

VACUUM/LOVINGTON FUNCTIONAL MANAGEMENT TEAM UNITS
EDDY COUNTY, NEW MEXICO
SITE ASSESSMENT REPORT

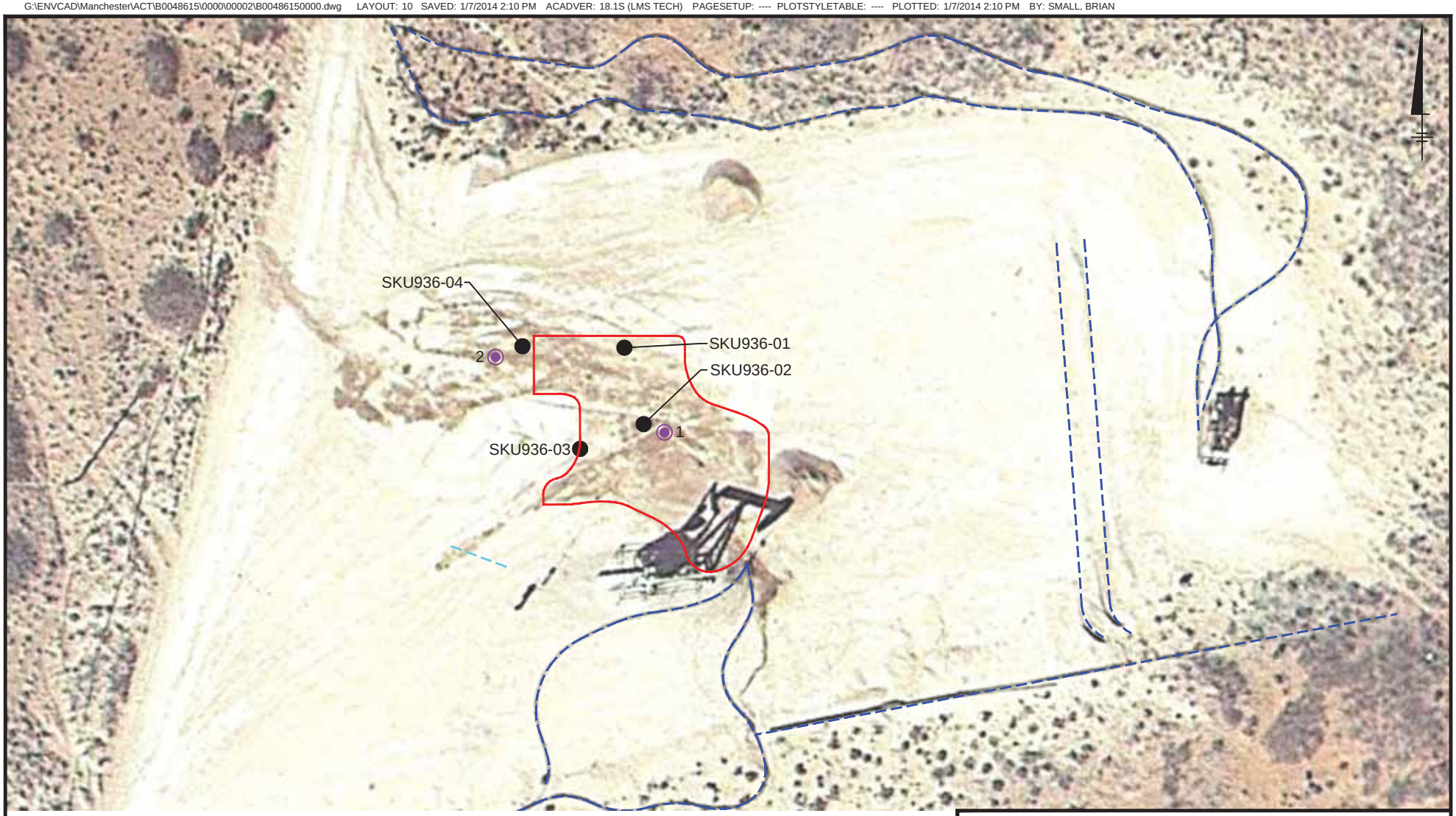
SITE LOCATION MAP
SKU 936

ARCADIS

FIGURE
1

CITY: MANCHESTER DIV/GROUP: ENVCAD DB: B.SMALL PM: TM: LAYOUT: 1 SAVED: 4/25/2014 7:09 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 4/25/2014 7:10 PM BY: SMALL, BRIAN
G:\ENVCAD\Manchester\ACT\B0048615\0000\00002\B0048615000-N05.dwg

CITY: MANCHESTER DIV/GROUP: ENVCAD DB: B.SMALL PM: TM
G:\ENVCAD\Manchester\ACT\B0048615\0000\00002\B00486150000.dwg LAYOUT: 10 SAVED: 1/7/2014 2:10 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 1/7/2014 2:10 PM BY: SMALL, BRIAN



LEGEND:

- NOVEMBER 2013 ASSESSMENT SOIL SAMPLING LOCATION
- 1 MAY 2012 CONFIRMATION SOIL SAMPLING LOCATION
- UNDERGROUND UTILITY LINE
- ABOVE GROUND UTILITY LINE
- APPROXIMATE EXTENT OF SPILL

NOTES:

1. AERIAL PHOTOGRAPH FROM GOOGLE EARTH PRO.

2. COORDINATES FOR ALL NOVEMBER 2013 SAMPLE LOCATIONS WERE COLLECTED USING A SUB-METER TRIMBLE GPS UNIT.

3. UTILITIES WERE IDENTIFIED USING GROUND PENETRATING RADAR, RADIO FREQUENCY SURVEY OR VISUAL MEANS.

0 40' 80'

GRAPHIC SCALE

VACUUM/LOVINGTON FUNCTIONAL MANAGEMENT TEAM UNITS
EDDY COUNTY, NEW MEXICO
SITE ASSESSMENT REPORT

RELEASE AND SOIL BORING LOCATIONS SKU 936

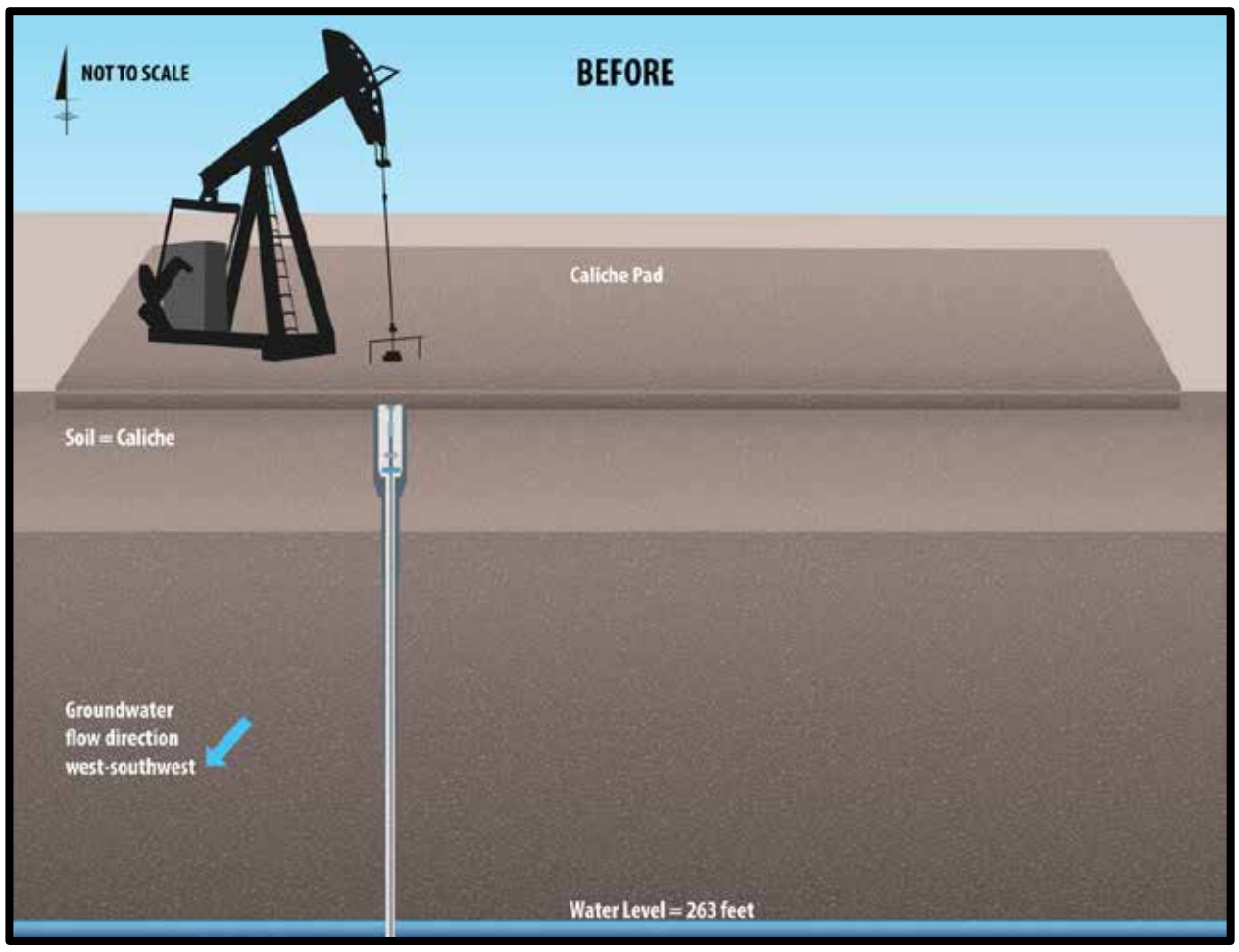
ARCADIS

FIGURE
2

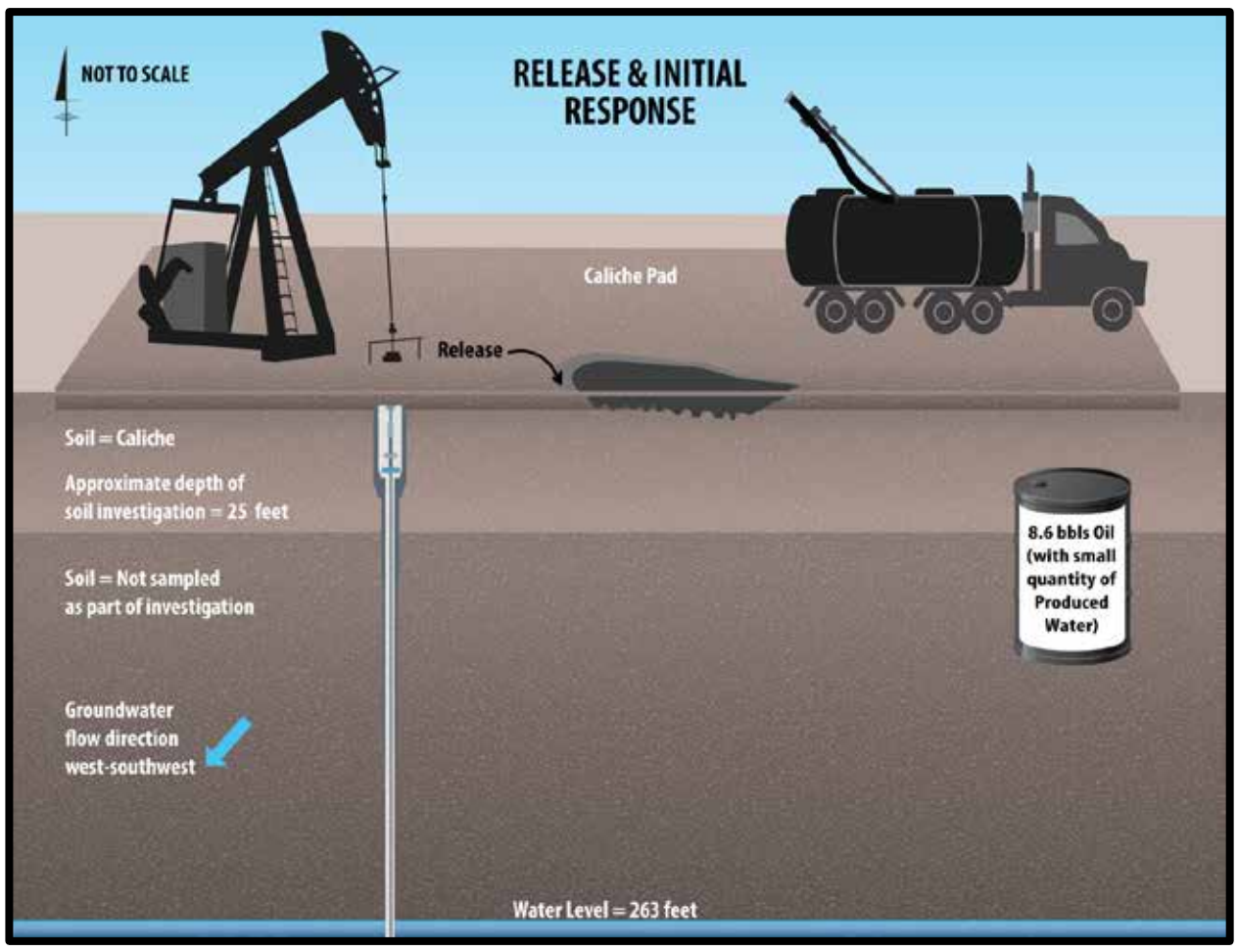
ARCADIS

Attachment 1

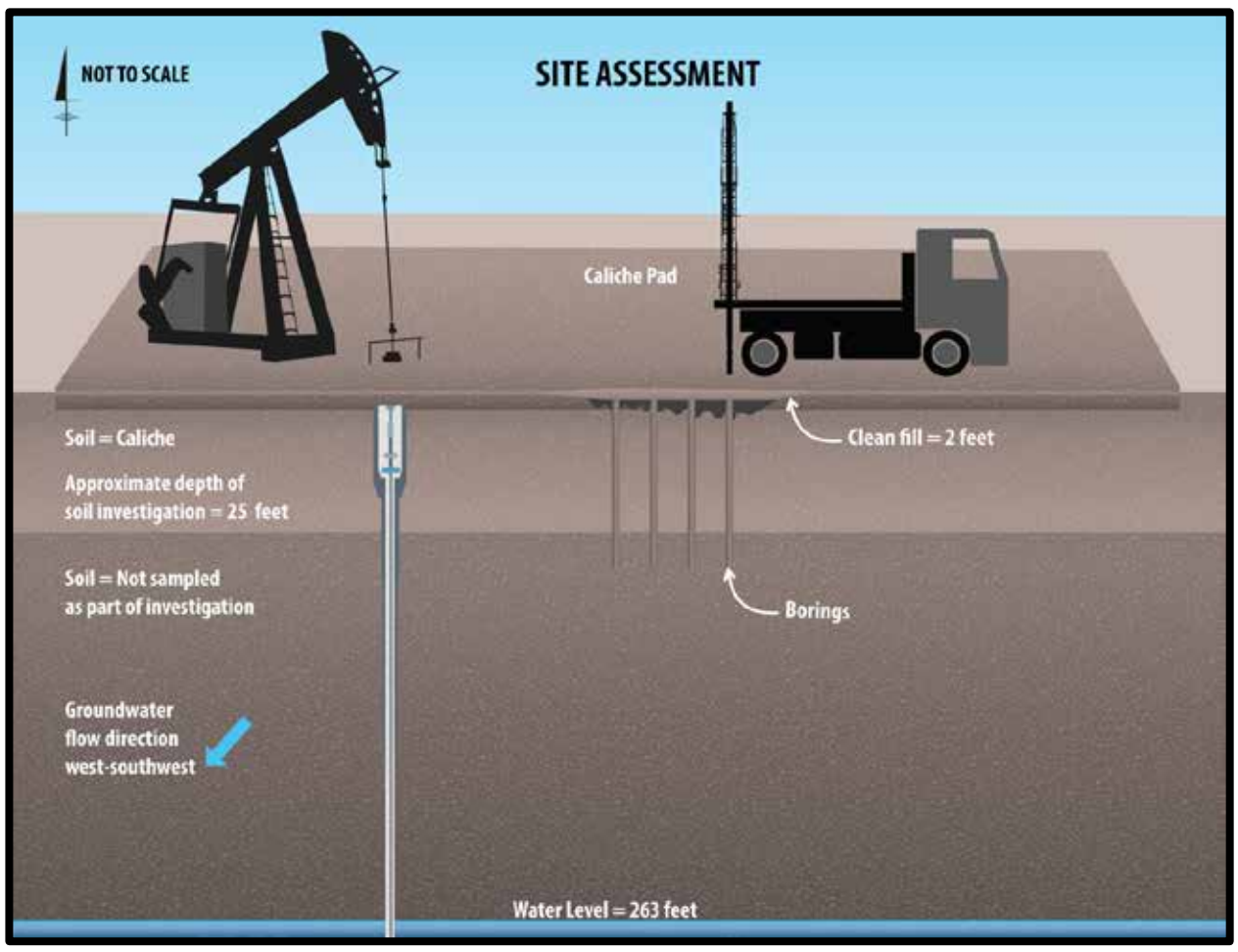
Site Conceptual Model



The site is located in the western edge of the Permian Basin with Artesia (the closest town) located approximately 30 miles northwest of the site. Due to the arid climate, the site experiences low precipitation and high evapotranspiration rates. According to information obtained from the NMOSE online database, groundwater near the site is encountered at a depth of approximately 263 feet bgs.



A release of approximately 8.6 bbls of oil mixed with a small quantity of produced water occurred at the site on January 1, 2012 due to a release from a high-density polyethylene gas line. Chevron personnel from the Mid-Continent Business Unit (MCBU) stopped the release and recovered an unknown quantity of fluids using a vacuum truck. Chevron MCBU personnel excavated visually impacted soil in the area to a depth of approximately 2 feet bgs and collected two discrete confirmation soil samples from the base of the excavation on May 7, 2012. After collecting the soil sample, the excavated area was reportedly backfilled with imported soil. Analyte concentrations in one or more confirmation soil samples were above regulatory criteria, deeming additional site assessment activities necessary.



In November 2013, ARCADIS conducted site assessment activities to characterize the lateral and vertical extents of soil impacts at the site. Soil boring locations were selected based on the results of confirmation soil sampling completed at the site in May 2012, locations of pipelines and other equipment at the site, and the extent of the release as documented by Chevron MCBU personnel during the initial response activities. Analyte concentrations in samples collected during the 2013 assessment were reported below site-specific criteria. Site assessment activities demonstrate that remaining soil concentrations associated with the release do not pose significant risk to groundwater resources or other receptors.

VACUUM/LOVINGTON FUNCTIONAL MANAGEMENT TEAM UNITS
EDDY COUNTY, NEW MEXICO
SITE ASSESSMENT REPORT

Site Conceptual Model
SKU 936

ARCADIS

FIGURE
1

ARCADIS

Attachment 2

Photolog

Photograph 1 – Skelly Unit #936 release area; Facing Southwest

Photograph 2 – Skelly Unit #936 release area; Facing South

ARCADIS

Attachment 3

New Mexico Office of the State Engineer – Depth to Water

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
RA 10175		LE		2	1	28	17S	32E	614814	3631005*	10164	158		
RA 12020 POD1		LE	2	2	1	28	17S	32E	614828	3630954	10185	120	81	39
RA 12042 POD1		LE	2	2	1	28	17S	32E	614891	3631181	10214	400		
L 10206	L	LE		2	2	23	16S	31E	609045	3642204*	10515	280		
L 10203	L	LE	4	4	3	14	16S	31E	608334	3642495*	10520	310		
CP 00672		LE		4	4	07	18S	32E	612475	3624947*	10852	524	430	94
CP 00672 CLW475398	O	LE		4	4	07	18S	32E	612475	3624947*	10852	540	460	80
L 03852 POD4	L	LE	3	4	3	13	16S	31E	609744	3642516*	11096	333	299	34
CP 00566		LE	4	4	1	04	18S	32E	614960	3627280*	11488	133	65	68
L 03852 X	R L	LE	4	4	4	13	16S	31E	610749	3642526*	11589	333	299	34
RA 08855		LE	4	1	1	10	17S	32E	616061	3635742*	11716	158		
L 03852	R L	LE	2	2	2	14	16S	31E	609126	3643913*	12126	370	314	56
RA 09505		LE	2	2	1	10	17S	32E	616462	3635944	12157	147		
L 13050 POD1	L	LE	2	2	1	10	17S	32E	616463	3635945*	12158	156	132	24
RA 09505 S		LE	2	2	1	10	17S	32E	616463	3635945*	12158	144		
L 03852 POD5	R L	LE	2	3	2	13	16S	31E	610387	3643470	12238	328	295	33
RA 11734 POD1		LE	2	2	1	10	17S	32E	616556	3635929	12243	165		

Average Depth to Water: **263 feet**

Minimum Depth: **65 feet**

Maximum Depth: **460 feet**

Record Count: 17

Basin/County Search:

County: Lea

UTMNAD83 Radius Search (in meters):

Easting (X): 604774.96 **Northing (Y):** 3632594.31 **Radius:** 12500

***UTM location was derived from PLSS - see Help**

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

Attachment 4

Release Notification and Corrective Action (C-141 Form)

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised March 17, 1999

Submit 2 Copies to appropriate District Office in accordance with Rule 116 on back side of form

Release Notification and Corrective Action

OPERATOR X Initial Report Final Report

Name of Company CHEVRON	Contact David Pagano
Address 56 Texas Camp Road, Lovington NM 88260	Telephone No. Office: 575-396-4414 ext 275 Cellular: 505-787-9816
Facility Name: Skelly Unit 936	Facility Type: Producing Well

Surface Owner: Federal	Mineral Owner	Lease No. **NM-98122**

LOCATION OF RELEASE-API # **30-015-32595**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	21	17.0S	31E					Eddy

NATURE OF RELEASE

Type of Release Crude Oil and produced Water Spill	Volume of Release 8.6bbls fluid	Volume Recovered
Source of Release : Flow Line	Date and Hour of Occurrence 01/24/12 10:45	Date and Hour of Discovery 01/24/12 11:00
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mr. Leking via voicemail	
By Whom? David Pagano		
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*

It appears someone drove around wellhead and snagged out poly gas line, causing 8.6bbl fluid spill, mostly oil with a small amount of produced water. Chemical rep notified pumper of spill to land at 10:45 and pumper immediately drove to well and shut well in to contain release. Well shut in at approx 11:00AM.

Describe Area Affected and Cleanup Action Taken.*

Approx 8.6bbls of fluid mostly oil spilled on pad and worked its way to the road as well as foot wide path that ran into the pasture. Vacuum truck vacuumed up standing liquid on pad and road. Chevron has received Archeological/wildlife clearance from BLM. Backhoe will excavate contaminated soil on pad and road and contaminated soil will be taken offsite for disposal. Spray off of pad into the pasture will be remediated by knocking off fluids from vegetation using biodegradable soap and then we are looking at using micro blaze to remediated contaminated soil. Surface sample will be taken tomorrow to determine level of chlorides in order to evaluate potential effectiveness of micro blaze for pasture/off pad remediation.

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

Signature:	OIL CONSERVATION DIVISION	
Printed Name: David Pagano	Approved by District Supervisor:	
Title: Health & Environmental Specialist	Approval Date:	Expiration Date:
Date: 01/25/12 Phone: 505-787-9816	Conditions of Approval:	Attached ☐

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised August 8, 2011

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company: CHEVRON U.S.A. Inc.	Contact: Edem Sededji
Address: 56 Texas Camp Road, Lovington NM 88260	Telephone No.: Office: (575) 396-4414 Mobile: (432) 234-4437
Facility Name: Skelly Unit 936	Facility Type: Production Well

Surface Owner: Federal	Mineral Owner: State of New Mexico	API No. 30-015-32595 / Lease No. NM-98122

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
D	21	17.0S	31E					Eddy

Latitude _____ **Longitude** _____

NATURE OF RELEASE

Type of Release: Crude Oil and produced Water Spill	Volume of Release: 8.6 bbls fluid	Volume Recovered: Unknown
Source of Release: Flow Line	Date and Hour of Occurrence: 01/24/12 10:45 AM	Date and Hour of Discovery: 01/24/12 11:00 AM
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mr. Leking via voicemail	
By Whom? David Pagano	Date and Hour:	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*

It appears someone drove around wellhead and snagged out poly gas line, causing 8.6 bbls fluid spill, mostly oil with a small amount of produced water. Chemical rep notified pumper of spill to land at 10:45 and pumper immediately drove to well and shut well in to contain release. Well shut in at approximately 11:00 AM.

Describe Area Affected and Cleanup Action Taken.*
Approx. 8.6 bbls of fluid mostly oil spilled on pad and worked its way to the road as well as foot wide path that ran into the pasture. Vacuum truck vacuumed up standing liquid on pad and road. Chevron received Archeological/wildlife clearance from BLM. Backhoe excavated contaminated soil on pad and road and contaminated soil was taken offsite for disposal. Spray off of pad into the pasture was remediated by knocking off fluids from vegetation using biodegradable soap, and then used micro blaze to remediate contaminated soil.

Two discrete soil confirmation samples were collected from the base of the excavation before the excavated area was reportedly backfilled with imported soils. These sampling results indicated the presence of chloride concentrations in shallow soils at levels of regulatory concern.

In response to these results, an additional site assessment was conducted to confirm the extent of soil impacts.

Analytical results of the additional assessment are attached.

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

Signature: Luke Welch	OIL CONSERVATION DIVISION	
Printed Name: Luke Welch	Approved by Environmental Specialist:	
Title: Project Manager	Approval Date:	Expiration Date:
E-mail Address: LWelch@chevron.com	Conditions of Approval:	Attached ☐
Date: 8/12/14 Phone: (713) 372-0292		

* Attach Additional Sheets If Necessary

ARCADIS

Attachment 5

Laboratory Analytical Reports

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	05/07/2012	Sampling Date:	05/07/2012
Reported:	05/15/2012	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: SKU 936 PAD #2 (H201036-05)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/11/2012	ND	1.98	98.9	2.00	1.92	
Toluene*	<0.050	0.050	05/11/2012	ND	2.17	108	2.00	4.50	
Ethylbenzene*	<0.050	0.050	05/11/2012	ND	2.19	110	2.00	5.41	
Total Xylenes*	<0.150	0.150	05/11/2012	ND	6.98	116	6.00	7.19	

Surrogate: 4-Bromofluorobenzene (PID *109 %* *64.4-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**9730**	16.0	05/09/2012	ND	400	100	400	0.00	

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	05/10/2012	ND	189	94.3	200	2.57	
DRO >C10-C28	**3280**	10.0	05/10/2012	ND	180	90.2	200	1.12	

Surrogate: 1-Chlorooctane *86.4 %* *55.5-154*

Surrogate: 1-Chlorooctadecane *167 %* *57.6-158*

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

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

Received:	05/07/2012	Sampling Date:	05/07/2012
Reported:	05/15/2012	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: SKU 936 PAD #1 (H201036-06)

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/11/2012	ND	1.98	98.9	2.00	1.92	
Toluene*	<0.050	0.050	05/11/2012	ND	2.17	108	2.00	4.50	
Ethylbenzene*	<0.050	0.050	05/11/2012	ND	2.19	110	2.00	5.41	
Total Xylenes*	<0.150	0.150	05/11/2012	ND	6.98	116	6.00	7.19	

Surrogate: 4-Bromofluorobenzene (PID *108 %* *64.4-134*

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

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**16000**	16.0	05/09/2012	ND	400	100	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS** **S-06**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<20.0	20.0	05/10/2012	ND	189	94.3	200	2.57	
DRO >C10-C28	**3070**	20.0	05/10/2012	ND	180	90.2	200	1.12	

Surrogate: 1-Chlorooctane *86.3 %* *55.5-154*

Surrogate: 1-Chlorooctadecane *162 %* *57.6-158*

Cardinal Laboratories *=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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

TestAmerica Job ID: 600-82260-1
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

Authorized for release by:
11/22/2013 5:01:35 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.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.

Table of Contents

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

TestAmerica Job ID: 600-82260-1

Job ID: 600-82260-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-82260-1

Comments
No additional comments.

Receipt
The samples were received on 11/7/2013 7:01 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.6º C, 1.7º C, 3.0º C, 3.0º C and 3.7º C.

GC/MS VOA
No analytical or quality issues were noted.

GC VOA
Method(s) 8021B: Surrogate recovery for the following sample(s) was outside the upper control limit: SKU936-03-25 (600-82260-29). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

GC Semi VOA
Method(s) 8015B: Surrogate recovery for the following sample(s) was outside control limits: SKU936-02-05 (600-82260-41). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No other analytical or quality issues were noted.

General Chemistry
Method(s) 9056: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 120752 were outside control limits for Chloride. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 9056: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 120842 were outside control limits for Chloride. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 9056: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 120842 were outside control limits for Chloride. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

Method Summary

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

TestAmerica Job ID: 600-82260-1

Method	Method Description	Protocol	Laboratory
8015B	Gasoline Range Organics - (GC)	SW846	TAL HOU
8021B	Volatile Organic Compounds (GC)	SW846	TAL HOU
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL HOU
9056	Anions, Ion Chromatography	SW846	TAL HOU
Moisture	Percent Moisture	EPA	TAL HOU

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Sample Summary

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

TestAmerica Job ID: 600-82260-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-82260-12	SKU936-04-20	Solid	11/05/13 09:58	11/07/13 07:01
600-82260-13	SKU936-04-25	Solid	11/05/13 10:00	11/07/13 07:01
600-82260-23	SKU936-02-25	Solid	11/04/13 11:56	11/07/13 07:01
600-82260-24	SKU936-03-02	Solid	11/04/13 12:40	11/07/13 07:01
600-82260-25	SKU936-03-05	Solid	11/04/13 12:42	11/07/13 07:01
600-82260-26	SKU936-03-10	Solid	11/04/13 12:44	11/07/13 07:01
600-82260-27	SKU936-03-15	Solid	11/04/13 12:46	11/07/13 07:01
600-82260-28	SKU936-03-20	Solid	11/04/13 12:48	11/07/13 07:01
600-82260-29	SKU936-03-25	Solid	11/04/13 12:50	11/07/13 07:01
600-82260-30	SKU936-04-02	Solid	11/05/13 09:50	11/07/13 07:01
600-82260-31	SKU936-04-05	Solid	11/05/13 09:52	11/07/13 07:01
600-82260-32	SKU936-04-10	Solid	11/05/13 09:54	11/07/13 07:01
600-82260-33	SKU936-04-15	Solid	11/05/13 09:56	11/07/13 07:01
600-82260-34	SKU936-01-02	Solid	11/04/13 13:57	11/07/13 07:01
600-82260-35	SKU936-01-05	Solid	11/04/13 14:00	11/07/13 07:01
600-82260-36	SKU936-01-10	Solid	11/04/13 14:02	11/07/13 07:01
600-82260-37	SKU936-01-15	Solid	11/04/13 14:04	11/07/13 07:01
600-82260-38	SKU936-01-20	Solid	11/04/13 14:06	11/07/13 07:01
600-82260-39	SKU936-01-25	Solid	11/04/13 14:08	11/07/13 07:01
600-82260-40	SKU936-02-02	Solid	11/04/13 11:46	11/07/13 07:01
600-82260-41	SKU936-02-05	Solid	11/04/13 11:48	11/07/13 07:01
600-82260-42	SKU936-02-10	Solid	11/04/13 11:50	11/07/13 07:01
600-82260-43	SKU936-02-15	Solid	11/04/13 11:52	11/07/13 07:01
600-82260-44	SKU936-02-20	Solid	11/04/13 11:54	11/07/13 07:01

Client Sample ID: SKU936-04-20

Lab Sample ID: 600-82260-12
Date Collected: 11/05/13 09:58
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 94.2

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	1.8		1.1		mg/Kg	☼	11/08/13 12:17	11/11/13 23:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/11/13 23:45*	*1*
4-Bromofluorobenzene	*93*		*50 - 150*	*11/08/13 12:17*	*11/11/13 23:45*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 13:54	1
Toluene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 13:54	1
Ethylbenzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 13:54	1
Xylenes, Total	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 13:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*90*		*43 - 141*	*11/07/13 10:36*	*11/15/13 13:54*	*1*
a,a,a-Trifluorotoluene	*93*		*44 - 134*	*11/07/13 10:36*	*11/15/13 13:54*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.8		mg/Kg	☼	11/11/13 09:58	11/13/13 04:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*70*		*60 - 140*	*11/11/13 09:58*	*11/13/13 04:46*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.8		1.0		%			11/08/13 14:11	1
Percent Solids	94		1.0		%			11/08/13 14:11	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	93		4.2		mg/Kg	☼		11/18/13 23:00	1

Client Sample ID: SKU936-04-25

Lab Sample ID: 600-82260-13
Date Collected: 11/05/13 10:00
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	1.9		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 00:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 00:11*	*1*
4-Bromofluorobenzene	*93*		*50 - 150*	*11/08/13 12:17*	*11/12/13 00:11*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 14:16	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 14:16	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 14:16	1

Client Sample ID: SKU936-04-25

Date Collected: 11/05/13 10:00
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-13

Matrix: Solid
Percent Solids: 98.1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 14:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*43 - 141*	*11/07/13 10:36*	*11/15/13 14:16*	*1*
a,a,a-Trifluorotoluene	*80*		*44 - 134*	*11/07/13 10:36*	*11/15/13 14:16*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.4		mg/Kg	☼	11/11/13 09:58	11/13/13 05:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*67*		*60 - 140*	*11/11/13 09:58*	*11/13/13 05:51*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**1.9**		1.0		%			11/08/13 14:11	1
Percent Solids	**98**		1.0		%			11/08/13 14:11	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**71**		4.1		mg/Kg	☼		11/18/13 23:16	1

Client Sample ID: SKU936-02-25

Date Collected: 11/04/13 11:56
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-23

Matrix: Solid
Percent Solids: 96.2

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	**2.0**		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 00:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 00:36*	*1*
4-Bromofluorobenzene	*94*		*50 - 150*	*11/08/13 12:17*	*11/12/13 00:36*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 14:38	1
Toluene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 14:38	1
Ethylbenzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 14:38	1
Xylenes, Total	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 14:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*57*		*43 - 141*	*11/07/13 10:36*	*11/15/13 14:38*	*1*
a,a,a-Trifluorotoluene	*54*		*44 - 134*	*11/07/13 10:36*	*11/15/13 14:38*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.6		mg/Kg	☼	11/11/13 10:58	11/13/13 06:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*71*		*60 - 140*	*11/11/13 10:58*	*11/13/13 06:55*	*1*

Client Sample ID: SKU936-02-25

Lab Sample ID: 600-82260-23

Date Collected: 11/04/13 11:56

Matrix: Solid

Date Received: 11/07/13 07:01

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.8		1.0		%			11/07/13 13:58	1
Percent Solids	96		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		4.2		mg/Kg	☼		11/16/13 21:40	1

Client Sample ID: SKU936-03-02

Lab Sample ID: 600-82260-24

Date Collected: 11/04/13 12:40

Matrix: Solid

Date Received: 11/07/13 07:01

Percent Solids: 93.1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.0		1.1		mg/Kg	☼	11/08/13 12:17	11/12/13 01:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 01:01*	*1*
4-Bromofluorobenzene	*94*		*50 - 150*	*11/08/13 12:17*	*11/12/13 01:01*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 14:59	1
Toluene	0.038		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 14:59	1
Ethylbenzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 14:59	1
Xylenes, Total	0.081		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 14:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*91*		*43 - 141*	*11/07/13 10:36*	*11/15/13 14:59*	*1*
a,a,a-Trifluorotoluene	*67*		*44 - 134*	*11/07/13 10:36*	*11/15/13 14:59*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.9		mg/Kg	☼	11/11/13 10:58	11/13/13 07:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*60 - 140*	*11/11/13 10:58*	*11/13/13 07:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.9		1.0		%			11/07/13 13:58	1
Percent Solids	93		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28		4.3		mg/Kg	☼		11/16/13 22:20	1

Client Sample ID: SKU936-03-05

Lab Sample ID: 600-82260-25
Date Collected: 11/04/13 12:42
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.0

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	1.9		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 01:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 01:26*	*1*
4-Bromofluorobenzene	*94*		*50 - 150*	*11/08/13 12:17*	*11/12/13 01:26*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 15:21	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 15:21	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 15:21	1
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 15:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*58*		*43 - 141*	*11/07/13 10:36*	*11/15/13 15:21*	*1*
4-Bromofluorobenzene	*100*		*43 - 141*	*11/07/13 10:36*	*11/15/13 23:15*	*1*
a,a,a-Trifluorotoluene	*47*		*44 - 134*	*11/07/13 10:36*	*11/15/13 15:21*	*1*
a,a,a-Trifluorotoluene	*70*		*44 - 134*	*11/07/13 10:36*	*11/15/13 23:15*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.4		mg/Kg	☼	11/12/13 10:22	11/13/13 13:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*64*		*60 - 140*	*11/12/13 10:22*	*11/13/13 13:22*	*1*
o-Terphenyl	*74*		*60 - 140*	*11/12/13 10:22*	*11/13/13 13:22*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.0		1.0		%			11/07/13 13:58	1
Percent Solids	98		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	21		4.1		mg/Kg	☼		11/16/13 23:01	1

Client Sample ID: SKU936-03-10

Lab Sample ID: 600-82260-26
Date Collected: 11/04/13 12:44
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 97.6

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	1.9		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 01:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 01:51*	*1*
4-Bromofluorobenzene	*92*		*50 - 150*	*11/08/13 12:17*	*11/12/13 01:51*	*1*

Client Sample ID: SKU936-03-10

Lab Sample ID: 600-82260-26

Date Collected: 11/04/13 12:44
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 97.6

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/14/13 14:52	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/14/13 14:52	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/14/13 14:52	1
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/14/13 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*112*		*43 - 141*	*11/07/13 10:36*	*11/14/13 14:52*	*1*
a,a,a-Trifluorotoluene	*103*		*44 - 134*	*11/07/13 10:36*	*11/14/13 14:52*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.5		mg/Kg	☼	11/11/13 09:58	11/12/13 18:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*60 - 140*	*11/11/13 09:58*	*11/12/13 18:54*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**2.4**		1.0		%			11/07/13 13:58	1
Percent Solids	**98**		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7.7**		4.1		mg/Kg	☼		11/16/13 23:14	1

Client Sample ID: SKU936-03-15

Lab Sample ID: 600-82260-27

Date Collected: 11/04/13 12:46
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.2

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	**1.7**		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 02:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 02:16*	*1*
4-Bromofluorobenzene	*95*		*50 - 150*	*11/08/13 12:17*	*11/12/13 02:16*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 16:05	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 16:05	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 16:05	1
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*43 - 141*	*11/07/13 10:36*	*11/15/13 16:05*	*1*
a,a,a-Trifluorotoluene	*55*		*44 - 134*	*11/07/13 10:36*	*11/15/13 16:05*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.5		mg/Kg	☼	11/11/13 09:58	11/12/13 19:27	1

Client Sample ID: SKU936-03-15

Lab Sample ID: 600-82260-27

Date Collected: 11/04/13 12:46
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*66*		*60 - 140*	*11/11/13 09:58*	*11/12/13 19:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.8		1.0		%			11/07/13 13:58	1
Percent Solids	98		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	11		4.1		mg/Kg	☼		11/16/13 23:28	1

Client Sample ID: SKU936-03-20

Lab Sample ID: 600-82260-28

Date Collected: 11/04/13 12:48
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 96.7

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	1.6		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 02:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 02:41*	*1*
4-Bromofluorobenzene	*94*		*50 - 150*	*11/08/13 12:17*	*11/12/13 02:41*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg	☼	11/07/13 16:30	11/14/13 15:12	1
Toluene	ND		0.021		mg/Kg	☼	11/07/13 16:30	11/14/13 15:12	1
Ethylbenzene	ND		0.021		mg/Kg	☼	11/07/13 16:30	11/14/13 15:12	1
Xylenes, Total	ND		0.021		mg/Kg	☼	11/07/13 16:30	11/14/13 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*113*		*43 - 141*	*11/07/13 16:30*	*11/14/13 15:12*	*1*
a,a,a-Trifluorotoluene	*102*		*44 - 134*	*11/07/13 16:30*	*11/14/13 15:12*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.6		mg/Kg	☼	11/11/13 09:58	11/12/13 20:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*67*		*60 - 140*	*11/11/13 09:58*	*11/12/13 20:01*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	3.3		1.0		%			11/07/13 13:58	1
Percent Solids	97		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29		4.1		mg/Kg	☼		11/17/13 00:08	1

Client Sample ID: SKU936-03-25

Lab Sample ID: 600-82260-29

Date Collected: 11/04/13 12:50
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 94.9

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.0		1.1		mg/Kg	☼	11/08/13 12:17	11/12/13 07:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 07:25*	*1*
4-Bromofluorobenzene	*89*		*50 - 150*	*11/08/13 12:17*	*11/12/13 07:25*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 17:37	1
Toluene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 17:37	1
Ethylbenzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 17:37	1
Xylenes, Total	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*175*	*X*	*43 - 141*	*11/07/13 10:36*	*11/15/13 17:37*	*1*
a,a,a-Trifluorotoluene	*100*		*44 - 134*	*11/07/13 10:36*	*11/15/13 17:37*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.7		mg/Kg	☼	11/11/13 09:58	11/12/13 20:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*62*		*60 - 140*	*11/11/13 09:58*	*11/12/13 20:34*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.1		1.0		%			11/07/13 13:58	1
Percent Solids	95		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	300		8.4		mg/Kg	☼		11/18/13 17:19	2

Client Sample ID: SKU936-04-02

Lab Sample ID: 600-82260-30

Date Collected: 11/05/13 09:50
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 97.8

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.2		1.0		mg/Kg	☼	11/09/13 12:36	11/15/13 20:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/09/13 12:36*	*11/15/13 20:12*	*1*
4-Bromofluorobenzene	*92*		*50 - 150*	*11/09/13 12:36*	*11/15/13 20:12*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 18:04	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 18:04	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 18:04	1

Client Sample ID: SKU936-04-02

Date Collected: 11/05/13 09:50
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-30
Matrix: Solid
Percent Solids: 97.8

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 18:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*107*		*43 - 141*	*11/07/13 10:36*	*11/15/13 18:04*	*1*
a,a,a-Trifluorotoluene	*102*		*44 - 134*	*11/07/13 10:36*	*11/15/13 18:04*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.5		mg/Kg	☼	11/11/13 09:58	11/13/13 06:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*69*		*60 - 140*	*11/11/13 09:58*	*11/13/13 06:23*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**2.2**		1.0		%			11/08/13 14:11	1
Percent Solids	**98**		1.0		%			11/08/13 14:11	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**390**		8.2		mg/Kg	☼		11/18/13 23:31	2

Client Sample ID: SKU936-04-05

Date Collected: 11/05/13 09:52
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-31
Matrix: Solid
Percent Solids: 98.1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	**2.5**		1.0		mg/Kg	☼	11/09/13 12:36	11/15/13 20:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/09/13 12:36*	*11/15/13 20:37*	*1*
4-Bromofluorobenzene	*92*		*50 - 150*	*11/09/13 12:36*	*11/15/13 20:37*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 18:42	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 18:42	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 18:42	1
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*43 - 141*	*11/07/13 10:36*	*11/15/13 18:42*	*1*
a,a,a-Trifluorotoluene	*91*		*44 - 134*	*11/07/13 10:36*	*11/15/13 18:42*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.5		mg/Kg	☼	11/11/13 09:58	11/13/13 06:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*70*		*60 - 140*	*11/11/13 09:58*	*11/13/13 06:55*	*1*

Client Sample ID: SKU936-04-05

Lab Sample ID: 600-82260-31

Date Collected: 11/05/13 09:52

Matrix: Solid

Date Received: 11/07/13 07:01

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.9		1.0		%			11/08/13 14:11	1
Percent Solids	98		1.0		%			11/08/13 14:11	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		4.1		mg/Kg	☼		11/18/13 23:47	1

Client Sample ID: SKU936-04-10

Lab Sample ID: 600-82260-32

Date Collected: 11/05/13 09:54

Matrix: Solid

Date Received: 11/07/13 07:01

Percent Solids: 95.0

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.6		1.1		mg/Kg	☼	11/09/13 12:36	11/15/13 21:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*105*		*50 - 150*	*11/09/13 12:36*	*11/15/13 21:02*	*1*
4-Bromofluorobenzene	*94*		*50 - 150*	*11/09/13 12:36*	*11/15/13 21:02*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 19:14	1
Toluene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 19:14	1
Ethylbenzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 19:14	1
Xylenes, Total	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*59*		*43 - 141*	*11/07/13 10:36*	*11/15/13 19:14*	*1*
a,a,a-Trifluorotoluene	*53*		*44 - 134*	*11/07/13 10:36*	*11/15/13 19:14*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.7		mg/Kg	☼	11/11/13 09:58	11/13/13 07:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*70*		*60 - 140*	*11/11/13 09:58*	*11/13/13 07:27*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.0		1.0		%			11/08/13 14:11	1
Percent Solids	95		1.0		%			11/08/13 14:11	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		4.2		mg/Kg	☼		11/19/13 00:33	1

Client Sample ID: SKU936-04-15

Lab Sample ID: 600-82260-33

Date Collected: 11/05/13 09:56
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 94.8

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.7		1.1		mg/Kg	☼	11/09/13 12:36	11/15/13 21:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*105*		*50 - 150*	*11/09/13 12:36*	*11/15/13 21:27*	*1*
4-Bromofluorobenzene	*94*		*50 - 150*	*11/09/13 12:36*	*11/15/13 21:27*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 19:36	1
Toluene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 19:36	1
Ethylbenzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 19:36	1
Xylenes, Total	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*85*		*43 - 141*	*11/07/13 10:36*	*11/15/13 19:36*	*1*
a,a,a-Trifluorotoluene	*89*		*44 - 134*	*11/07/13 10:36*	*11/15/13 19:36*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.7		mg/Kg	☼	11/12/13 10:22	11/13/13 15:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*73*		*60 - 140*	*11/12/13 10:22*	*11/13/13 15:01*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	5.2		1.0		%			11/08/13 14:11	1
Percent Solids	95		1.0		%			11/08/13 14:11	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28		4.2		mg/Kg	☼		11/19/13 00:49	1

Client Sample ID: SKU936-01-02

Lab Sample ID: 600-82260-34

Date Collected: 11/04/13 13:57
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 81.1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	3.3		1.2		mg/Kg	☼	11/08/13 12:17	11/12/13 07:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 07:50*	*1*
4-Bromofluorobenzene	*93*		*50 - 150*	*11/08/13 12:17*	*11/12/13 07:50*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025		mg/Kg	☼	11/07/13 10:36	11/15/13 19:58	1
Toluene	ND		0.025		mg/Kg	☼	11/07/13 10:36	11/15/13 19:58	1
Ethylbenzene	ND		0.025		mg/Kg	☼	11/07/13 10:36	11/15/13 19:58	1

Client Sample ID: SKU936-01-02

Lab Sample ID: 600-82260-34
Date Collected: 11/04/13 13:57
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 81.1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.025		mg/Kg	☼	11/07/13 10:36	11/15/13 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*43 - 141*	*11/07/13 10:36*	*11/15/13 19:58*	*1*
a,a,a-Trifluorotoluene	*84*		*44 - 134*	*11/07/13 10:36*	*11/15/13 19:58*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		10		mg/Kg	☼	11/11/13 09:58	11/12/13 22:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*69*		*60 - 140*	*11/11/13 09:58*	*11/12/13 22:14*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**19**		1.0		%			11/07/13 13:58	1
Percent Solids	**81**		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**290**		4.9		mg/Kg	☼		11/18/13 17:35	1

Client Sample ID: SKU936-01-05

Lab Sample ID: 600-82260-35
Date Collected: 11/04/13 14:00
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 97.7

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	**2.5**		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 08:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 08:15*	*1*
4-Bromofluorobenzene	*94*		*50 - 150*	*11/08/13 12:17*	*11/12/13 08:15*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 20:20	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 20:20	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 20:20	1
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*118*		*43 - 141*	*11/07/13 10:36*	*11/15/13 20:20*	*1*
a,a,a-Trifluorotoluene	*96*		*44 - 134*	*11/07/13 10:36*	*11/15/13 20:20*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.5		mg/Kg	☼	11/11/13 09:58	11/12/13 22:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*66*		*60 - 140*	*11/11/13 09:58*	*11/12/13 22:47*	*1*

Client Sample ID: SKU936-01-05

Lab Sample ID: 600-82260-35

Date Collected: 11/04/13 14:00

Matrix: Solid

Date Received: 11/07/13 07:01

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.3		1.0		%			11/07/13 13:58	1
Percent Solids	98		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34		4.1		mg/Kg	☼		11/18/13 18:21	1

Client Sample ID: SKU936-01-10

Lab Sample ID: 600-82260-36

Date Collected: 11/04/13 14:02

Matrix: Solid

Date Received: 11/07/13 07:01

Percent Solids: 98.6

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.5		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 08:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 08:40*	*1*
4-Bromofluorobenzene	*93*		*50 - 150*	*11/08/13 12:17*	*11/12/13 08:40*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 20:42	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 20:42	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 20:42	1
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 20:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*92*		*43 - 141*	*11/07/13 10:36*	*11/15/13 20:42*	*1*
a,a,a-Trifluorotoluene	*70*		*44 - 134*	*11/07/13 10:36*	*11/15/13 20:42*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.4		mg/Kg	☼	11/11/13 09:58	11/12/13 23:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*67*		*60 - 140*	*11/11/13 09:58*	*11/12/13 23:53*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.4		1.0		%			11/07/13 13:58	1
Percent Solids	99		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		4.1		mg/Kg	☼		11/18/13 18:37	1

Client Sample ID: SKU936-01-15

Lab Sample ID: 600-82260-37

Date Collected: 11/04/13 14:04
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.4

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.7		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 09:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*103*		*50 - 150*	*11/08/13 12:17*	*11/12/13 09:05*	*1*
4-Bromofluorobenzene	*91*		*50 - 150*	*11/08/13 12:17*	*11/12/13 09:05*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 21:03	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 21:03	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 21:03	1
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 21:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*43 - 141*	*11/07/13 10:36*	*11/15/13 21:03*	*1*
a,a,a-Trifluorotoluene	*89*		*44 - 134*	*11/07/13 10:36*	*11/15/13 21:03*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.4		mg/Kg	☼	11/11/13 09:58	11/13/13 00:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*69*		*60 - 140*	*11/11/13 09:58*	*11/13/13 00:26*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.6		1.0		%			11/07/13 13:58	1
Percent Solids	98		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	19		4.1		mg/Kg	☼		11/18/13 18:52	1

Client Sample ID: SKU936-01-20

Lab Sample ID: 600-82260-38

Date Collected: 11/04/13 14:06
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.8

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.6		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 09:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*103*		*50 - 150*	*11/08/13 12:17*	*11/12/13 09:30*	*1*
4-Bromofluorobenzene	*95*		*50 - 150*	*11/08/13 12:17*	*11/12/13 09:30*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 22:09	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 22:09	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 22:09	1

Client Sample ID: SKU936-01-20

Lab Sample ID: 600-82260-38
Date Collected: 11/04/13 14:06
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.8

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 22:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*100*		*43 - 141*	*11/07/13 10:36*	*11/15/13 22:09*	*1*
a,a,a-Trifluorotoluene	*75*		*44 - 134*	*11/07/13 10:36*	*11/15/13 22:09*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.4		mg/Kg	☼	11/11/13 09:58	11/13/13 00:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*65*		*60 - 140*	*11/11/13 09:58*	*11/13/13 00:58*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**1.2**		1.0		%			11/07/13 13:58	1
Percent Solids	**99**		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**76**		8.1		mg/Kg	☼		11/18/13 20:10	2

Client Sample ID: SKU936-01-25

Lab Sample ID: 600-82260-39
Date Collected: 11/04/13 14:08
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 93.1

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	**2.9**		1.1		mg/Kg	☼	11/08/13 12:17	11/12/13 09:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*102*		*50 - 150*	*11/08/13 12:17*	*11/12/13 09:55*	*1*
4-Bromofluorobenzene	*93*		*50 - 150*	*11/08/13 12:17*	*11/12/13 09:55*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 22:31	1
Toluene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 22:31	1
Ethylbenzene	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 22:31	1
Xylenes, Total	ND		0.021		mg/Kg	☼	11/07/13 10:36	11/15/13 22:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*93*		*43 - 141*	*11/07/13 10:36*	*11/15/13 22:31*	*1*
a,a,a-Trifluorotoluene	*67*		*44 - 134*	*11/07/13 10:36*	*11/15/13 22:31*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.9		mg/Kg	☼	11/11/13 09:58	11/13/13 01:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*66*		*60 - 140*	*11/11/13 09:58*	*11/13/13 01:31*	*1*

Client Sample ID: SKU936-01-25

Lab Sample ID: 600-82260-39

Date Collected: 11/04/13 14:08

Matrix: Solid

Date Received: 11/07/13 07:01

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.9		1.0		%			11/07/13 13:58	1
Percent Solids	93		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	180		8.6		mg/Kg	☼		11/18/13 20:25	2

Client Sample ID: SKU936-02-02

Lab Sample ID: 600-82260-40

Date Collected: 11/04/13 11:46

Matrix: Solid

Date Received: 11/07/13 07:01

Percent Solids: 98.4

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	3.4		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 10:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 10:20*	*1*
4-Bromofluorobenzene	*92*		*50 - 150*	*11/08/13 12:17*	*11/12/13 10:20*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 22:53	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 22:53	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 22:53	1
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 10:36	11/15/13 22:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*108*		*43 - 141*	*11/07/13 10:36*	*11/15/13 22:53*	*1*
a,a,a-Trifluorotoluene	*80*		*44 - 134*	*11/07/13 10:36*	*11/15/13 22:53*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.4		mg/Kg	☼	11/11/13 09:58	11/13/13 02:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*66*		*60 - 140*	*11/11/13 09:58*	*11/13/13 02:04*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.6		1.0		%			11/07/13 13:58	1
Percent Solids	98		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	150		4.1		mg/Kg	☼		11/18/13 20:41	1

Client Sample ID: SKU936-02-05

Lab Sample ID: 600-82260-41

Date Collected: 11/04/13 11:48
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.6

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.9		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 10:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*104*		*50 - 150*	*11/08/13 12:17*	*11/12/13 10:45*	*1*
4-Bromofluorobenzene	*94*		*50 - 150*	*11/08/13 12:17*	*11/12/13 10:45*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 16:10	11/16/13 01:48	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 16:10	11/16/13 01:48	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 16:10	11/16/13 01:48	1
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 16:10	11/16/13 01:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*97*		*43 - 141*	*11/07/13 16:10*	*11/16/13 01:48*	*1*
a,a,a-Trifluorotoluene	*89*		*44 - 134*	*11/07/13 16:10*	*11/16/13 01:48*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	12		8.4		mg/Kg	☼	11/11/13 09:58	11/13/13 02:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*293*	*X*	*60 - 140*	*11/11/13 09:58*	*11/13/13 02:36*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	1.4		1.0		%			11/07/13 13:58	1
Percent Solids	99		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	23		4.1		mg/Kg	☼		11/18/13 20:56	1

Client Sample ID: SKU936-02-10

Lab Sample ID: 600-82260-42

Date Collected: 11/04/13 11:50
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 97.2

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.6		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 11:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*102*		*50 - 150*	*11/08/13 12:17*	*11/12/13 11:10*	*1*
4-Bromofluorobenzene	*91*		*50 - 150*	*11/08/13 12:17*	*11/12/13 11:10*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg	☼	11/07/13 16:10	11/16/13 02:10	1
Toluene	ND		0.021		mg/Kg	☼	11/07/13 16:10	11/16/13 02:10	1
Ethylbenzene	ND		0.021		mg/Kg	☼	11/07/13 16:10	11/16/13 02:10	1

Client Sample ID: SKU936-02-10

Date Collected: 11/04/13 11:50
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-42
Matrix: Solid
Percent Solids: 97.2

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	ND		0.021		mg/Kg	☼	11/07/13 16:10	11/16/13 02:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*98*		*43 - 141*	*11/07/13 16:10*	*11/16/13 02:10*	*1*
a,a,a-Trifluorotoluene	*61*		*44 - 134*	*11/07/13 16:10*	*11/16/13 02:10*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.5		mg/Kg	☼	11/11/13 09:58	11/13/13 03:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*64*		*60 - 140*	*11/11/13 09:58*	*11/13/13 03:09*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**2.8**		1.0		%			11/07/13 13:58	1
Percent Solids	**97**		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**22**		4.1		mg/Kg	☼		11/18/13 21:12	1

Client Sample ID: SKU936-02-15

Date Collected: 11/04/13 11:52
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-43
Matrix: Solid
Percent Solids: 97.6

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	**2.3**		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 12:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*102*		*50 - 150*	*11/08/13 12:17*	*11/12/13 12:14*	*1*
4-Bromofluorobenzene	*89*		*50 - 150*	*11/08/13 12:17*	*11/12/13 12:14*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg	☼	11/07/13 16:10	11/16/13 02:32	1
Toluene	ND		0.020		mg/Kg	☼	11/07/13 16:10	11/16/13 02:32	1
Ethylbenzene	ND		0.020		mg/Kg	☼	11/07/13 16:10	11/16/13 02:32	1
Xylenes, Total	ND		0.020		mg/Kg	☼	11/07/13 16:10	11/16/13 02:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*43 - 141*	*11/07/13 16:10*	*11/16/13 02:32*	*1*
a,a,a-Trifluorotoluene	*60*		*44 - 134*	*11/07/13 16:10*	*11/16/13 02:32*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.5		mg/Kg	☼	11/11/13 09:58	11/13/13 03:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*67*		*60 - 140*	*11/11/13 09:58*	*11/13/13 03:41*	*1*

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

TestAmerica Job ID: 600-82260-1

Client Sample ID: SKU936-02-15

Lab Sample ID: 600-82260-43

Date Collected: 11/04/13 11:52
Matrix: Solid
Date Received: 11/07/13 07:01

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	2.4		1.0		%			11/07/13 13:58	1
Percent Solids	98		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		4.1		mg/Kg	☼		11/18/13 21:58	1

Client Sample ID: SKU936-02-20

Lab Sample ID: 600-82260-44

Date Collected: 11/04/13 11:54
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 95.5

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	2.4		1.0		mg/Kg	☼	11/08/13 12:17	11/12/13 12:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*102*		*50 - 150*	*11/08/13 12:17*	*11/12/13 12:39*	*1*
4-Bromofluorobenzene	*91*		*50 - 150*	*11/08/13 12:17*	*11/12/13 12:39*	*1*

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.021		mg/Kg	☼	11/07/13 16:10	11/16/13 02:54	1
Toluene	ND		0.021		mg/Kg	☼	11/07/13 16:10	11/16/13 02:54	1
Ethylbenzene	ND		0.021		mg/Kg	☼	11/07/13 16:10	11/16/13 02:54	1
Xylenes, Total	ND		0.021		mg/Kg	☼	11/07/13 16:10	11/16/13 02:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*110*		*43 - 141*	*11/07/13 16:10*	*11/16/13 02:54*	*1*
a,a,a-Trifluorotoluene	*78*		*44 - 134*	*11/07/13 16:10*	*11/16/13 02:54*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.7		mg/Kg	☼	11/11/13 09:58	11/13/13 04:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*60 - 140*	*11/11/13 09:58*	*11/13/13 04:14*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.5		1.0		%			11/07/13 13:58	1
Percent Solids	96		1.0		%			11/07/13 13:58	1

General Chemistry - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	24		4.2		mg/Kg	☼		11/18/13 22:45	1

Qualifiers

GC VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
*	LCS or LCSD exceeds the control limits

General Chemistry

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Glossary

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

Method: 8015B - Gasoline Range Organics - (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		TFT1	BFB1
Lab Sample ID	Client Sample ID	(50-150)	(50-150)
600-82260-12	SKU936-04-20	104	93
600-82260-12 MS	SKU936-04-20	106	95
600-82260-12 MSD	SKU936-04-20	108	87
600-82260-13	SKU936-04-25	104	93
600-82260-23	SKU936-02-25	104	94
600-82260-24	SKU936-03-02	104	94
600-82260-25	SKU936-03-05	104	94
600-82260-26	SKU936-03-10	104	92
600-82260-27	SKU936-03-15	104	95
600-82260-28	SKU936-03-20	104	94
600-82260-29	SKU936-03-25	104	89
600-82260-30	SKU936-04-02	104	92
600-82260-31	SKU936-04-05	104	92
600-82260-32	SKU936-04-10	105	94
600-82260-33	SKU936-04-15	105	94
600-82260-34	SKU936-01-02	104	93
600-82260-35	SKU936-01-05	104	94
600-82260-36	SKU936-01-10	104	93
600-82260-37	SKU936-01-15	103	91
600-82260-38	SKU936-01-20	103	95
600-82260-39	SKU936-01-25	102	93
600-82260-40	SKU936-02-02	104	92
600-82260-41	SKU936-02-05	104	94
600-82260-42	SKU936-02-10	102	91
600-82260-43	SKU936-02-15	102	89
600-82260-44	SKU936-02-20	102	91
LCS 600-120604/1-A	Lab Control Sample	103	107
LCS 600-120606/1-A	Lab Control Sample	103	103
LCSD 600-120606/8-A	Lab Control Sample Dup	105	109
MB 600-120604/2-A	Method Blank	102	97
MB 600-120606/2-A	Method Blank	105	88

Surrogate Legend

TFT = a,a,a-Trifluorotoluene

BFB = 4-Bromofluorobenzene

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	TFT1
Lab Sample ID	Client Sample ID	(43-141)	(44-134)
600-82260-12	SKU936-04-20	90	93
600-82260-12 MS	SKU936-04-20	96	89
600-82260-12 MSD	SKU936-04-20	102	96
600-82260-13	SKU936-04-25	85	80
600-82260-23	SKU936-02-25	57	54
600-82260-24	SKU936-03-02	91	67
600-82260-25	SKU936-03-05	100	70

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	BFB1 (43-141)	TFT1 (44-134)										
600-82260-25	SKU936-03-05	58	47										
600-82260-26	SKU936-03-10	112	103										
600-82260-27	SKU936-03-15	92	55										
600-82260-28	SKU936-03-20	113	102										
600-82260-29	SKU936-03-25	175 X	100										
600-82260-30	SKU936-04-02	107	102										
600-82260-31	SKU936-04-05	97	91										
600-82260-32	SKU936-04-10	59	53										
600-82260-33	SKU936-04-15	85	89										
600-82260-34	SKU936-01-02	98	84										
600-82260-35	SKU936-01-05	118	96										
600-82260-36	SKU936-01-10	92	70										
600-82260-37	SKU936-01-15	100	89										
600-82260-38	SKU936-01-20	100	75										
600-82260-39	SKU936-01-25	93	67										
600-82260-40	SKU936-02-02	108	80										
600-82260-41	SKU936-02-05	97	89										
600-82260-42	SKU936-02-10	98	61										
600-82260-43	SKU936-02-15	99	60										
600-82260-44	SKU936-02-20	110	78										
LCS 600-120595/1-A	Lab Control Sample	97	89										
LCS 600-120602/1-A	Lab Control Sample	104	102										
LCS 600-120602/1-A	Lab Control Sample	95	92										
LCSD 600-120602/7-A	Lab Control Sample Dup	103	99										
LCSD 600-120602/7-A	Lab Control Sample Dup	117	99										
MB 600-120595/2-A	Method Blank	99	94										
MB 600-120602/2-A	Method Blank	99	96										
MB 600-120602/2-A	Method Blank	101	96										

Surrogate Legend

BFB = 4-Bromofluorobenzene

TFT = a,a,a-Trifluorotoluene

Method: 8015B - Diesel Range Organics (DRO) (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)											
Lab Sample ID	Client Sample ID	OTPH1 (60-140)	OTPH2 (60-140)										
600-82260-12	SKU936-04-20		70										
600-82260-13	SKU936-04-25		67										
600-82260-23	SKU936-02-25	71											
600-82260-24	SKU936-03-02	68											
600-82260-25	SKU936-03-05	74	64										
600-82260-25 MS	SKU936-03-05	100	82										
600-82260-25 MSD	SKU936-03-05	97	78										
600-82260-26	SKU936-03-10		68										
600-82260-27	SKU936-03-15		66										
600-82260-28	SKU936-03-20		67										

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Matrix: Solid **Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits) OTPH1 (60-140)	OTPH2 (60-140)
600-82260-29	SKU936-03-25		62
600-82260-29 MS	SKU936-03-25		85
600-82260-29 MSD	SKU936-03-25		84
600-82260-30	SKU936-04-02		69
600-82260-31	SKU936-04-05		70
600-82260-32	SKU936-04-10		70
600-82260-33	SKU936-04-15	73	
600-82260-34	SKU936-01-02		69
600-82260-35	SKU936-01-05		66
600-82260-36	SKU936-01-10		67
600-82260-37	SKU936-01-15		69
600-82260-38	SKU936-01-20		65
600-82260-39	SKU936-01-25		66
600-82260-40	SKU936-02-02		66
600-82260-41	SKU936-02-05		293 X
600-82260-42	SKU936-02-10		64
600-82260-43	SKU936-02-15		67
600-82260-44	SKU936-02-20		68
LCS 600-120105/2-A	Lab Control Sample		96
LCS 600-120114/2-A	Lab Control Sample	97	
LCS 600-120225/2-A	Lab Control Sample	99	80
MB 600-120105/1-A	Method Blank		75
MB 600-120114/1-A	Method Blank	71	
MB 600-120225/1-A	Method Blank		77
MB 600-120225/1-A	Method Blank	68	

Surrogate Legend

OTPH = o-Terphenyl

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 600-120604/2-A
Matrix: Solid
Analysis Batch: 120915

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120604

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	ND		1.0		mg/Kg		11/08/13 12:17	11/11/13 23:20	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*102*		*50 - 150*	*11/08/13 12:17*	*11/11/13 23:20*	*1*
4-Bromofluorobenzene	*97*		*50 - 150*	*11/08/13 12:17*	*11/11/13 23:20*	*1*

Lab Sample ID: LCS 600-120604/1-A
Matrix: Solid
Analysis Batch: 120915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
WI Gasoline Range Organics (C6-C10)	5.00	5.25		mg/Kg		105	49 - 151

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*103*		*50 - 150*
4-Bromofluorobenzene	*107*		*50 - 150*

Lab Sample ID: 600-82260-12 MS
Matrix: Solid
Analysis Batch: 120915

Client Sample ID: SKU936-04-20
Prep Type: Total/NA
Prep Batch: 120604

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
WI Gasoline Range Organics (C6-C10)	1.8		5.33	7.32		mg/Kg	☼	103	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*106*		*50 - 150*
4-Bromofluorobenzene	*95*		*50 - 150*

Lab Sample ID: 600-82260-12 MSD
Matrix: Solid
Analysis Batch: 120915

Client Sample ID: SKU936-04-20
Prep Type: Total/NA
Prep Batch: 120604

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Gasoline Range Organics (C6-C10)	1.8		5.33	7.43		mg/Kg	☼	105	50 - 150	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*108*		*50 - 150*
4-Bromofluorobenzene	*87*		*50 - 150*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: MB 600-120606/2-A
Matrix: Solid
Analysis Batch: 120802

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120606

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
WI Gasoline Range Organics (C6-C10)	ND		1.0		mg/Kg		11/09/13 12:36	11/15/13 19:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
a,a,a-Trifluorotoluene	*105*		*50 - 150*	*11/09/13 12:36*	*11/15/13 19:47*	*1*
4-Bromofluorobenzene	*88*		*50 - 150*	*11/09/13 12:36*	*11/15/13 19:47*	*1*

Lab Sample ID: LCS 600-120606/1-A
Matrix: Solid
Analysis Batch: 120802

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120606

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
WI Gasoline Range Organics (C6-C10)	5.00	4.73		mg/Kg		95	49 - 151

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*103*		*50 - 150*
4-Bromofluorobenzene	*103*		*50 - 150*

Lab Sample ID: LCSD 600-120606/8-A
Matrix: Solid
Analysis Batch: 120802

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 120606

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Gasoline Range Organics (C6-C10)	5.00	5.31		mg/Kg		106	49 - 151	12	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
a,a,a-Trifluorotoluene	*105*		*50 - 150*
4-Bromofluorobenzene	*109*		*50 - 150*

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 600-120595/2-A
Matrix: Solid
Analysis Batch: 121138

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120595

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		11/07/13 10:36	11/15/13 13:26	1
Toluene	ND		0.020		mg/Kg		11/07/13 10:36	11/15/13 13:26	1
Ethylbenzene	ND		0.020		mg/Kg		11/07/13 10:36	11/15/13 13:26	1
Xylenes, Total	ND		0.020		mg/Kg		11/07/13 10:36	11/15/13 13:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene	*99*		*43 - 141*	*11/07/13 10:36*	*11/15/13 13:26*	*1*
a,a,a-Trifluorotoluene	*94*		*44 - 134*	*11/07/13 10:36*	*11/15/13 13:26*	*1*

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCS 600-120595/1-A
Matrix: Solid
Analysis Batch: 121138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120595

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	1.00	0.947		mg/Kg		94	69 - 133
Toluene	1.00	0.943		mg/Kg		94	70 - 134
Ethylbenzene	1.00	0.922		mg/Kg		92	71 - 139
Xylenes, Total	3.01	2.79		mg/Kg		93	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene	*97*		*43 - 141*
a,a,a-Trifluorotoluene	*89*		*44 - 134*

Lab Sample ID: 600-82260-12 MS
Matrix: Solid
Analysis Batch: 121138

Client Sample ID: SKU936-04-20
Prep Type: Total/NA
Prep Batch: 120595

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		1.06	1.05		mg/Kg	☼	99	50 - 150
Toluene	ND		1.06	1.05		mg/Kg	☼	99	50 - 150
Ethylbenzene	ND		1.06	0.993		mg/Kg	☼	93	50 - 150
Xylenes, Total	ND		3.19	3.00		mg/Kg	☼	94	50 - 150

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene	*96*		*43 - 141*
a,a,a-Trifluorotoluene	*89*		*44 - 134*

Lab Sample ID: 600-82260-12 MSD
Matrix: Solid
Analysis Batch: 121138

Client Sample ID: SKU936-04-20
Prep Type: Total/NA
Prep Batch: 120595

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		1.06	1.07		mg/Kg	☼	100	50 - 150	1	20
Toluene	ND		1.06	1.05		mg/Kg	☼	99	50 - 150	0	20
Ethylbenzene	ND		1.06	1.01		mg/Kg	☼	95	50 - 150	1	20
Xylenes, Total	ND		3.19	3.05		mg/Kg	☼	96	50 - 150	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene	*102*		*43 - 141*
a,a,a-Trifluorotoluene	*96*		*44 - 134*

Lab Sample ID: MB 600-120602/2-A
Matrix: Solid
Analysis Batch: 121186

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120602

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		11/07/13 16:10	11/14/13 12:51	1
Toluene	ND		0.020		mg/Kg		11/07/13 16:10	11/14/13 12:51	1
Ethylbenzene	ND		0.020		mg/Kg		11/07/13 16:10	11/14/13 12:51	1
Xylenes, Total	ND		0.020		mg/Kg		11/07/13 16:10	11/14/13 12:51	1

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: MB 600-120602/2-A
Matrix: Solid
Analysis Batch: 121186

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120602

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		43 - 141	11/07/13 16:10	11/14/13 12:51	1
a,a,a-Trifluorotoluene	96		44 - 134	11/07/13 16:10	11/14/13 12:51	1

Lab Sample ID: MB 600-120602/2-A
Matrix: Solid
Analysis Batch: 121143

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120602

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.020		mg/Kg		11/07/13 16:10	11/16/13 01:26	1
Toluene	ND		0.020		mg/Kg		11/07/13 16:10	11/16/13 01:26	1
Ethylbenzene	ND		0.020		mg/Kg		11/07/13 16:10	11/16/13 01:26	1
Xylenes, Total	ND		0.020		mg/Kg		11/07/13 16:10	11/16/13 01:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		43 - 141	11/07/13 16:10	11/16/13 01:26	1
a,a,a-Trifluorotoluene	96		44 - 134	11/07/13 16:10	11/16/13 01:26	1

Lab Sample ID: LCS 600-120602/1-A
Matrix: Solid
Analysis Batch: 121186

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120602

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	1.00	0.937		mg/Kg		93	69 - 133
Toluene	1.00	0.966		mg/Kg		96	70 - 134
Ethylbenzene	1.00	0.930		mg/Kg		93	71 - 139
Xylenes, Total	3.01	2.98		mg/Kg		99	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	95		43 - 141
a,a,a-Trifluorotoluene	92		44 - 134

Lab Sample ID: LCS 600-120602/1-A
Matrix: Solid
Analysis Batch: 121143

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120602

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	1.00	1.01		mg/Kg		101	69 - 133
Toluene	1.00	1.03		mg/Kg		103	70 - 134
Ethylbenzene	1.00	0.991		mg/Kg		99	71 - 139
Xylenes, Total	3.01	3.02		mg/Kg		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	104		43 - 141
a,a,a-Trifluorotoluene	102		44 - 134

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 600-120602/7-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 121186 — **Prep Batch: 120602**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			1.00	0.811		mg/Kg		81	69 - 133	17	20
Toluene			1.00	1.05		mg/Kg		105	70 - 134	10	20
Ethylbenzene			1.00	1.05		mg/Kg		104	71 - 139	10	20
Xylenes, Total			3.01	3.35		mg/Kg		111	70 - 130	17	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*117*		*43 - 141*
a,a,a-Trifluorotoluene	*99*		*44 - 134*

Lab Sample ID: LCSD 600-120602/7-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 121143 — **Prep Batch: 120602**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			1.00	0.978		mg/Kg		98	69 - 133	3	20
Toluene			1.00	1.00		mg/Kg		100	70 - 134	3	20
Ethylbenzene			1.00	0.960		mg/Kg		96	71 - 139	3	20
Xylenes, Total			3.01	2.90		mg/Kg		96	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene	*103*		*43 - 141*
a,a,a-Trifluorotoluene	*99*		*44 - 134*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 600-120105/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 120365 — **Prep Batch: 120105**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.3		mg/Kg		11/11/13 09:58	11/12/13 17:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*75*		*60 - 140*	*11/11/13 09:58*	*11/12/13 17:47*	*1*

Lab Sample ID: LCS 600-120105/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 120365 — **Prep Batch: 120105**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]			33.3	26.7		mg/Kg		80	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*96*		*60 - 140*

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 600-82260-29 MS
Matrix: Solid
Analysis Batch: 120365

Client Sample ID: SKU936-03-25
Prep Type: Total/NA
Prep Batch: 120105

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	ND		35.1	30.1		mg/Kg	☼	86	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
o-Terphenyl	*85*		*60 - 140*

Lab Sample ID: 600-82260-29 MSD
Matrix: Solid
Analysis Batch: 120365

Client Sample ID: SKU936-03-25
Prep Type: Total/NA
Prep Batch: 120105

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		35.1	28.6		mg/Kg	☼	81	70 - 130	5	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
o-Terphenyl	*84*		*60 - 140*

Lab Sample ID: MB 600-120114/1-A
Matrix: Solid
Analysis Batch: 120353

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120114

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.3		mg/Kg		11/11/13 10:58	11/12/13 17:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*71*		*60 - 140*	*11/11/13 10:58*	*11/12/13 17:47*	*1*

Lab Sample ID: LCS 600-120114/2-A
Matrix: Solid
Analysis Batch: 120353

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120114

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	33.3	33.1		mg/Kg		99	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
o-Terphenyl	*97*		*60 - 140*

Lab Sample ID: MB 600-120225/1-A
Matrix: Solid
Analysis Batch: 120434

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120225

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		8.3		mg/Kg		11/12/13 10:22	11/13/13 12:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
o-Terphenyl	*68*		*60 - 140*	*11/12/13 10:22*	*11/13/13 12:16*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: MB 600-120225/1-A
Matrix: Solid
Analysis Batch: 120431

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 120225

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	77		60 - 140	11/12/13 10:22	11/13/13 15:34	1

Lab Sample ID: LCS 600-120225/2-A
Matrix: Solid
Analysis Batch: 120431

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 120225

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	33.3	22.2	*	mg/Kg		67	70 - 130
Diesel Range Organics [C10-C28]	33.3	30.9		mg/Kg		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
o-Terphenyl	80		60 - 140
o-Terphenyl	99		60 - 140

Lab Sample ID: 600-82260-25 MS
Matrix: Solid
Analysis Batch: 120434

Client Sample ID: SKU936-03-05
Prep Type: Total/NA
Prep Batch: 120225

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Diesel Range Organics [C10-C28]	ND		33.8	33.1		mg/Kg	☼	98	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
o-Terphenyl	82		60 - 140
o-Terphenyl	100		60 - 140

Lab Sample ID: 600-82260-25 MSD
Matrix: Solid
Analysis Batch: 120434

Client Sample ID: SKU936-03-05
Prep Type: Total/NA
Prep Batch: 120225

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Diesel Range Organics [C10-C28]	ND		34.0	32.0		mg/Kg	☼	94	70 - 130	3	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
o-Terphenyl	78		60 - 140
o-Terphenyl	97		60 - 140

Method: 9056 - Anions, Ion Chromatography

Lab Sample ID: MB 600-120661/21-A
Matrix: Solid
Analysis Batch: 120752

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		4.0		mg/Kg			11/16/13 18:44	1

Method: 9056 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 600-120664/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120752

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		4.0		mg/Kg			11/16/13 21:53	1

Lab Sample ID: LCS 600-120661/22-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	209		mg/Kg		105	90 - 110

Lab Sample ID: LCS 600-120664/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120752

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200	209		mg/Kg		104	90 - 110

Lab Sample ID: 600-82260-24 MS — **Client Sample ID: SKU936-03-02**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120752

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	28		107	129		mg/Kg	☼	94	80 - 120

Lab Sample ID: 600-82260-24 MSD — **Client Sample ID: SKU936-03-02**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120752

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	28		107	127		mg/Kg	☼	92	80 - 120	1	20

Lab Sample ID: MB 600-120664/21-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120842

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		4.0		mg/Kg			11/18/13 19:39	1

Lab Sample ID: LCS 600-120664/22-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120842

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

Lab Sample ID: 600-82260-31 MS — **Client Sample ID: SKU936-04-05**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120842

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	23		102	106		mg/Kg	☼	81	80 - 120

Lab Sample ID: 600-82260-31 MSD — **Client Sample ID: SKU936-04-05**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120842

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	23		102	104	F	mg/Kg	☼	79	80 - 120	2	20

Lab Sample ID: 600-82260-34 MS — **Client Sample ID: SKU936-01-02**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120842

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	290		123	374	F	mg/Kg	☼	70	80 - 120

Lab Sample ID: 600-82260-34 MSD — **Client Sample ID: SKU936-01-02**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120842

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	290		123	379	F	mg/Kg	☼	74	80 - 120	1	20

Lab Sample ID: 600-82260-42 MS — **Client Sample ID: SKU936-02-10**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120842

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	22		103	107		mg/Kg	☼	83	80 - 120

Lab Sample ID: 600-82260-42 MSD — **Client Sample ID: SKU936-02-10**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 120842

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	22		103	109		mg/Kg	☼	84	80 - 120	2	20

Method: Moisture - Percent Moisture

Lab Sample ID: 600-82260-24 DU — **Client Sample ID: SKU936-03-02**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 119895

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	6.9		7.0		%		1	20
Percent Solids	93		93		%		0.09	20

Lab Sample ID: 600-82260-38 DU — **Client Sample ID: SKU936-01-20**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 119895

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	1.2		1.0		%		11	20
Percent Solids	99		99		%		0.1	20

Method: Moisture - Percent Moisture (Continued)

Lab Sample ID: 600-82260-33 DU
Matrix: Solid
Analysis Batch: 120024

Client Sample ID: SKU936-04-15
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	5.2			4.6		%				12	20
Percent Solids	95			95		%				0.6	20

GC VOA

Prep Batch: 120595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-12	SKU936-04-20	Total/NA	Solid	5030B	
600-82260-12 MS	SKU936-04-20	Total/NA	Solid	5030B	
600-82260-12 MSD	SKU936-04-20	Total/NA	Solid	5030B	
600-82260-13	SKU936-04-25	Total/NA	Solid	5030B	
600-82260-23	SKU936-02-25	Total/NA	Solid	5030B	
600-82260-24	SKU936-03-02	Total/NA	Solid	5030B	
600-82260-25	SKU936-03-05	Total/NA	Solid	5030B	
600-82260-26	SKU936-03-10	Total/NA	Solid	5030B	
600-82260-27	SKU936-03-15	Total/NA	Solid	5030B	
600-82260-29	SKU936-03-25	Total/NA	Solid	5030B	
600-82260-30	SKU936-04-02	Total/NA	Solid	5030B	
600-82260-31	SKU936-04-05	Total/NA	Solid	5030B	
600-82260-32	SKU936-04-10	Total/NA	Solid	5030B	
600-82260-33	SKU936-04-15	Total/NA	Solid	5030B	
600-82260-34	SKU936-01-02	Total/NA	Solid	5030B	
600-82260-35	SKU936-01-05	Total/NA	Solid	5030B	
600-82260-36	SKU936-01-10	Total/NA	Solid	5030B	
600-82260-37	SKU936-01-15	Total/NA	Solid	5030B	
600-82260-38	SKU936-01-20	Total/NA	Solid	5030B	
600-82260-39	SKU936-01-25	Total/NA	Solid	5030B	
600-82260-40	SKU936-02-02	Total/NA	Solid	5030B	
LCS 600-120595/1-A	Lab Control Sample	Total/NA	Solid	5030B	
MB 600-120595/2-A	Method Blank	Total/NA	Solid	5030B	

Prep Batch: 120602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-28	SKU936-03-20	Total/NA	Solid	5030B	
600-82260-41	SKU936-02-05	Total/NA	Solid	5030B	
600-82260-42	SKU936-02-10	Total/NA	Solid	5030B	
600-82260-43	SKU936-02-15	Total/NA	Solid	5030B	
600-82260-44	SKU936-02-20	Total/NA	Solid	5030B	
LCS 600-120602/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 600-120602/7-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 600-120602/2-A	Method Blank	Total/NA	Solid	5030B	

Prep Batch: 120604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-12	SKU936-04-20	Total/NA	Solid	5030B	
600-82260-12 MS	SKU936-04-20	Total/NA	Solid	5030B	
600-82260-12 MSD	SKU936-04-20	Total/NA	Solid	5030B	
600-82260-13	SKU936-04-25	Total/NA	Solid	5030B	
600-82260-23	SKU936-02-25	Total/NA	Solid	5030B	
600-82260-24	SKU936-03-02	Total/NA	Solid	5030B	
600-82260-25	SKU936-03-05	Total/NA	Solid	5030B	
600-82260-26	SKU936-03-10	Total/NA	Solid	5030B	
600-82260-27	SKU936-03-15	Total/NA	Solid	5030B	
600-82260-28	SKU936-03-20	Total/NA	Solid	5030B	
600-82260-29	SKU936-03-25	Total/NA	Solid	5030B	
600-82260-34	SKU936-01-02	Total/NA	Solid	5030B	
600-82260-35	SKU936-01-05	Total/NA	Solid	5030B	
600-82260-36	SKU936-01-10	Total/NA	Solid	5030B	

GC VOA (Continued)

Prep Batch: 120604 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-37	SKU936-01-15	Total/NA	Solid	5030B	
600-82260-38	SKU936-01-20	Total/NA	Solid	5030B	
600-82260-39	SKU936-01-25	Total/NA	Solid	5030B	
600-82260-40	SKU936-02-02	Total/NA	Solid	5030B	
600-82260-41	SKU936-02-05	Total/NA	Solid	5030B	
600-82260-42	SKU936-02-10	Total/NA	Solid	5030B	
600-82260-43	SKU936-02-15	Total/NA	Solid	5030B	
600-82260-44	SKU936-02-20	Total/NA	Solid	5030B	
LCS 600-120604/1-A	Lab Control Sample	Total/NA	Solid	5030B	
MB 600-120604/2-A	Method Blank	Total/NA	Solid	5030B	

Prep Batch: 120606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-30	SKU936-04-02	Total/NA	Solid	5030B	
600-82260-31	SKU936-04-05	Total/NA	Solid	5030B	
600-82260-32	SKU936-04-10	Total/NA	Solid	5030B	
600-82260-33	SKU936-04-15	Total/NA	Solid	5030B	
LCS 600-120606/1-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 600-120606/8-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 600-120606/2-A	Method Blank	Total/NA	Solid	5030B	

Analysis Batch: 120802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-30	SKU936-04-02	Total/NA	Solid	8015B	120606
600-82260-31	SKU936-04-05	Total/NA	Solid	8015B	120606
600-82260-32	SKU936-04-10	Total/NA	Solid	8015B	120606
600-82260-33	SKU936-04-15	Total/NA	Solid	8015B	120606
LCS 600-120606/1-A	Lab Control Sample	Total/NA	Solid	8015B	120606
LCSD 600-120606/8-A	Lab Control Sample Dup	Total/NA	Solid	8015B	120606
MB 600-120606/2-A	Method Blank	Total/NA	Solid	8015B	120606

Analysis Batch: 120915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-12	SKU936-04-20	Total/NA	Solid	8015B	120604
600-82260-12 MS	SKU936-04-20	Total/NA	Solid	8015B	120604
600-82260-12 MSD	SKU936-04-20	Total/NA	Solid	8015B	120604
600-82260-13	SKU936-04-25	Total/NA	Solid	8015B	120604
600-82260-23	SKU936-02-25	Total/NA	Solid	8015B	120604
600-82260-24	SKU936-03-02	Total/NA	Solid	8015B	120604
600-82260-25	SKU936-03-05	Total/NA	Solid	8015B	120604
600-82260-26	SKU936-03-10	Total/NA	Solid	8015B	120604
600-82260-27	SKU936-03-15	Total/NA	Solid	8015B	120604
600-82260-28	SKU936-03-20	Total/NA	Solid	8015B	120604
600-82260-29	SKU936-03-25	Total/NA	Solid	8015B	120604
600-82260-34	SKU936-01-02	Total/NA	Solid	8015B	120604
600-82260-35	SKU936-01-05	Total/NA	Solid	8015B	120604
600-82260-36	SKU936-01-10	Total/NA	Solid	8015B	120604
600-82260-37	SKU936-01-15	Total/NA	Solid	8015B	120604
600-82260-38	SKU936-01-20	Total/NA	Solid	8015B	120604
600-82260-39	SKU936-01-25	Total/NA	Solid	8015B	120604
600-82260-40	SKU936-02-02	Total/NA	Solid	8015B	120604

GC VOA (Continued)

Analysis Batch: 120915 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-41	SKU936-02-05	Total/NA	Solid	8015B	120604
600-82260-42	SKU936-02-10	Total/NA	Solid	8015B	120604
600-82260-43	SKU936-02-15	Total/NA	Solid	8015B	120604
600-82260-44	SKU936-02-20	Total/NA	Solid	8015B	120604
LCS 600-120604/1-A	Lab Control Sample	Total/NA	Solid	8015B	120604
MB 600-120604/2-A	Method Blank	Total/NA	Solid	8015B	120604

Analysis Batch: 121138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-12	SKU936-04-20	Total/NA	Solid	8021B	120595
600-82260-12 MS	SKU936-04-20	Total/NA	Solid	8021B	120595
600-82260-12 MSD	SKU936-04-20	Total/NA	Solid	8021B	120595
600-82260-13	SKU936-04-25	Total/NA	Solid	8021B	120595
600-82260-23	SKU936-02-25	Total/NA	Solid	8021B	120595
600-82260-24	SKU936-03-02	Total/NA	Solid	8021B	120595
600-82260-25	SKU936-03-05	Total/NA	Solid	8021B	120595
600-82260-25	SKU936-03-05	Total/NA	Solid	8021B	120595
600-82260-27	SKU936-03-15	Total/NA	Solid	8021B	120595
600-82260-29	SKU936-03-25	Total/NA	Solid	8021B	120595
600-82260-30	SKU936-04-02	Total/NA	Solid	8021B	120595
600-82260-31	SKU936-04-05	Total/NA	Solid	8021B	120595
600-82260-32	SKU936-04-10	Total/NA	Solid	8021B	120595
600-82260-33	SKU936-04-15	Total/NA	Solid	8021B	120595
600-82260-34	SKU936-01-02	Total/NA	Solid	8021B	120595
600-82260-35	SKU936-01-05	Total/NA	Solid	8021B	120595
600-82260-36	SKU936-01-10	Total/NA	Solid	8021B	120595
600-82260-37	SKU936-01-15	Total/NA	Solid	8021B	120595
600-82260-38	SKU936-01-20	Total/NA	Solid	8021B	120595
600-82260-39	SKU936-01-25	Total/NA	Solid	8021B	120595
600-82260-40	SKU936-02-02	Total/NA	Solid	8021B	120595
LCS 600-120595/1-A	Lab Control Sample	Total/NA	Solid	8021B	120595
MB 600-120595/2-A	Method Blank	Total/NA	Solid	8021B	120595

Analysis Batch: 121143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-41	SKU936-02-05	Total/NA	Solid	8021B	120602
600-82260-42	SKU936-02-10	Total/NA	Solid	8021B	120602
600-82260-43	SKU936-02-15	Total/NA	Solid	8021B	120602
600-82260-44	SKU936-02-20	Total/NA	Solid	8021B	120602
LCS 600-120602/1-A	Lab Control Sample	Total/NA	Solid	8021B	120602
LCSD 600-120602/7-A	Lab Control Sample Dup	Total/NA	Solid	8021B	120602
MB 600-120602/2-A	Method Blank	Total/NA	Solid	8021B	120602

Analysis Batch: 121186

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-26	SKU936-03-10	Total/NA	Solid	8021B	120595
600-82260-28	SKU936-03-20	Total/NA	Solid	8021B	120602
LCS 600-120602/1-A	Lab Control Sample	Total/NA	Solid	8021B	120602
LCSD 600-120602/7-A	Lab Control Sample Dup	Total/NA	Solid	8021B	120602
MB 600-120602/2-A	Method Blank	Total/NA	Solid	8021B	120602

GC Semi VOA

Prep Batch: 120105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-12	SKU936-04-20	Total/NA	Solid	3550B	
600-82260-13	SKU936-04-25	Total/NA	Solid	3550B	
600-82260-26	SKU936-03-10	Total/NA	Solid	3550B	
600-82260-27	SKU936-03-15	Total/NA	Solid	3550B	
600-82260-28	SKU936-03-20	Total/NA	Solid	3550B	
600-82260-29	SKU936-03-25	Total/NA	Solid	3550B	
600-82260-29 MS	SKU936-03-25	Total/NA	Solid	3550B	
600-82260-29 MSD	SKU936-03-25	Total/NA	Solid	3550B	
600-82260-30	SKU936-04-02	Total/NA	Solid	3550B	
600-82260-31	SKU936-04-05	Total/NA	Solid	3550B	
600-82260-32	SKU936-04-10	Total/NA	Solid	3550B	
600-82260-34	SKU936-01-02	Total/NA	Solid	3550B	
600-82260-35	SKU936-01-05	Total/NA	Solid	3550B	
600-82260-36	SKU936-01-10	Total/NA	Solid	3550B	
600-82260-37	SKU936-01-15	Total/NA	Solid	3550B	
600-82260-38	SKU936-01-20	Total/NA	Solid	3550B	
600-82260-39	SKU936-01-25	Total/NA	Solid	3550B	
600-82260-40	SKU936-02-02	Total/NA	Solid	3550B	
600-82260-41	SKU936-02-05	Total/NA	Solid	3550B	
600-82260-42	SKU936-02-10	Total/NA	Solid	3550B	
600-82260-43	SKU936-02-15	Total/NA	Solid	3550B	
600-82260-44	SKU936-02-20	Total/NA	Solid	3550B	
LCS 600-120105/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 600-120105/1-A	Method Blank	Total/NA	Solid	3550B	

Prep Batch: 120114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-23	SKU936-02-25	Total/NA	Solid	3550B	
600-82260-24	SKU936-03-02	Total/NA	Solid	3550B	
LCS 600-120114/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 600-120114/1-A	Method Blank	Total/NA	Solid	3550B	

Prep Batch: 120225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-25	SKU936-03-05	Total/NA	Solid	3550B	
600-82260-25 MS	SKU936-03-05	Total/NA	Solid	3550B	
600-82260-25 MSD	SKU936-03-05	Total/NA	Solid	3550B	
600-82260-33	SKU936-04-15	Total/NA	Solid	3550B	
LCS 600-120225/2-A	Lab Control Sample	Total/NA	Solid	3550B	
MB 600-120225/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 120353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-23	SKU936-02-25	Total/NA	Solid	8015B	120114
600-82260-24	SKU936-03-02	Total/NA	Solid	8015B	120114
LCS 600-120114/2-A	Lab Control Sample	Total/NA	Solid	8015B	120114
MB 600-120114/1-A	Method Blank	Total/NA	Solid	8015B	120114

Analysis Batch: 120365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-12	SKU936-04-20	Total/NA	Solid	8015B	120105

GC Semi VOA (Continued)

Analysis Batch: 120365 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-13	SKU936-04-25	Total/NA	Solid	8015B	120105
600-82260-26	SKU936-03-10	Total/NA	Solid	8015B	120105
600-82260-27	SKU936-03-15	Total/NA	Solid	8015B	120105
600-82260-28	SKU936-03-20	Total/NA	Solid	8015B	120105
600-82260-29	SKU936-03-25	Total/NA	Solid	8015B	120105
600-82260-29 MS	SKU936-03-25	Total/NA	Solid	8015B	120105
600-82260-29 MSD	SKU936-03-25	Total/NA	Solid	8015B	120105
600-82260-30	SKU936-04-02	Total/NA	Solid	8015B	120105
600-82260-31	SKU936-04-05	Total/NA	Solid	8015B	120105
600-82260-32	SKU936-04-10	Total/NA	Solid	8015B	120105
600-82260-34	SKU936-01-02	Total/NA	Solid	8015B	120105
600-82260-35	SKU936-01-05	Total/NA	Solid	8015B	120105
600-82260-36	SKU936-01-10	Total/NA	Solid	8015B	120105
600-82260-37	SKU936-01-15	Total/NA	Solid	8015B	120105
600-82260-38	SKU936-01-20	Total/NA	Solid	8015B	120105
600-82260-39	SKU936-01-25	Total/NA	Solid	8015B	120105
600-82260-40	SKU936-02-02	Total/NA	Solid	8015B	120105
600-82260-41	SKU936-02-05	Total/NA	Solid	8015B	120105
600-82260-42	SKU936-02-10	Total/NA	Solid	8015B	120105
600-82260-43	SKU936-02-15	Total/NA	Solid	8015B	120105
600-82260-44	SKU936-02-20	Total/NA	Solid	8015B	120105
LCS 600-120105/2-A	Lab Control Sample	Total/NA	Solid	8015B	120105
MB 600-120105/1-A	Method Blank	Total/NA	Solid	8015B	120105

Analysis Batch: 120431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-25	SKU936-03-05	Total/NA	Solid	8015B	120225
600-82260-25 MS	SKU936-03-05	Total/NA	Solid	8015B	120225
600-82260-25 MSD	SKU936-03-05	Total/NA	Solid	8015B	120225
LCS 600-120225/2-A	Lab Control Sample	Total/NA	Solid	8015B	120225
MB 600-120225/1-A	Method Blank	Total/NA	Solid	8015B	120225

Analysis Batch: 120434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-25	SKU936-03-05	Total/NA	Solid	8015B	120225
600-82260-25 MS	SKU936-03-05	Total/NA	Solid	8015B	120225
600-82260-25 MSD	SKU936-03-05	Total/NA	Solid	8015B	120225
600-82260-33	SKU936-04-15	Total/NA	Solid	8015B	120225
LCS 600-120225/2-A	Lab Control Sample	Total/NA	Solid	8015B	120225
MB 600-120225/1-A	Method Blank	Total/NA	Solid	8015B	120225

General Chemistry

Analysis Batch: 119895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-23	SKU936-02-25	Total/NA	Solid	Moisture	
600-82260-24	SKU936-03-02	Total/NA	Solid	Moisture	
600-82260-24 DU	SKU936-03-02	Total/NA	Solid	Moisture	
600-82260-25	SKU936-03-05	Total/NA	Solid	Moisture	
600-82260-26	SKU936-03-10	Total/NA	Solid	Moisture	

General Chemistry (Continued)

Analysis Batch: 119895 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-27	SKU936-03-15	Total/NA	Solid	Moisture	
600-82260-28	SKU936-03-20	Total/NA	Solid	Moisture	
600-82260-29	SKU936-03-25	Total/NA	Solid	Moisture	
600-82260-34	SKU936-01-02	Total/NA	Solid	Moisture	
600-82260-35	SKU936-01-05	Total/NA	Solid	Moisture	
600-82260-36	SKU936-01-10	Total/NA	Solid	Moisture	
600-82260-37	SKU936-01-15	Total/NA	Solid	Moisture	
600-82260-38	SKU936-01-20	Total/NA	Solid	Moisture	
600-82260-38 DU	SKU936-01-20	Total/NA	Solid	Moisture	
600-82260-39	SKU936-01-25	Total/NA	Solid	Moisture	
600-82260-40	SKU936-02-02	Total/NA	Solid	Moisture	
600-82260-41	SKU936-02-05	Total/NA	Solid	Moisture	
600-82260-42	SKU936-02-10	Total/NA	Solid	Moisture	
600-82260-43	SKU936-02-15	Total/NA	Solid	Moisture	
600-82260-44	SKU936-02-20	Total/NA	Solid	Moisture	

Analysis Batch: 120024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-12	SKU936-04-20	Total/NA	Solid	Moisture	
600-82260-13	SKU936-04-25	Total/NA	Solid	Moisture	
600-82260-30	SKU936-04-02	Total/NA	Solid	Moisture	
600-82260-31	SKU936-04-05	Total/NA	Solid	Moisture	
600-82260-32	SKU936-04-10	Total/NA	Solid	Moisture	
600-82260-33	SKU936-04-15	Total/NA	Solid	Moisture	
600-82260-33 DU	SKU936-04-15	Total/NA	Solid	Moisture	

Leach Batch: 120661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-23	SKU936-02-25	Soluble	Solid	DI Leach	
LCS 600-120661/22-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 600-120661/21-A	Method Blank	Soluble	Solid	DI Leach	

Leach Batch: 120664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-12	SKU936-04-20	Soluble	Solid	DI Leach	
600-82260-13	SKU936-04-25	Soluble	Solid	DI Leach	
600-82260-24	SKU936-03-02	Soluble	Solid	DI Leach	
600-82260-24 MS	SKU936-03-02	Soluble	Solid	DI Leach	
600-82260-24 MSD	SKU936-03-02	Soluble	Solid	DI Leach	
600-82260-25	SKU936-03-05	Soluble	Solid	DI Leach	
600-82260-26	SKU936-03-10	Soluble	Solid	DI Leach	
600-82260-27	SKU936-03-15	Soluble	Solid	DI Leach	
600-82260-28	SKU936-03-20	Soluble	Solid	DI Leach	
600-82260-29	SKU936-03-25	Soluble	Solid	DI Leach	
600-82260-30	SKU936-04-02	Soluble	Solid	DI Leach	
600-82260-31	SKU936-04-05	Soluble	Solid	DI Leach	
600-82260-31 MS	SKU936-04-05	Soluble	Solid	DI Leach	
600-82260-31 MSD	SKU936-04-05	Soluble	Solid	DI Leach	
600-82260-32	SKU936-04-10	Soluble	Solid	DI Leach	
600-82260-33	SKU936-04-15	Soluble	Solid	DI Leach	
600-82260-34	SKU936-01-02	Soluble	Solid	DI Leach	

General Chemistry (Continued)

Leach Batch: 120664 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-34 MS	SKU936-01-02	Soluble	Solid	DI Leach	
600-82260-34 MSD	SKU936-01-02	Soluble	Solid	DI Leach	
600-82260-35	SKU936-01-05	Soluble	Solid	DI Leach	
600-82260-36	SKU936-01-10	Soluble	Solid	DI Leach	
600-82260-37	SKU936-01-15	Soluble	Solid	DI Leach	
600-82260-38	SKU936-01-20	Soluble	Solid	DI Leach	
600-82260-39	SKU936-01-25	Soluble	Solid	DI Leach	
600-82260-40	SKU936-02-02	Soluble	Solid	DI Leach	
600-82260-41	SKU936-02-05	Soluble	Solid	DI Leach	
600-82260-42	SKU936-02-10	Soluble	Solid	DI Leach	
600-82260-42 MS	SKU936-02-10	Soluble	Solid	DI Leach	
600-82260-42 MSD	SKU936-02-10	Soluble	Solid	DI Leach	
600-82260-43	SKU936-02-15	Soluble	Solid	DI Leach	
600-82260-44	SKU936-02-20	Soluble	Solid	DI Leach	
LCS 600-120664/22-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCS 600-120664/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
MB 600-120664/1-A	Method Blank	Soluble	Solid	DI Leach	
MB 600-120664/21-A	Method Blank	Soluble	Solid	DI Leach	

Analysis Batch: 120752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-23	SKU936-02-25	Soluble	Solid	9056	120661
600-82260-24	SKU936-03-02	Soluble	Solid	9056	120664
600-82260-24 MS	SKU936-03-02	Soluble	Solid	9056	120664
600-82260-24 MSD	SKU936-03-02	Soluble	Solid	9056	120664
600-82260-25	SKU936-03-05	Soluble	Solid	9056	120664
600-82260-26	SKU936-03-10	Soluble	Solid	9056	120664
600-82260-27	SKU936-03-15	Soluble	Solid	9056	120664
600-82260-28	SKU936-03-20	Soluble	Solid	9056	120664
LCS 600-120661/22-A	Lab Control Sample	Soluble	Solid	9056	120661
LCS 600-120664/2-A	Lab Control Sample	Soluble	Solid	9056	120664
MB 600-120661/21-A	Method Blank	Soluble	Solid	9056	120661
MB 600-120664/1-A	Method Blank	Soluble	Solid	9056	120664

Analysis Batch: 120842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-12	SKU936-04-20	Soluble	Solid	9056	120664
600-82260-13	SKU936-04-25	Soluble	Solid	9056	120664
600-82260-29	SKU936-03-25	Soluble	Solid	9056	120664
600-82260-30	SKU936-04-02	Soluble	Solid	9056	120664
600-82260-31	SKU936-04-05	Soluble	Solid	9056	120664
600-82260-31 MS	SKU936-04-05	Soluble	Solid	9056	120664
600-82260-31 MSD	SKU936-04-05	Soluble	Solid	9056	120664
600-82260-32	SKU936-04-10	Soluble	Solid	9056	120664
600-82260-33	SKU936-04-15	Soluble	Solid	9056	120664
600-82260-34	SKU936-01-02	Soluble	Solid	9056	120664
600-82260-34 MS	SKU936-01-02	Soluble	Solid	9056	120664
600-82260-34 MSD	SKU936-01-02	Soluble	Solid	9056	120664
600-82260-35	SKU936-01-05	Soluble	Solid	9056	120664
600-82260-36	SKU936-01-10	Soluble	Solid	9056	120664
600-82260-37	SKU936-01-15	Soluble	Solid	9056	120664

General Chemistry (Continued)

Analysis Batch: 120842 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-82260-38	SKU936-01-20	Soluble	Solid	9056	120664
600-82260-39	SKU936-01-25	Soluble	Solid	9056	120664
600-82260-40	SKU936-02-02	Soluble	Solid	9056	120664
600-82260-41	SKU936-02-05	Soluble	Solid	9056	120664
600-82260-42	SKU936-02-10	Soluble	Solid	9056	120664
600-82260-42 MS	SKU936-02-10	Soluble	Solid	9056	120664
600-82260-42 MSD	SKU936-02-10	Soluble	Solid	9056	120664
600-82260-43	SKU936-02-15	Soluble	Solid	9056	120664
600-82260-44	SKU936-02-20	Soluble	Solid	9056	120664
LCS 600-120664/22-A	Lab Control Sample	Soluble	Solid	9056	120664
MB 600-120664/21-A	Method Blank	Soluble	Solid	9056	120664

Lab Chronicle

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

TestAmerica Job ID: 600-82260-1

Client Sample ID: SKU936-04-20

Lab Sample ID: 600-82260-12

Date Collected: 11/05/13 09:58
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 94.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/11/13 23:45	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 13:54	MHT	TAL HOU
Total/NA	Prep	3550B			30.05 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.05 g	1.0 mL	120365	11/13/13 04:46	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			120024	11/08/13 14:11	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 23:00	DAW	TAL HOU

Client Sample ID: SKU936-04-25

Lab Sample ID: 600-82260-13

Date Collected: 11/05/13 10:00
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 00:11	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 14:16	MHT	TAL HOU
Total/NA	Prep	3550B			30.04 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.04 g	1.0 mL	120365	11/13/13 05:51	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			120024	11/08/13 14:11	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 23:16	DAW	TAL HOU

Client Sample ID: SKU936-02-25

Lab Sample ID: 600-82260-23

Date Collected: 11/04/13 11:56
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 96.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 00:36	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 14:38	MHT	TAL HOU
Total/NA	Prep	3550B			30.08 g	1.0 mL	120114	11/11/13 10:58	EAT	TAL HOU
Total/NA	Analysis	8015B		1	30.08 g	1.0 mL	120353	11/13/13 06:55	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120661	11/15/13 10:15	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120752	11/16/13 21:40	DAW	TAL HOU

Lab Chronicle

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

TestAmerica Job ID: 600-82260-1

Client Sample ID: SKU936-03-02

Date Collected: 11/04/13 12:40
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-24

Matrix: Solid
Percent Solids: 93.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 01:01	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 14:59	MHT	TAL HOU
Total/NA	Prep	3550B			30.03 g	1.0 mL	120114	11/11/13 10:58	EAT	TAL HOU
Total/NA	Analysis	8015B		1	30.03 g	1.0 mL	120353	11/13/13 07:27	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120752	11/16/13 22:20	DAW	TAL HOU

Client Sample ID: SKU936-03-05

Date Collected: 11/04/13 12:42
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-25

Matrix: Solid
Percent Solids: 98.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 01:26	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 23:15	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 15:21	MHT	TAL HOU
Total/NA	Prep	3550B			30.18 g	1.0 mL	120225	11/12/13 10:22	EAT	TAL HOU
Total/NA	Analysis	8015B		1	30.18 g	1.0 mL	120431	11/13/13 13:22	JPS	TAL HOU
Total/NA	Analysis	8015B		1	30.18 g	1.0 mL	120434	11/13/13 13:22	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120752	11/16/13 23:01	DAW	TAL HOU

Client Sample ID: SKU936-03-10

Date Collected: 11/04/13 12:44
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-26

Matrix: Solid
Percent Solids: 97.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 01:51	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121186	11/14/13 14:52	MHT	TAL HOU
Total/NA	Prep	3550B			30.02 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.02 g	1.0 mL	120365	11/12/13 18:54	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120752	11/16/13 23:14	DAW	TAL HOU

Lab Chronicle

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

TestAmerica Job ID: 600-82260-1

Client Sample ID: SKU936-03-15

Lab Sample ID: 600-82260-27

Date Collected: 11/04/13 12:46
Date Received: 11/07/13 07:01

Matrix: Solid
Percent Solids: 98.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 02:16	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 16:05	MHT	TAL HOU
Total/NA	Prep	3550B			30.00 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.00 g	1.0 mL	120365	11/12/13 19:27	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120752	11/16/13 23:28	DAW	TAL HOU

Client Sample ID: SKU936-03-20

Lab Sample ID: 600-82260-28

Date Collected: 11/04/13 12:48
Date Received: 11/07/13 07:01

Matrix: Solid
Percent Solids: 96.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 02:41	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120602	11/07/13 16:30	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121186	11/14/13 15:12	MHT	TAL HOU
Total/NA	Prep	3550B			30.01 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.01 g	1.0 mL	120365	11/12/13 20:01	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120752	11/17/13 00:08	DAW	TAL HOU

Client Sample ID: SKU936-03-25

Lab Sample ID: 600-82260-29

Date Collected: 11/04/13 12:50
Date Received: 11/07/13 07:01

Matrix: Solid
Percent Solids: 94.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 07:25	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 17:37	MHT	TAL HOU
Total/NA	Prep	3550B			30.00 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.00 g	1.0 mL	120365	11/12/13 20:34	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	120842	11/18/13 17:19	DAW	TAL HOU

Lab Chronicle

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

TestAmerica Job ID: 600-82260-1

Client Sample ID: SKU936-04-02

Date Collected: 11/05/13 09:50
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-30

Matrix: Solid
Percent Solids: 97.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120606	11/09/13 12:36	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120802	11/15/13 20:12	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 18:04	MHT	TAL HOU
Total/NA	Prep	3550B			30.09 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.09 g	1.0 mL	120365	11/13/13 06:23	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			120024	11/08/13 14:11	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	120842	11/18/13 23:31	DAW	TAL HOU

Client Sample ID: SKU936-04-05

Date Collected: 11/05/13 09:52
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-31

Matrix: Solid
Percent Solids: 98.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120606	11/09/13 12:36	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120802	11/15/13 20:37	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 18:42	MHT	TAL HOU
Total/NA	Prep	3550B			30.01 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.01 g	1.0 mL	120365	11/13/13 06:55	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			120024	11/08/13 14:11	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 23:47	DAW	TAL HOU

Client Sample ID: SKU936-04-10

Date Collected: 11/05/13 09:54
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-32

Matrix: Solid
Percent Solids: 95.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120606	11/09/13 12:36	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120802	11/15/13 21:02	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 19:14	MHT	TAL HOU
Total/NA	Prep	3550B			30.04 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.04 g	1.0 mL	120365	11/13/13 07:27	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			120024	11/08/13 14:11	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/19/13 00:33	DAW	TAL HOU

Lab Chronicle

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

TestAmerica Job ID: 600-82260-1

Client Sample ID: SKU936-04-15

Lab Sample ID: 600-82260-33

Date Collected: 11/05/13 09:56
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 94.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120606	11/09/13 12:36	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120802	11/15/13 21:27	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 19:36	MHT	TAL HOU
Total/NA	Prep	3550B			30.15 g	1.0 mL	120225	11/12/13 10:22	EAT	TAL HOU
Total/NA	Analysis	8015B		1	30.15 g	1.0 mL	120434	11/13/13 15:01	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			120024	11/08/13 14:11	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/19/13 00:49	DAW	TAL HOU

Client Sample ID: SKU936-01-02

Lab Sample ID: 600-82260-34

Date Collected: 11/04/13 13:57
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 81.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 07:50	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 19:58	MHT	TAL HOU
Total/NA	Prep	3550B			30.01 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.01 g	1.0 mL	120365	11/12/13 22:14	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 17:35	DAW	TAL HOU

Client Sample ID: SKU936-01-05

Lab Sample ID: 600-82260-35

Date Collected: 11/04/13 14:00
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 97.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 08:15	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 20:20	MHT	TAL HOU
Total/NA	Prep	3550B			30.05 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.05 g	1.0 mL	120365	11/12/13 22:47	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 18:21	DAW	TAL HOU

Lab Chronicle

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

TestAmerica Job ID: 600-82260-1

Client Sample ID: SKU936-01-10

Date Collected: 11/04/13 14:02
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-36

Matrix: Solid
Percent Solids: 98.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 08:40	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 20:42	MHT	TAL HOU
Total/NA	Prep	3550B			30.07 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.07 g	1.0 mL	120365	11/12/13 23:53	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 18:37	DAW	TAL HOU

Client Sample ID: SKU936-01-15

Date Collected: 11/04/13 14:04
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-37

Matrix: Solid
Percent Solids: 98.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 09:05	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 21:03	MHT	TAL HOU
Total/NA	Prep	3550B			30.00 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.00 g	1.0 mL	120365	11/13/13 00:26	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 18:52	DAW	TAL HOU

Client Sample ID: SKU936-01-20

Date Collected: 11/04/13 14:06
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-38

Matrix: Solid
Percent Solids: 98.8

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 09:30	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 22:09	MHT	TAL HOU
Total/NA	Prep	3550B			30.02 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.02 g	1.0 mL	120365	11/13/13 00:58	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	120842	11/18/13 20:10	DAW	TAL HOU

Lab Chronicle

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

TestAmerica Job ID: 600-82260-1

Client Sample ID: SKU936-01-25

Lab Sample ID: 600-82260-39

Date Collected: 11/04/13 14:08
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 93.1

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 09:55	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 22:31	MHT	TAL HOU
Total/NA	Prep	3550B			30.03 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.03 g	1.0 mL	120365	11/13/13 01:31	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		2	5 mL	5 mL	120842	11/18/13 20:25	DAW	TAL HOU

Client Sample ID: SKU936-02-02

Lab Sample ID: 600-82260-40

Date Collected: 11/04/13 11:46
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 10:20	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120595	11/07/13 10:36	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121138	11/15/13 22:53	MHT	TAL HOU
Total/NA	Prep	3550B			30.06 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.06 g	1.0 mL	120365	11/13/13 02:04	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 20:41	DAW	TAL HOU

Client Sample ID: SKU936-02-05

Lab Sample ID: 600-82260-41

Date Collected: 11/04/13 11:48
Matrix: Solid
Date Received: 11/07/13 07:01
Percent Solids: 98.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 10:45	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120602	11/07/13 16:10	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121143	11/16/13 01:48	MHT	TAL HOU
Total/NA	Prep	3550B			30.08 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.08 g	1.0 mL	120365	11/13/13 02:36	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 20:56	DAW	TAL HOU

Lab Chronicle

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

TestAmerica Job ID: 600-82260-1

Client Sample ID: SKU936-02-10

Date Collected: 11/04/13 11:50
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-42

Matrix: Solid
Percent Solids: 97.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 11:10	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120602	11/07/13 16:10	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121143	11/16/13 02:10	MHT	TAL HOU
Total/NA	Prep	3550B			30.01 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.01 g	1.0 mL	120365	11/13/13 03:09	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 21:12	DAW	TAL HOU

Client Sample ID: SKU936-02-15

Date Collected: 11/04/13 11:52
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-43

Matrix: Solid
Percent Solids: 97.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 12:14	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120602	11/07/13 16:10	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121143	11/16/13 02:32	MHT	TAL HOU
Total/NA	Prep	3550B			30.06 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.06 g	1.0 mL	120365	11/13/13 03:41	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 21:58	DAW	TAL HOU

Client Sample ID: SKU936-02-20

Date Collected: 11/04/13 11:54
Date Received: 11/07/13 07:01

Lab Sample ID: 600-82260-44

Matrix: Solid
Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			10 g	200 mL	120604	11/08/13 12:17	MHT	TAL HOU
Total/NA	Analysis	8015B		1	10 g	200 mL	120915	11/12/13 12:39	MHT	TAL HOU
Total/NA	Prep	5030B			10 g	10 mL	120602	11/07/13 16:10	MHT	TAL HOU
Total/NA	Analysis	8021B		1	10 g	10 mL	121143	11/16/13 02:54	MHT	TAL HOU
Total/NA	Prep	3550B			30.01 g	1.0 mL	120105	11/11/13 09:58	LMB	TAL HOU
Total/NA	Analysis	8015B		1	30.01 g	1.0 mL	120365	11/13/13 04:14	JPS	TAL HOU
Total/NA	Analysis	Moisture		1			119895	11/07/13 13:58	AYS	TAL HOU
Soluble	Leach	DI Leach			5 g	50 mL	120664	11/15/13 10:30	KRD	TAL HOU
Soluble	Analysis	9056		1	5 mL	5 mL	120842	11/18/13 22:45	DAW	TAL HOU

Laboratory References:

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

Certification Summary

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

TestAmerica Job ID: 600-82260-1

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

Chain of Custody Reco

600-82260 Chain of Custody

600-23595-8666.1

Client Information	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Page: Page 1 of 5
Client Contact: Mr. Jonathan Olsen	Phone: 713 953 4800	E-Mail: sachin.kudchadkar@testamericainc.com	
Company: ARCADIS U.S., Inc.		**Analysis Requested**	Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:		Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
City: Houston	TAT Requested (days): STANDARD		
State, Zip: TX, 77042			
Phone: 7139534800	PO #: Purchase Order Requested		Other:
Email: jonathan.olsen@arcadis-us.com	WO #:		
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633		
Site: SKELLY UNIT 936	SSOW#:		

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	ASTM- D2216	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	Z		
SKU936-06-15	11/4/13	1030	G	Solid			X	X	X	X	X		HOLD
SKU936-06-20	11/4/13	1032		Solid			X	X	X	X	X		HOLD
SKU936-06-25	11/4/13	1034		Solid			X	X	X	X	X		HOLD
SKU936-07-02	11/4/13	1104		Solid			X	X	X	X	X		HOLD
SKU936-07-05	11/4/13	1106		Solid			X	X	X	X	X		HOLD
SKU936-07-10	11/4/13	1108		Solid			X	X	X	X	X		HOLD
SKU936-07-15	11/4/13	1110		Solid			X	X	X	X	X		HOLD
SKU936-07-20	11/4/13	1112		Solid			X	X	X	X	X		HOLD
SKU936-07-25	11/4/13	1114		Solid			X	X	X	X	X		HOLD
SKU936-08-02	11/5/13	1013		Solid			X	X	X	X	X		
SKU936-08-05	11/5/13	1015	↓	Solid			X	X	X	X	X		

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

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

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

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 11/5/13 930	Company	Received by:	Date/Time: 11/7/13 701	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

11/22/2013

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

Chain of Custody Record

Client Information	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Mr. Jonathan Olsen	Phone: 713 9534800	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 1 of 5
Company: ARCADIS U.S., Inc.		Analysis Requested		Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:			
City: Houston	TAT Requested (days): STANDARD			
State, Zip: TX, 77042				
Phone: ~~(281)~~ 713 9534800	PO #: Purchase Order Requested			
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			
Site: SKELLY UNIT 936	SSOW#:			

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	ASTM- D2216	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N		
SKU936-04-20	11/5/13	958	G	Solid			X	X	X	X	X		HOLD
SKU936-04-25	11/5/13	1000		Solid			X	X	X	X	X		
SKU936-05-02	11/4/13	1317		Solid			X	X	X	X	X		
SKU936-05-05	11/4/13	1319		Solid			X	X	X	X	X		
SKU936-05-10	11/4/13	1321		Solid			X	X	X	X	X		
SKU936-05-15	11/4/13	1323		Solid			X	X	X	X	X		
SKU936-05-20	11/4/13	1325		Solid			X	X	X	X	X		
SKU936-05-25	11/4/13	1327		Solid			X	X	X	X	X		
SKU936-06-02	11/4/13	1024		Solid			X	X	X	X	X		
SKU936-06-05	11/4/13	1026		Solid			X	X	X	X	X		
SKU936-06-10	11/4/13	1028		Solid			X	X	X	X	X		

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Chalm	11/5/13 430			11/7/13 701	
2	Relinquished by	Date/Time:	Company	Received by:	Date/Time	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company

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

Page 56 of 60

11/22/2013

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

Chain of Custody Record

Client Information	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Mr. Jonathan Olsen	Phone: 713 953 4800	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 3 of 5
Company: ARCADIS U.S., Inc.				Job #
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:			
City: Houston	TAT Requested (days): STANDARD			
State, Zip: TX, 77042				
Phone: 7139534800	PO #: Purchase Order Requested			
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			
Site: SKELLY UNIT 936	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	ASTM-D2216									Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	Z										
SKU936-02-25	11/4/13	1156	G	Solid			X	X	X	X	X										~~CB HOLD~~ DO NOT HOLD
SKU936-03-02	11/4/13	1240		Solid			X	X	X	X	X										
SKU936-03-05	11/4/13	1242		Solid			X	X	X	X	X										
SKU936-03-10	11/4/13	1244		Solid			X	X	X	X	X										
SKU936-03-15	11/4/13	1246		Solid			X	X	X	X	X										
SKU936-03-20	11/4/13	1248		Solid			X	X	X	X	X										
SKU936-03-25	11/4/13	1250		Solid			X	X	X	X	X										
SKU936-04-02	11/5/13	950		Solid			X	X	X	X	X										HOLD
SKU936-04-05	11/5/13	952		Solid			X	X	X	X	X										
SKU936-04-10	11/5/13	954		Solid			X	X	X	X	X										
SKU936-04-15	11/5/13	956		Solid			X	X	X	X	X										

Page 57 of 60

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		11/5/13 430			11/7/13 701	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

11/22/2013

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

Chain of Custody Record

Client Information	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
Client Contact: Mr. Jonathan Olsen	Phone: 7139534800	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 4 of 5
Company: ARCADIS U.S., Inc.				Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:			
City: Houston	TAT Requested (days): STANDARD			
State, Zip: TX, 77042				
Phone: 7139534800	PO #: Purchase Order Requested			
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			
Site: SKELLY UNIT 936	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8016B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	2-ASTM-D2216	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	Z		
SKU936-01-02	11/4/13	1357	G	Solid			X	X	X	X	X		~~HOLD~~ DONOT HOLD
SKU936-01-05	11/4/13	1400		Solid			X	X	X	X	X		
SKU936-01-10	11/4/13	1402		Solid			X	X	X	X	X		
SKU936-01-15	11/4/13	1404		Solid			X	X	X	X	X		
SKU936-01-20	11/4/13	1406		Solid			X	X	X	X	X		
SKU936-01-25	11/4/13	1408		Solid			X	X	X	X	X		
SKU936-02-02	11/4/13	1146		Solid			X	X	X	X	X		
SKU936-02-05	11/4/13	1148		Solid			X	X	X	X	X		
SKU936-02-10	11/4/13	1150		Solid			X	X	X	X	X		
SKU936-02-15	11/4/13	1152		Solid			X	X	X	X	X		
SKU936-02-20	11/4/13	1154		Solid			X	X	X	X	X		

Page 58 of 60

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

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

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

Special Instructions/QC Requirements:

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

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		11/5/13 430			11/7/13 701	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

11/12/2013

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

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

Chain of Custody Record

Client Information

Client Contact: Mr. Jonathan Olsen	Sampler: MELISA PHAN	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-23595-8666.1
	Phone: 713 9534800	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 5 of 5
Company: ARCADIS U.S., Inc.				Job #:
Address: 2929 Briarpark Drive Suite 300	Due Date Requested:			
City: Houston	TAT Requested (days):			
State, Zip: TX, 77042				
Phone: 713 953 4800	PO #: Purchase Order Requested			
Email: jonathan.olsen@arcadis-us.com	WO #:			
Project Name: HES Transfer Sites, Lea County NM	Project #: 60004633			
Site: SKELLY UNIT 936	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015B_DRO	9056_28D - Chloride	8015B_GRO	8021B- BTEX	ASTM- D2216	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N	N		
SKU936-08-10	11/5/13	1017	G	Solid			X	X	X	X	X		
SKU936-08-15	11/5/13	1019	↓	Solid			X	X	X	X	X		
SKU936-08-20	11/5/13	1021	↓	Solid			X	X	X	X	X		
SKU936-08-25	11/5/13	1023	↓	Solid			X	X	X	X	X		
				Solid									
				Solid									
				Solid									
				Solid									
				Solid									
				Solid									
				Solid									

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

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

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

Deliverable Requested: I, II, III, IV, Other (specify)
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: [signature]	Date/Time: 11/5/13 430	Company	Received by: [signature]	Date/Time: 11/7/13 701	Company: TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 600-82260-1

Login Number: 82260

List Source: TestAmerica Houston

List Number: 1

Creator: Capps, Dana R

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.6/1.7/3.0/3.0/3.7
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	

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Attachment 6

Boring Logs (November 2013)

Date Start/Finish: 11/4/2013
Drilling Company: Harrison and Cooper Inc./K Cooper

Drilling Method: Air Rotary
Sampling Method: Shovel

Borehole Depth: 25' bgs
Descriptions By: M. Phan

Well/Boring ID: **SKU936-01**

Client: Chevron EMC
Location: Skelly Unit 936

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	0		AK					AIR KNIFE only ~2 inches
					3.3			SANDY CLAY, Reddish Brown (5YR4/4) to Pink (7.5YR8/3), hard to medium, little subrounded nodules, poorly sorted, 3 mm to 7 mm, moist.
		1	AR	5	4.4			SANDY CALICHE, Reddish Brown (5YR4/4) to Yellowish Red (5YR5/6), medium grained, trace rounded nodules, poorly sorted, 2 mm to 5 mm, moist, medium to soft, chalky to sandy.
5	-5							Same as above, Yellowish red (5YR5/6), soft.
		2	AR	5	3.8			
10	-10							Same as above, Light Reddish Brown (5YR6/4) to Pink (7.5YR8/3), trace rounded nodules, 1 mm to 3 mm, fine grained, dry, chalky to sandy.
		3	AR	5	3.0			
15	-15							Same as above, Light Reddish Brown (5YR6/4), trace clay, low plasticity.
		4	AR	5	4.5			
20	-20							CLAYEY SAND, Reddish Brown (5YR5/4), fine grained, low to medium plasticity, trace rounded caliche nodules, poorly sorted, 2 mm to 4 mm, moist.
		5	AR	5	2.7			
25	25							

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Remarks: ags = above ground surface; AK = air knife; amsl = above mean sea level; AR = air rotary; bgs = below ground surface; ppm = parts per million;

Date Start/Finish: 11/4/2013
Drilling Company: Harrison and Cooper Inc./K Cooper

Drilling Method: Air Rotary
Sampling Method: Shovel

Borehole Depth: 25' bgs
Descriptions By: M. Phan

Well/Boring ID: **SKU936-02**

Client: Chevron EMC
Location: Skelly Unit 936

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	0		AK					AIR KNIFE only ~2 inches
					5.1			SANDY CLAY, Reddish Brown (5YR4/4) to Pinkish White (7.5YR8/2), hard, trace, subrounded to rounded nodules of caliche, poorly sorted, 4 mm to 6 mm, moist, sandy, low plasticity.
		1	AR	5	4.6			SANDY CLAY, Yellowish Red (5YR5/6), medium, moist, low plasticity, chalky to sandy.
5	-5	2	AR	5	5.3			SANDY CALICHE, Light Reddish (5YR6/4), White (5YR8/1) to Light Gray (5YR7/1), trace subrounded to subangular nodules, poorly sorted, 2 mm to 8 mm, medium grained, dry, sandy.
10	-10	3	AR	5	3.6			Same as above, Pink (7.5YR7/4), fine to medium grained, dry, soft, chalky.
15	-15	4	AR	5	7.8			Same as above, Reddish Brown (5YR5/4), trace subangular to subrounded nodules, poorly sorted, 3 mm to 9 mm, fine grained, chalky.
20	-20	5	AR	5	5.9			CLAYEY SAND, Reddish Brown (5YR5/4), little subrounded to rounded, fine to very fine grained, medium plasticity.
25	-25							

Remarks: ags = above ground surface; AK = air knife; amsl = above mean sea level; AR = air rotary; bgs = below ground surface; ppm = parts per million;

Date Start/Finish: 11/4/2013
Drilling Company: Harrison and Cooper Inc./K Cooper

Drilling Method: Air Rotary
Sampling Method: Shovel

Borehole Depth: 25' bgs
Descriptions By: M. Phan

Well/Boring ID: **SKU936-03**

Client: Chevron EMC
Location: Skelly Unit 936

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	0		AK		3.7			AIR KNIFE only ~2 inches SANDY CLAY, Yellowish Red (5YR5/6), hard, moist, medium grained, low plasticity.
		1	AR	5	2.5			
5	-5	2	AR	5	4.3			SANDY CALICHE, Reddish Brown (5YR5/4), Light Gray (5YR7/1) to White (5YR8/1), medium sands, dry, trace subrounded caliche nodules, well sorted.
10	-10	3	AR	5	7.0			Same as above, Light Reddish Brown (5YR6/4), to White (5YR8/1), fine to medium grained.
15	-15	4	AR	5	7.8			Same as above, Reddish Yellow (5YR6/6), fine grained, trace subrounded to rounded caliche nodules, poorly sorted, 2 mm to 7 mm.
20	-20	5	AR	5	8.9			CLAYEY SAND, Reddish Brown (5YR5/4), Light Gray (5YR7/1), to White (5YR8/1), fine grained, moist, trace rounded caliche nodules, poorly sorted, 1 mm to 4 mm, medium plasticity.
25	-25							

Remarks: ags = above ground surface; AK = air knife; amsl = above mean sea level; AR = air rotary; bgs = below ground surface; ppm = parts per million;

Date Start/Finish: 11/4/2013
Drilling Company: Harrison and Cooper Inc./K Cooper

Drilling Method: Air Rotary
Sampling Method: Shovel

Borehole Depth: 25' bgs
Descriptions By: M. Phan

Well/Boring ID: **SKU936-04**

Client: Chevron EMC
Location: Skelly Unit 936

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	Geologic Column	Stratigraphic Description
0	0		AK		2.1			AIR KNIFE only ~2 inches SANDY CLAY, Reddish Brown (5YR4/4) to White (5YR8/1), medium grained, trace rounded nodules, 4 mm to 6 mm, poorly sorted, moist, low plasticity.
		1	AR	5	2.0			
5	-5	2	AR	5	3.2			SANDY CLAY, Yellowish Red (5YR5/6) to Pinkish White (5YR8/2), medium grained, trace caliche, 1 mm to 7 mm, some clay, medium plasticity, moist.
10	-10	3	AR	5	8.5			SANDY CALICHE, Yellowish Red (5YR5/6), Pink (5YR8/3), to Light Gray (5YR7/1), medium grained, some fractured caliche, subrounded to subangular, 1 mm to 11 mm, hard, dry, chalky.
15	-15	4	AR	5	9.0			CLAYEY SAND, Reddish Brown (5YR5/4) to Pinkish White (5YR8/2), fine to medium grained, trace caliche, some clay, hard, moist, high plasticity.
20	-20	5	AR	5	9.5			Same as above, Yellowish Red (5YR5/6), fine grained, medium plasticity, moist.
25	-25							

Remarks: ags = above ground surface; AK = air knife; amsl = above mean sea level; AR = air rotary; bgs = below ground surface; ppm = parts per million;

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Attachment 7

Chloride Multimedia Exposure Assessment Model Simulated Soil Screening Levels for the Protection of Groundwater Memo

ARCADIS U.S., Inc.
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MEMO

To:
Kegan Boyer, Chevron Environmental Management Company

Copies:
Chris Shepherd, ARCADIS
Kathleen Abbott, ARCADIS
David Evans, ARCADIS

From:
Jonathan Olsen

Date:
May 8, 2014

ARCADIS Project No.:
B0048615.0000

Subject:
Chloride Multimedia Exposure Assessment Model Simulated Soil Screening Levels for the Protection of Groundwater
HES Transfer Sites, Lea County, New Mexico

On behalf of Chevron Environmental Management Company, ARCADIS U.S., Inc. (ARCADIS) evaluated chloride remediation action levels for use at the Health Environmental Safety (HES) Transfer Sites near Hobbs, New Mexico. The New Mexico Oil Conservation District (NMOCD) has established soil screening levels (SSLs) for fluid management pits (also known as the "NMOCD PIT RULE" [NMAC 19.15.17]); however, no formal SSLs have been established by the NMOCD or the New Mexico Environmental Department (NMED) for surface releases of production water. The Risk Assessment Guidance for Investigation and Remediation (NMED 2012) states that SSLs should be based on risk to human health and the potential migration to groundwater with respect to the NMED-specific tap water SSL. Chloride is not considered hazardous and the NMED and the United States Environmental Protection Agency (USEPA) have not established tap water screening levels for chloride. However, the NMED has established a chloride standard for groundwater (NMAC 20.6.2.1101) of 250 milligrams per liter (mg/L). Therefore, the SSL for chloride should be based on the soil leaching to groundwater pathway.

To evaluate a chloride SSL for use at the HES Transfer Sites, ARCADIS performed simulations of unsaturated zone flow, transport, and saturated zone mixing of chloride using the Multimedia Exposure Assessment Model Version 2.0 (MULTIMED; USEPA 1996) to evaluate the potential migration of chloride in shallow soil through the unsaturated zone to the underlying groundwater. The initial simulations were intended to estimate a maximum allowable chloride soil concentration (site SSL) to evaluate HES Transfer

Sites in Lea County and eastern Eddy County, New Mexico, and to develop a baseline approach for using the model for potential future evaluations of solute migration at other HES Transfer Sites in New Mexico.

MULTIMED Overview

MULTIMED was originally designed to simulate the movement of solutes leaching from a landfill to various exposure pathways. Due to its general acceptance by the NMOCD and the USEPA and its ability to simulate unsaturated and saturated zone flow and transport, MULTIMED was selected for this evaluation. The model, as designed, simulates one-dimensional vertical transport in the unsaturated zone to the saturated zone based on user-provided input parameters considering vadose zone, saturated zone, and chemical-specific characteristic parameters.

The simulations were performed using both the unsaturated and saturated zone modules available in MULTIMED. The unsaturated zone module performs solutions of the downward flow of infiltrating water to the water table by Darcy's Law:

$$Q = -K_v \cdot K_{rw} \left(\frac{\delta\psi}{\delta z}\right)$$

Where:

ψ is the pressure head (meters [m])

z is the depth (m)

Kv is the saturated hydraulic conductivity (meters per year [m/year])

Krw is the relative hydraulic conductivity

The boundary condition at the water table is:

$$\psi \cdot L = 0$$

Where:

L is the thickness of the unsaturated zone (m)

In the unsaturated zone, it is necessary to specify the relationship between relative hydraulic conductivity, pressure head, and water saturation. This relationship is given by van Genuchten (1976):

$$S_e = \theta r + \frac{\theta s - \theta r}{[1 + (\alpha\psi^{\beta})^{\gamma}]}$$

Where:

θr and θs are the residual water saturation and total water saturation (dimensionless), respectively

β, γ, α are empirical soil-specific parameters (dimensionless)

ψ is the air pressure entry head (m)

S_e is the effective saturation (fraction)

Source area concentrations are input as leachate concentrations, therefore, the soil/water partition equation was used to convert between total soil concentration in milligrams per kilogram (mg/kg) and the leachate concentration in mg/L:

$$C_t = \frac{C_l \cdot R \cdot \theta_w}{\rho_b}$$

Where:

C_t is the concentration of the chemical of interest in soil (mg/kg)

C_l is the concentration of the chemical of interest in leachate (mg/L)

R is the retardation coefficient (dimensionless, assumed 1 for chloride)

ρ_b is the bulk density of the soil (mg/L or grams per cubic centimeter)

The mass of the chemical of interest that reaches the groundwater is expressed by the simplified steady-state equation (Salhotra et al. 1995) that couples the vadose zone to the groundwater:

$$M_L = A_w \cdot Q_f \cdot C_l$$

Where:

M_L is the chemical of interest mass that leaches from site soil (grams per year [g/year])

A_w is the width of the source area (m^2)

Q_f is the percolation rate from the facility/site (m/year)

The mixed groundwater concentration is controlled by the quasi-three-dimensional advection dispersion equations that are evaluated based on the following chemical concentration relationship within the mixing zone (Salhotra et al. 1995):

$$C(x,y,z,t) = \frac{H}{B} C_f(x,y,t) + \Delta C_p(x,y,z,t)$$

Where:

C is the dissolved concentration (mg/L, g/m^3)

x,y,z are the spatial coordinates (m)

t is elapsed time (year)

H is the source zone penetration (m), with a maximum equal to B

B is the thickness of the saturated zone (m)

MULTIMED's output concentration is a centerline concentration based on a calculated dilution attenuation factor. Thus, the output concentration is the maximum concentration of the chemical of interest in groundwater at a reasonable distance downgradient from the source area.

Model Design, Inputs, and Assumptions

The required input parameters for the MULTIMED simulations are summarized in Table 1. Input parameters include model structure, unsaturated and saturated zones, and chemical characteristics. Minimal site-specific data regarding the HES sites are available; therefore, numerous input parameters are based on published reports, default NMED values (2012), default values provided in the modeling code, and ARCADIS's experience, as indicated in Table 1. The model values are considered representative of the Lea County, New Mexico area. Due to the intended use of the SSL at multiple sites, more conservative values were generally selected for the given ranges of input parameters.

The general assumptions used in the MULTIMED model design include:

- The unsaturated and saturated zones are a single, homogeneous material.
- The applied recharge and infiltration are constant throughout the simulation.
- Initial chloride concentrations in soil below the source area and in groundwater are equal to 0.
- The model assumes no chemical transformation or adsorption of chloride to soil materials.

The simulations were performed using the transient model capabilities of MULTIMED. Steady-state simulations were not chosen because MUTLIMED requires the assumption that the source is continuous and constant throughout the simulation, which is not appropriate for these evaluations. Also, the transient model was selected to provide output that simulates the aquifer concentrations versus time and models a finite source.

Model Simulations and Results

Using the input parameters provided, soil concentrations for chloride were iteratively varied to arrive at an appropriate maximum allowable soil concentration that would be protective of groundwater for each of the scenarios. To calculate the maximum concentration that would be observed given the input concentrations and parameters, the simulation period selected was 1,980 years with 20-year time steps.

To ascertain the maximum allowable chloride concentration for more typical chloride concentration distribution and depth to groundwater scenarios, eight MULTIMED simulations were completed. The scenarios are summarized in Table 2. The input values for the simulations were the same, except for the thickness and width of the chloride-affected soil within the soil column. The first four simulations evaluated homogeneous chloride-affected soil 20 meters wide (400 square meters [m^2]) and varied the chloride-affected soil thickness between 1 meter and 3 meters and the depth to groundwater between 20 and 30.5 meters. The remaining four simulations evaluated homogeneous chloride-affected soil 45 meters wide (2,000 m^2) and varied the chloride affected soil thickness between 1 meter and 3 meters and the depth to groundwater between 20 and 30.5 meters

The predicted groundwater concentrations versus time are illustrated on Figures 1 through 8. The peak arrival times varied between 540 and 860 years. The simulations indicate the site SSLs for the protection of groundwater ranged from 8,525 to 266,100 mg/kg (Table 2) depending on the scenario and are protective of the New Mexico chloride groundwater standard of 250 mg/L.

The MULTIMED model, like any model, requires the use of simplifying assumptions regarding subsurface conditions and flow processes that result in inherent limitations and uncertainty compared to an actual flow system. In this case, uncertainty may be related to:

- The model assumes homogeneous unsaturated and saturated zones; the actual conditions at the sites likely contain numerous heterogeneities.

- The applied recharge and infiltration rates are constant. The aquifer hydraulic gradient is also assumed to be constant. These rates likely vary with time, and these variations may influence the solute migration and mixing, resulting in short-term changes in aquifer concentrations

- The model is a theoretical simulation of transport processes and is not verified or calibrated against site-specific data.

Conclusions and Recommendations

The model simulations reasonably represent conditions encountered at most of the Lea County and eastern Eddy County HES Transfer Sites. HES Transfer Sites with chloride-affected soil can be screened

against SSLs in Table 2, assuming they meet the specified conditions (source length, source depth, depth to groundwater, and soil concentration). For calculated SSLs greater than 100,000 mg/kg, a maximum allowable soil concentration of 100,000 mg/kg is recommended in accordance with the NMED risk assessment guidance (NMED 2012). For sites that meet all of these conditions, no further action is recommended. For the sites that do not meet these conditions, site-specific evaluations should be conducted.

Enclosures:

Tables

Table 1 MULTIMED V2.0 Model Inputs

Table 2 Soil Screening Level Matrix

Figures

Figure 1 MULTIMED Simulated Chloride Concentration vs. Time (Source = 20m, Chloride 0-1m, & Depth to Groundwater = 20m)

Figure 2 MULTIMED Simulated Chloride Concentration vs. Time (Source = 20m, Chloride 0-1m, & Depth to Groundwater = 30.5m)

Figure 3 MULTIMED Simulated Chloride Concentration vs. Time (Source = 20m, Chloride 0-3m, & Depth to Groundwater = 20m)

Figure 4 MULTIMED Simulated Chloride Concentration vs. Time (Source = 20m, Chloride 0-3m, & Depth to Groundwater = 30.5m)

Figure 5 MULTIMED Simulated Chloride Concentration vs. Time (Source = 45m, Chloride 0-1m, & Depth to Groundwater = 20m)

Figure 6 MULTIMED Simulated Chloride Concentration vs. Time (Source = 45m, Chloride 0-1m, & Depth to Groundwater = 30.5m)

Figure 7 MULTIMED Simulated Chloride Concentration vs. Time (Source = 45m, Chloride 0-3m, & Depth to Groundwater = 20m)

Figure 8 MULTIMED Simulated Chloride Concentration vs. Time (Source = 45m, Chloride 0-3m, & Depth to Groundwater = 30.5m)

References

New Mexico Environment Department. 2012. Risk Assessment Guidance for Investigations and Remediation, Volume I. February 2012 (updated June 2012).

Salhotra, A.M., P. Mineart, S. Sharp-Hansen, T. Allison, R. Johns, and W.B. Mills. 1995. Multimedia Exposure Assessment Model (MULTIMED 2.0) for Evaluating the Land Disposal of Wastes--Model Theory. United States Environmental Protection Agency, Athens, GA. Unpublished Report.

United States Environmental Protection Agency. 1996. A Subtitle D Landfill Application Manual for the Multimedia Exposure Assessment Model (MULTIMED 2.0). Final Report.

Van Genuchten, M, Th., and P.J. Wierenga. 1976. Mass Transfer Studies in Sorbing Porous Media I. Analytical Solutions. Soil Science Society of America Proceedings. v 40, 473-480.

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Tables

Table 1
MULTIMED V2.0 Model Inputs
Chevron HES Transfer Sites
Lea County, New Mexico

Parameters		**Value(s)**	**Units**	***Notes***
Unsaturated Zone Flow Parameters:				
Depth of Unsaturated Zone		20.0	m	Local water levels (20m & 30.5m)
Hydraulic Conductivity		0.06	cm/hr	Texas (2011)
Unsaturated Zone Porosity		0.44	fraction	NMED (2012) Default
Residual Water Content		0.260	fraction	NMED (2012) Default
Unsaturated Zone Transport Parameters:				
Thickness of Layer		20 & 30.5	m	Regional water levels
Percent of Organic Matter		1.5%		NMED (2012) Default (not used)
Bulk Density		1.5	g/cm^3	NMED (2012) Default
Biological Decay Coefficient		0	1/yr	(not used)
Aquifer Parameters:				
Aquifer Porosity		0.43	fraction	NMED (2012) Default
Bulk Density		1.5	g/cm^3	NMED (2012) Default
Aquifer Thickness		12.0	m	NMED (2012) Default
Hydraulic Conductivity		542	m/yr	Texas (2011), Velocity ~ 1/2 NMED Default
Hydraulic Gradient		0.010	m/m	NMED (2012) Default
Organic Carbon Content		0.020	fraction	NMED (2012) Default (not used)
Temperature of Aquifer		15.0	°C	NMED (2012) Default (not used)
pH		6.2		(not used)
x-distance Radial Distance from Site to Receptor		12	m	equal to aquifer thickness
Source Parameters:				
Infiltration Rate		0.013	m/yr	~0.5 in/yr, Texas (2011)
Area of Waste		400 & 2000	m^2	NMED (2012) Default (~45m x45m)
Recharge Rate		0.013	m/yr	Texas (2011)
Duration of Pulse		540 to 840	yr	Varied, set equal to peak arrival time
Discharge Concentrations		0	mg/L	
Initial Soil Concentrations:				
	Depth (m)			
Chloride leachate concentration	*0*	varied	mg/L	Calculated for each scenario[1]
Chloride leachate concentration	*1 & 3*	0	mg/L	
Chloride leachate concentration	*20 & 30.5*	0	mg/L	
Additional Parameters:				
Method		Gaussian		
New Mexico Environment Department. 2012. Risk		Chloride		
Chemical Parameters:				
Normalized Distribution Coefficient		0.00	mL/g	Model Derived
Van Genuchten Parameters:				
Alpha Van Genuchten coefficient		0.38	unitless	NCSS Soil Characterization Data[2]
Beta Van Genuchten coefficient		1.2	unitless	NCSS Soil Characterization Data[2]

Notes:

°C - degrees celcius
cm - centimeters
cm^3 - cubic centimeters
g - grams
hr - hour
L - liters
m - meters
m^2 - meter squared
mg - milligrams
mL - milliliters
yr - year

1 - calculated using the soil-water partitioning equation
2 - van Genutchen transport parameters are typical values for caliche-like material

References:

NMED - New Mexico Environmental Department Risk Assessment Guidance for Site Investigations and Remediation. February 2012.
NCSS - National Cooperative Soil Survey, National Cooperative Soil Characterization Database
Texas - Texas Water Development Board 2011. Update of the Groundwater Availability Model for the Edwards-Trinity (Plateau) and Pecos Valley Aquifers of Texas. January 21, 2011

Table 2
Soil Screening Level Matrix
Chevron HES Transfer Sites
Lea County, New Mexico

Scenario	Source Length (m)	Source Area (m)	Source Depth (m)	Depth to Groundwater (m)	SSL_{gw} (mg/Kg)	Notes
1	20	400	0-1	20.0	108,000	1
2	20	400	0-1	30.5	266,100	1
3	20	400	0-3	20.0	23,750	
4	20	400	0-3	30.5	45,000	
5	45	2,000	0-1	20.0	38,800	
6	45	2,000	0-1	30.5	95,500	
7	45	2,000	0-3	20.0	8,525	
8	45	2,000	0-3	30.5	16,100	

NMED SSL Ceiling = 100,000 mg/Kg

Notes:

m - meters

mg/Kg - milligrams per Kilogram

NMED - New Mexico Environmental Department

SSL_{gw} - Site soil screening levels for the migration to groundwater pathway

SSL Ceiling - Soil Screening Level Ceiling (NMED 2012)

1 - the NMED SSL ceiling should be used

References:

New Mexico Environment Department. 2012. Risk Assessment Guidance for Investigations and Remediation, Volume I. February 2012 (updated June 2012).

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Figures

Figure 1
MULTIMED Simulated Chloride Concentration Vs Time in Groundwater
(Source = 20m, Chloride 0-1m, & Depth to Groundwater = 20m)

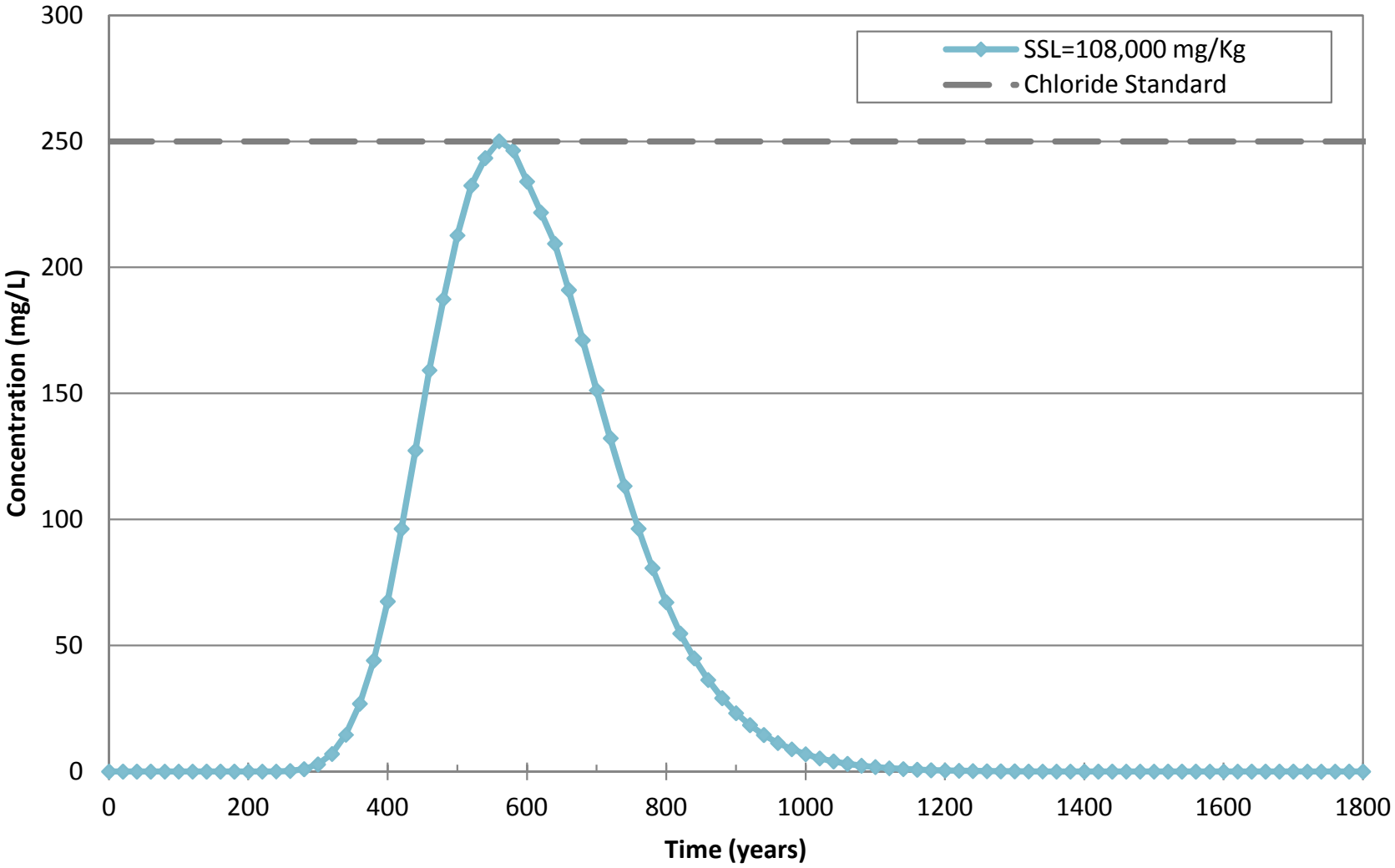

Figure 2
MULTIMED Simulated Chloride Concentration Vs Time in Groundwater
(Source = 20m, Chloride 0-1m, & Depth to Groundwater = 30.5m)

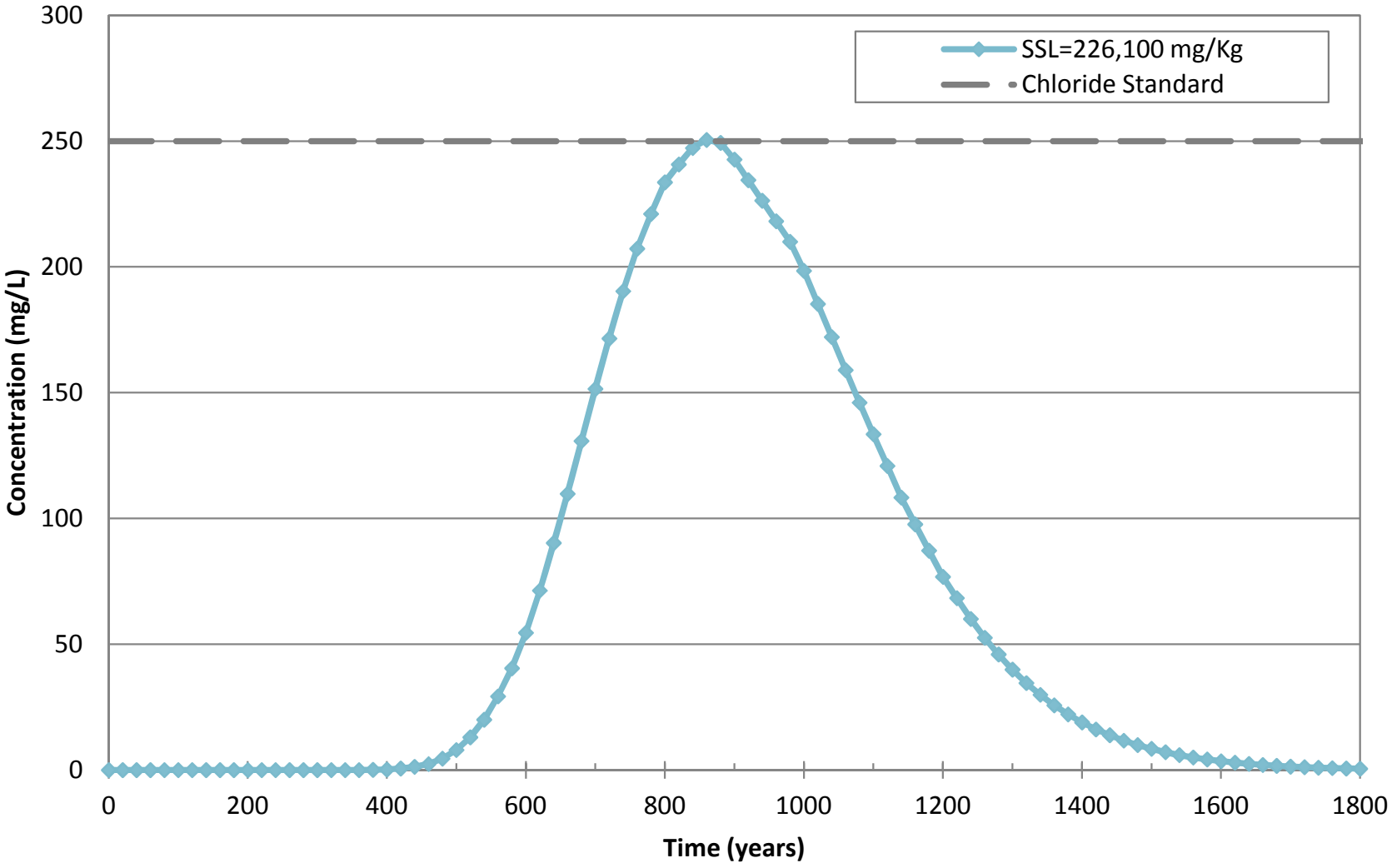

Figure 3
MULTIMED Simulated Chloride Concentration Vs Time in Groundwater
(Source = 20m, Chloride 0-3m, & Depth to Groundwater = 20m)

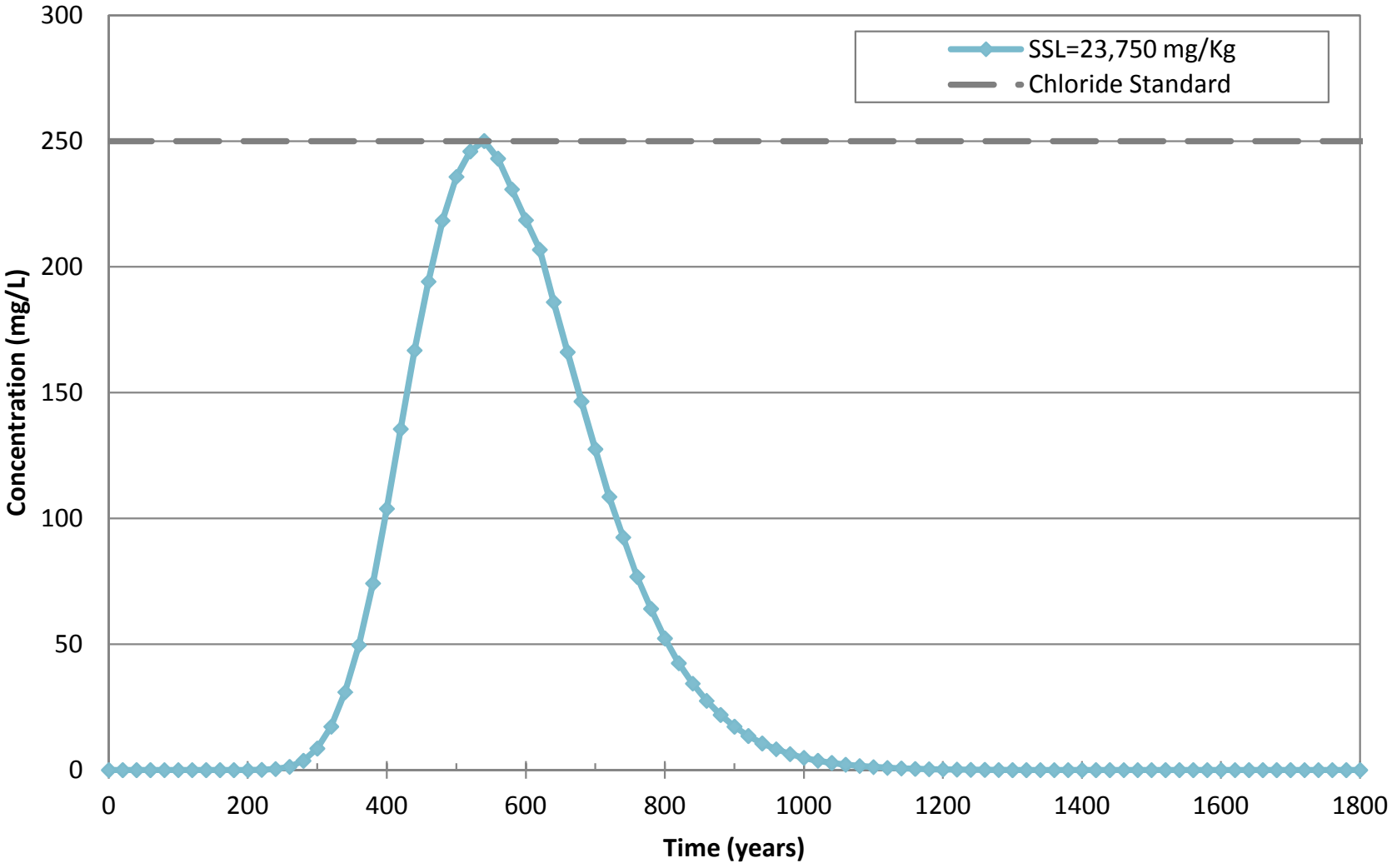

Figure 4
MULTIMED Simulated Chloride Concentration Vs Time in Groundwater
(Source = 20m, Chloride 0-3m, & Depth to Groundwater = 30.5m)

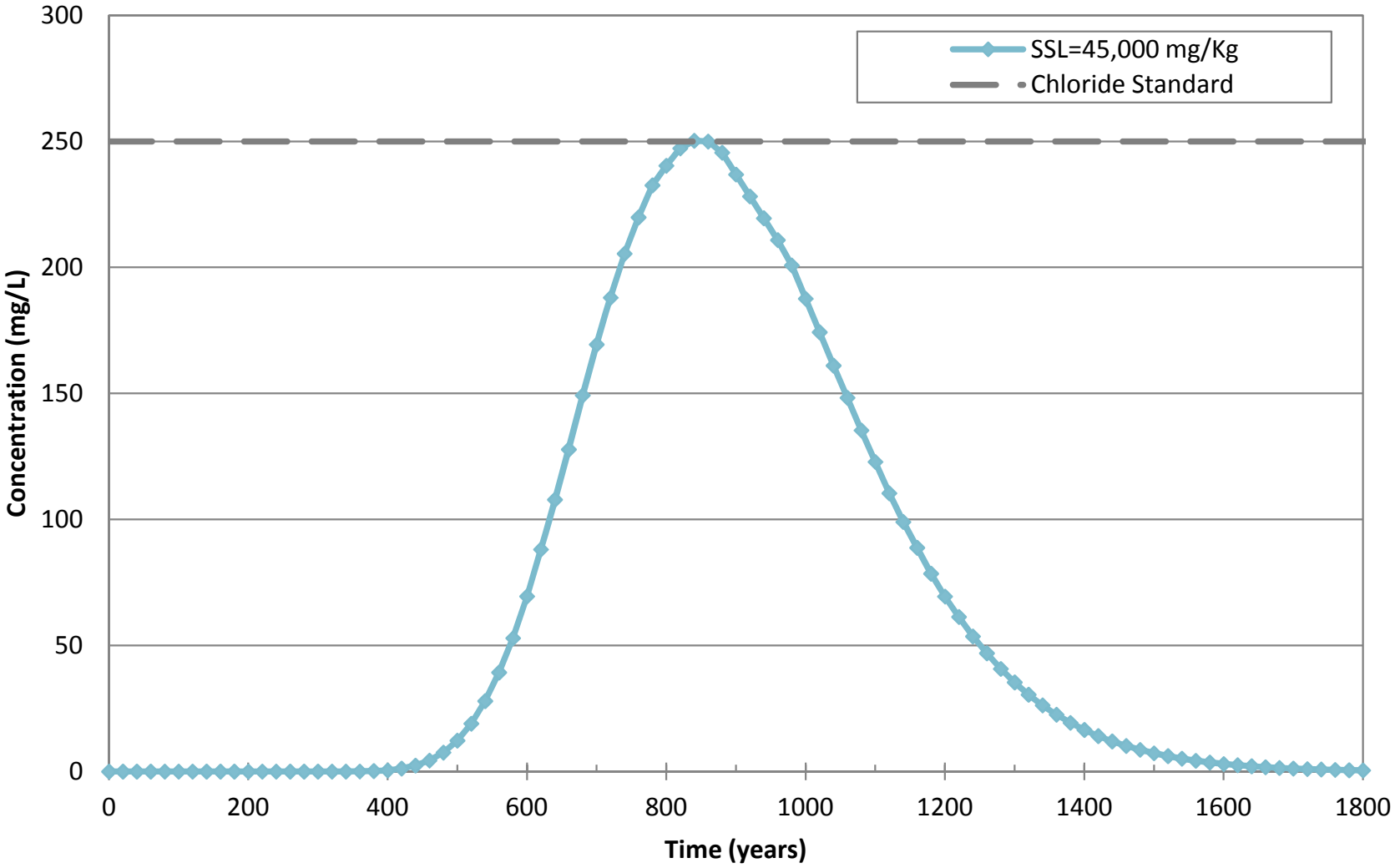

Figure 5
MULTIMED Simulated Chloride Concentration Vs Time in Groundwater
(Source = 45m, Chloride 0-1m, & Depth to Groundwater = 20m)

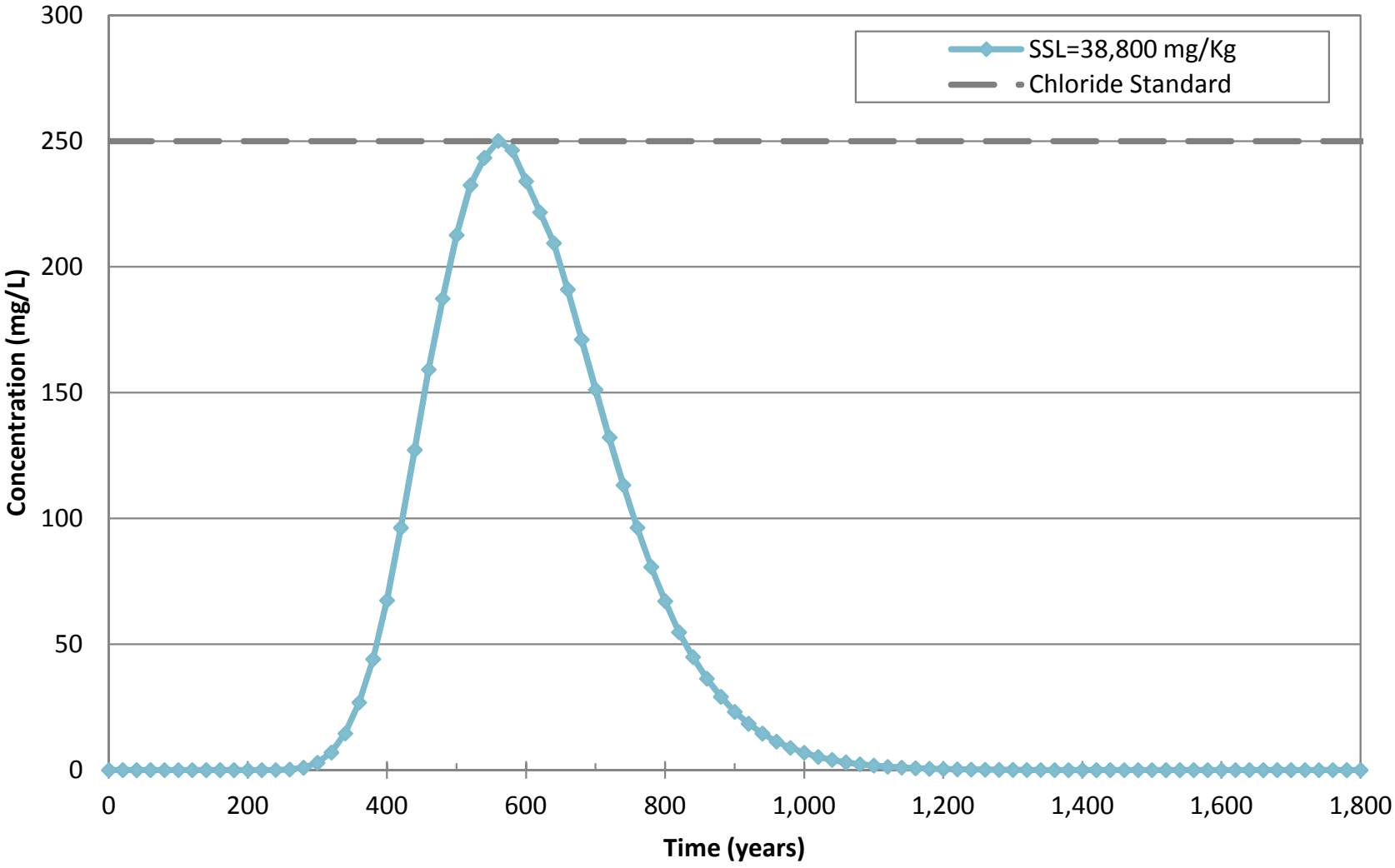

Figure 6
MULTIMED Simulated Chloride Concentration Vs Time in Groundwater
(Source = 45m, Chloride 0-1m, & Depth to Groundwater = 30.5m)

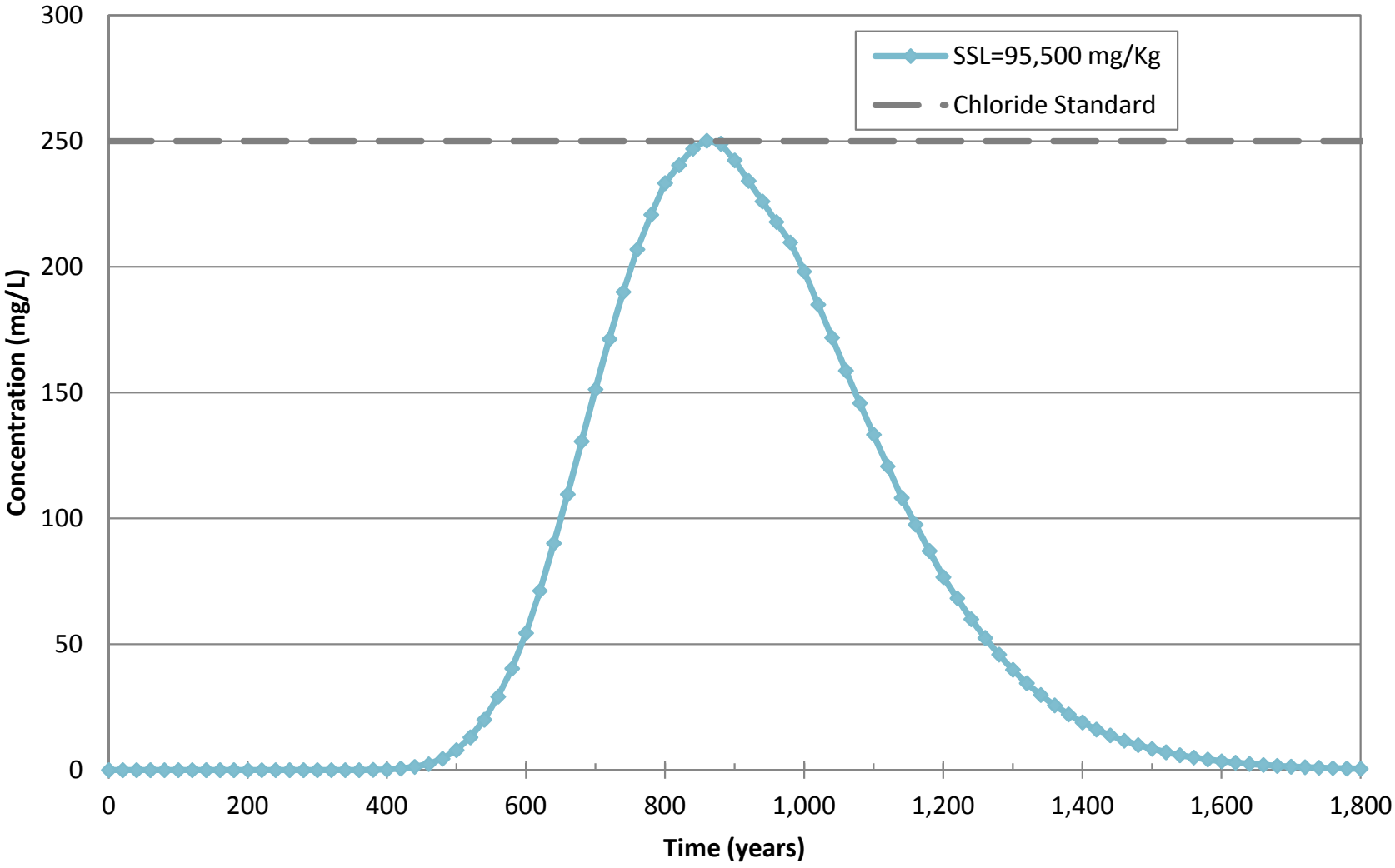

Figure 7
MULTIMED Simulated Chloride Concentration Vs Time in Groundwater
(Source = 45m, Chloride 0-3m, & Depth to Groundwater = 20m)

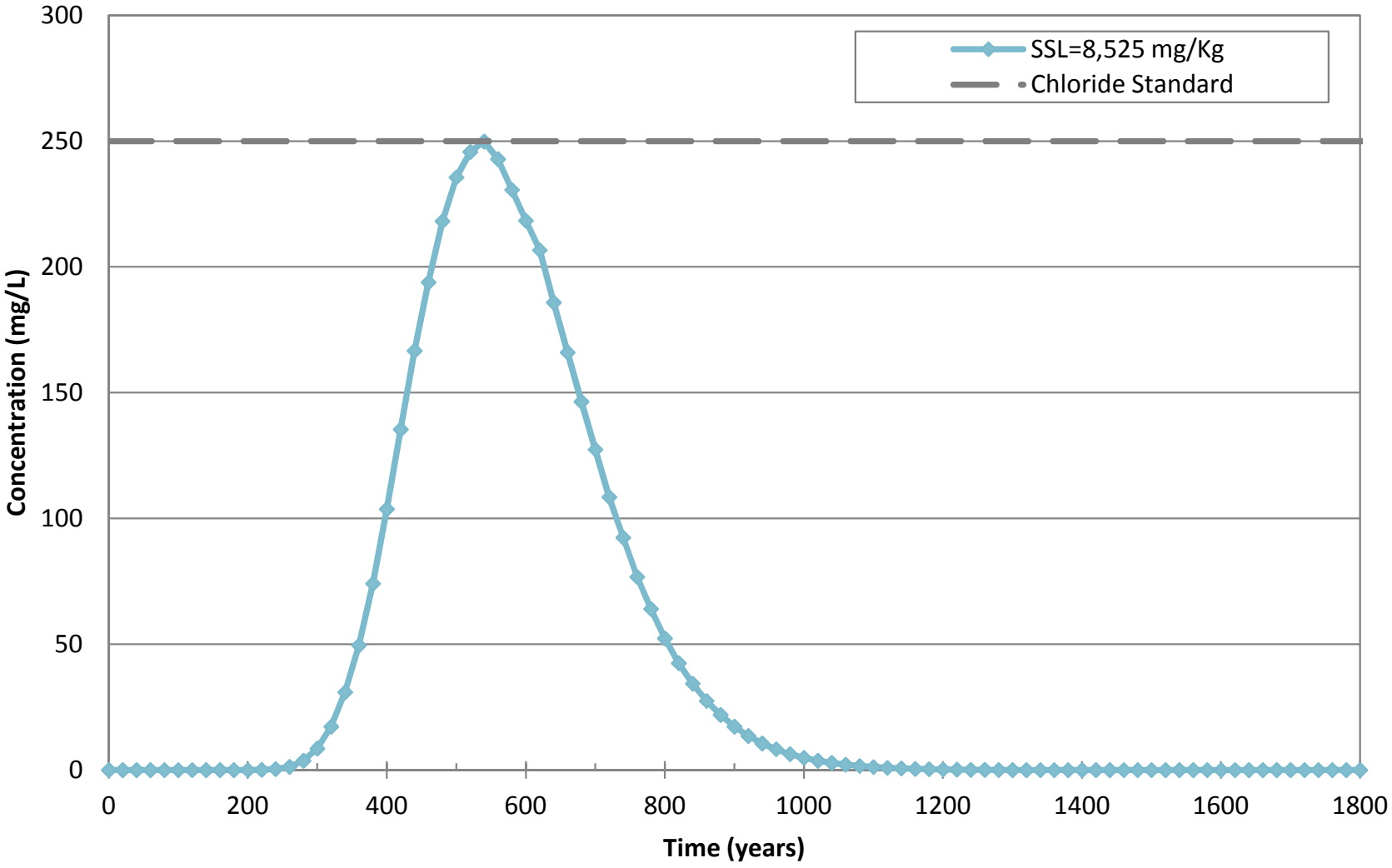

Figure 8
MULTIMED Simulated Chloride Concentration Vs Time in Groundwater
(Source = 45m, Chloride 0-3m, & Depth to Groundwater = 30.5m)