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CALIFORNIA DEPARTMENT OF TRANSPORTATION – DISTRICT 6
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GEOCON PROJECT NO. S9800-01-17
TASK ORDER NO. 17, EA 10-0X2700
CONTRACT NO 06A1895

AUGUST 2014

Project No. S9800-01-17
August 4, 2014

Mr. Richard Stewart, PG
California Department of Transportation - District 6
Hazardous Waste Branch
855 M Street, Suite 200
Fresno, California 93721

Subject: GROUNDWATER MONITORING REPORT – JUNE 2014
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA
CONTRACT NO. 06A1895, TASK ORDER NO. 17, EA NO. 10-0X2700

Dear Mr. Stewart:

In accordance with California Department of Transportation (Caltrans) Contract No. 06A1895, Task Order (TO) No. 17, Geocon performed groundwater monitoring activities at the Caltrans Modesto Soil Stockpiles (Site) located southerly of the intersection of State Route (SR) 99 and Kansas Avenue in Stanislaus County, California. This report presents the results of the June 2014 sampling event. The approximate site location is depicted on the attached Vicinity Map, Figure 1. The approximate site boundaries and Stockpiles 1 through 3 are shown on the Site Plan, Figure 2.

The scope of TO No. 17 includes the performance of groundwater sampling and analysis at the Site in accordance with protocols approved by the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) as established in the *Final Work Plan, Groundwater Assessment* prepared by Shaw Environmental, Inc., and dated January 2006. The scope of services reported herein included depth to groundwater measurements, groundwater sample collection from ten groundwater monitoring wells, analysis of the water samples by a California-certified laboratory, and preparation of this report.

BACKGROUND

Project Description and History

Stockpiles 1 through 3 were generated during construction of SR 99 through Modesto around 1961 when Caltrans excavated soil from property purchased from Food Machinery and Chemical Corporation (FMC) that contained an evaporation pond. The stockpiles were placed in their present location in anticipation of construction of the State Route 132 West Freeway/Expressway project.

During the 1930s, Barium Products Ltd. occupied property at 1200 Barium Road (now Graphics Drive) in Modesto just east of SR 99 between Woodland and Kansas Avenues. Barium Products Ltd. was a chemical manufacturing company processing a variety of ores and minerals including barite (barium sulfate) and celestite (strontium sulfate). Materials produced included barium and strontium compounds; these were used in greases, lubricating oil and pigment blanks. Sodium sulfide generated as a by-product of barite processing was sold as a caustic and used as a reagent in the mining industry.

In 1943, Barium Products Ltd. was purchased by Westvaco Chlorine Products Corporation which subsequently merged with FMC in 1948. From the 1950s to the 1970s, a liquid residue from the processing operations was discharged to unlined evaporation ponds along the western portion of the FMC Site. The approximate boundaries of the former evaporation/disposal ponds are shown on Figure 2.

In 1961, a 4.3–acre parcel at the southwestern corner of the FMC site was purchased by the State of California for highway right-of-way needed to construct SR 99. An aerial photograph from 1957 shows that a portion of the southernmost pond on the FMC property was within the area purchased for right-of-way.

Soil in and around the pond was excavated during construction of SR 99 and stockpiled within the current Caltrans right-of-way at the location of the future State Route 132 West Freeway/Expressway project. Three distinct stockpiles are present at the Site:

- Stockpile 1, located south of Kansas Avenue and west of North Emerald Avenue,
- Stockpile 2, located south of Kansas Avenue, between North Emerald Avenue and SR 99, and
- Stockpile 3, located south of Kansas Avenue and east of SR 99.

In 2006, Caltrans arranged for the installation of monitoring wells MW-1 through MW-8 at locations adjacent to the three stockpiles as shown on Figure 2. General groundwater chemistry analytical results from June and October 2006 groundwater events suggested that two distinct groundwater types are present beneath the Site. A survey of groundwater wells within a one-mile radius of the Site identified 43 existing or former wells; however, there were no active supply wells identified in the general (southeast) flow direction from the Site.

Groundwater monitoring was resumed for the Site with the March 2012 sampling of wells MW-1 through MW-8. Representatives from the DTSC observed the sample collection procedures and collected split samples which were submitted to an alternate laboratory. No notable differences in the concentrations for each reported analyte were evident.

In June 2012, Geocon arranged for the installation of monitoring wells MW-9 and MW-10 at locations that are both upgradient and adjacent to the three stockpiles as shown on Figure 2.

Geocon compared the analytical results from the twelve recent groundwater sampling events (March, May, June, July, September and November 2012; January, March, June, September, and December 2013; and February 2014) to the following water quality threshold values:

- Primary Maximum Contaminant Levels (MCLs) promulgated by the California Department of Public Health (CDPH); and
- Secondary MCLs promulgated by the CDPH.

The results of the groundwater sampling events show that both dissolved metals and general minerals have predominantly been reported at concentrations less than their respective numeric water quality threshold values. Only nitrates (expressed as nitrogen) in MW-1, MW-5, MW-6, and MW-10 and total dissolved solids (TDS) in wells MW-5, MW-6, and MW-10 have been consistently reported at concentrations that exceed their respective primary or secondary MCLs of 10 and 500 milligrams per liter (mg/l). Manganese has been sporadically reported for various wells at concentrations exceeding the secondary MCL; however, the concentrations have not been consistently elevated for any one well. Based on the lack of polycyclic aromatic hydrocarbons (PAHs) reported for each of the samples

analyzed, we requested discontinuation of analysis for PAHs. PAH analysis was discontinued after the November 2012 sampling event with concurrence from the DTSC.

Hydrogeologic Characterization

The hydrogeology of the adjacent FMC site has been characterized by numerous studies since the early 1980s. The GeoTrans January 2005 report *Addendum to Comprehensive Remedial Investigations Report, FMC Corporation, 1200 Graphics Drive, Modesto, Stanislaus County, California* (GeoTrans, 2005) provides a description of the FMC site hydrogeology. This description follows:

> *"The site is underlain by laterally discontinuous and unconsolidated sand and silty sand associated with the Modesto and Riverbank Formations. First encountered groundwater is approximately 30 feet below ground surface (bgs) under confined to semi-confined conditions. A deeper aquifer is present at a depth of 165 feet bgs and separated from the upper zone by a blue clay aquitard. The upper water bearing unit has been divided into two zones: a shallow zone from first encountered groundwater to 120 feet bgs and a deeper zone from 140 feet bgs to the top of the aquitard. Groundwater flow within the upper zone is toward the southeast under a gradient of 0.002 ft/ft."*

Monitoring wells MW-1 through MW-10 were installed into the unconsolidated sand, silty sand and silt layers within the Modesto Formation underlying the Site. The wells were completed within the shallow zone of the upper aquifer (shallow zone).

The lithology encountered in the borings for the wells includes interbedded (laterally discontinuous) sands, silts, and clays. In the areas investigated, the unsaturated (vadose) zone was dominated by silty soils. The shallow zone groundwater beneath the stockpiles was encountered at approximately 35 feet (elevation approximately 50 feet) under unconfined to semi-confined conditions. Based on historical depth to water measurements from the Site, the groundwater flow direction in the shallow upper aquifer is generally toward the southeast with hydraulic gradients varying from 0.0006 to 0.001. The shallow aquifer conditions beneath the Site and the adjacent FMC site appear similar and representative of conditions in the local area.

JUNE 2014 FIELD ACTIVITIES

This section describes the field activities performed for the June 2014 monitoring event.

Depth to Groundwater Measurements

On June 4, 2014, prior to opening the wells, Geocon observed each of the ten well boxes for signs of potential tampering or required maintenance. No signs of tampering were observed nor was maintenance of the well boxes required. We measured the depth to groundwater and the dissolved oxygen (DO) levels and oxygen-reduction potential (ORP) in monitoring wells MW-1 through MW-10 using a battery-operated water level meter, a Hanna Model No. 9143 DO meter, and an Oakton ORP meter. Depth to water measurements were obtained from a surveyed reference point at the top of the well casings (TOC).

In June 2014, depth to groundwater at the Site ranged from 35.09 (MW-1) to 42.86 (MW-5) feet below TOC. Based on the groundwater elevation data, the groundwater flow is toward the south-southeast at an average gradient of 0.0008, which is generally consistent with historical flow. A summary of the TOC elevations, depth to groundwater measurements and groundwater elevations is on Table 1. Groundwater elevation contours, flow direction and gradient are depicted on Figure 3, Groundwater Elevation and Ionic Composition Map – June 2014. A gradient rose diagram depicting historical flow direction and gradient is included on Figure 3.

Well Purging and Sampling

On June 4 and 5, 2014, Geocon purged approximately one to three well volumes of water (0.5 to 4.5 gallons) from groundwater monitoring wells MW-1 through MW-10 using a submersible pump or disposable bailer. The pump was decontaminated before and after each use by washing in an Alconox™ solution followed by fresh and distilled water rinses. During the well purging activities, the groundwater was monitored for pH, electrical conductivity, temperature and turbidity. This information is included on the Monitoring Well Sampling Data sheets in Appendix A.

Following well purging, groundwater samples were collected from each of the wells using disposable bailers and decanted through slow emptying devices into laboratory-provided sample containers. The groundwater samples collected for dissolved metals analysis were filtered using a hand-pressure pump through a 0.45-micron filter while filling the container. The samples were sealed, labeled, placed in a chilled cooler and subsequently transported to the laboratory using chain-of-custody protocol.

Purged groundwater was placed into one Department of Transportation-approved, 17-H, 55-gallon drum and transported offsite to Geocon's Rancho Cordova office pending receipt of analytical results. The purge water will be disposed of at Inviro-Tec Disposal in Lincoln, California, in August 2014.

ANALYTICAL METHODS AND RESULTS

Laboratory Analysis

The groundwater samples were delivered to Advanced Technology Laboratories (ATL) for the following analyses under chain-of-custody protocol:

- Title 22 dissolved metals (including strontium) following United States Environmental Protection Agency (EPA) Test Methods 6020/7470;
- Dissolved calcium, magnesium, potassium and sodium by EPA Test Method 6020;
- Chloride, nitrate as nitrogen and sulfate by EPA Test Method 300.0;
- Sulfide by Standard Method (SM) 4500;
- TDS by SM 2540C; and
- Total alkalinity, bicarbonate alkalinity, carbonate alkalinity by SM 2320B.

Groundwater analytical results for this monitoring event are summarized on Tables 2 and 3. The laboratory reports and chain-of-custody documentation are in Appendix B.

Analytical Results

Dissolved Metals

Analytical results for dissolved metals along with their associated numeric water quality thresholds are summarized on Table 2. Plots of barium, lead and strontium concentrations vs. time are presented as Figures 4 through 6.

DTSC has identified barium, lead and strontium as the primary chemicals of concern in groundwater for the Site. For the June 2014 groundwater samples, barium and strontium were reported for each of the ten groundwater samples. Lead was not reported at concentrations equal to or greater than the respective practical quantitation limit (PQL) in samples from each well. The ranges of barium and strontium concentrations reported for the June sampling event are in the following table:

Dissolved Metal	High Concentration	Low Concentration	Numeric Water Quality Threshold
Barium (µg/l)	280 (MW-5)	51 (MW-3)	1,000 (1) /700 (2)
Strontium (µg/l)	1,100 (MW-1)	250 (MW-8)	4,000 (2)

(1) = California Department of Public Health Primary MCL for Drinking Water
(2) = EPA Drinking Water Health Advisory
(3) = California Department of Public Health Regulatory Action Level
µg/l = Micrograms per liter

Antimony, beryllium, cadmium, cobalt, manganese, silver, thallium and mercury were not reported at concentrations equal to or greater than their respective PQLs in samples from each well. As shown in the following table, the dissolved metals arsenic, chromium, and vanadium were reported for each of the samples collected with the following ranges:

Dissolved Metal	High Concentration	Low Concentration	Numeric Water Quality Threshold
Arsenic (µg/l)	4.5 (MW-3)	1.1 (MW-1)	10 (1)
Chromium (µg/l)	8.3 (MW-6)	1.6 (MW-10)	50 (1)
Vanadium (µg/l)	34 (MW-6)	19 (MW-1, MW-4 and MW-5)	50 (2)

(1) = California Department of Public Health Primary Maximum Contaminant Level for Drinking Water
(2) = California Department of Public Health Notification Level for Drinking Water
(3) = California Department of Public Health Secondary Maximum Contaminant Level (taste and odor)
(4) = EPA Drinking Water Health Advisory

Although concentrations of arsenic, barium, chromium, strontium, and vanadium were reported for the samples collected from each well, none of the reported concentrations exceed their respective numeric water quality thresholds for drinking water.

Molybdenum and nickel were reported for eight of the ten samples collected, copper was reported for five of the ten samples collected, selenium was reported for three of the ten samples collected, and zinc was reported for one of the ten samples collected. The following table summarizes the dissolved copper, molybdenum, nickel, selenium, and zinc concentrations reported for the listed samples:

Dissolved Metal	High Concentration	Low Concentration	Numeric Water Quality Threshold
Copper (µg/l)	1.3 (MW-10)	1.1 (MW-1 and MW-7)	1,000 (2)/ 1,300 (4)
Molybdenum(µg/l)	5.0 (MW-6)	0.51 (MW-10)	---
Nickel (µg/l)	3.6 (MW-10)	1.1 (MW-6)	100 (1)
Selenium (µg/l)	0.82 (MW-10)	0.53 (MW-9)	50 (1)
Zinc	90 (MW-4)	90 (MW-4)	5,000 (3)/2,000 (4)

(1) = California Department of Public Health Primary Maximum Contaminant Level for Drinking Water
(2) = California Department of Public Health Secondary Maximum Contaminant Level (taste and odor)
(3) = EPA Drinking Water Health Advisory
(4) = California Department of Public Health Regulatory Action Level

Although concentrations of copper, molybdenum, nickel, selenium, and zinc were reported for the samples collected from site monitoring wells, none of the reported concentrations exceed their respective numeric water quality thresholds for drinking water.

General Minerals/Stiff Diagrams

To further characterize the geochemistry of the groundwater, general minerals analyses were conducted and included the following constituents:

- dissolved calcium
- dissolved magnesium
- chloride
- nitrate as nitrogen
- sulfate
- dissolved potassium
- dissolved sodium
- sulfide
- total alkalinity
- TDS

General groundwater chemistry provides information regarding the origin and geochemical nature of the groundwater sampled. The analytical results for the major cation (dissolved sodium, potassium, calcium and magnesium) and anion species (chloride, bicarbonate alkalinity reported as calcium carbonate, and sulfate) were used to create Stiff diagrams. Stiff diagrams provide a graphical display of ionic content and can be used to characterize and evaluate the relative composition of groundwater and its consistency or

variability. Groundwater with different cation/anion concentrations will result in Stiff diagrams of different shapes and sizes. Stiff diagrams can also help to illustrate mixing of water with different compositions or origins. The presence of more than one water type can be an indication of influences due to hydrogeologic variation or from other sources including man-made impacts.

Appendix C contains Stiff diagrams constructed using site groundwater data for June 2014. The diagrams show that groundwater sampled in each monitoring well is bicarbonate (HCO_3) dominant. However, variations in the sodium and potassium (Na+K) and calcium composition are readily apparent. The variations are seen primarily in the sodium content with the potassium concentrations being less variable. In June 2014, the samples from wells MW-1, MW-2, MW-4, MW-7, MW-9, and MW-10 had a calcium-dominant composition while the samples from wells MW-3, MW-5, MW-6, and MW-8 were sodium-dominant.

Nitrate as nitrogen and TDS were both reported for each of the groundwater samples, with nitrate as nitrogen concentrations ranging from 2.6 (MW-3) to 29 mg/l (MW-5) and TDS concentrations ranging from 320 (MW-3) to 680 mg/l (MW-5). The reported nitrate concentrations for samples from MW-1, MW-5, MW-6, MW-9 and MW-10 equal or exceed the primary MCL for nitrate of 10 mg/l, and the reported TDS concentrations for samples from MW-1, MW-4, MW-5, MW-6, and MW-10 exceed the secondary MCL for TDS of 500 mg/l. Noteworthy is that MW-1 is an upgradient monitoring well; thus, the reported nitrate of 15 mg/l may be indicative of natural background nitrate concentrations for the shallow groundwater in the vicinity of the Site. Sulfide was reported for samples collected from wells MW-1, MW-8, and MW-10 at respective concentrations of 0.12, 0.017, and 0.023 mg/l.

The analytical results for general minerals are summarized on Table 3.

Laboratory Quality Assurance/Quality Control

Geocon reviewed the analytical laboratory quality assurance/quality control (QA/QC) provided with the laboratory report. The laboratory data show that the method blank surrogate recoveries are acceptable and that concentrations of selected analytes were not reported at concentrations equal to or greater than their respective PQLs for each method blank for each analysis. Appropriate recoveries were noted for each laboratory control sample for each analysis. Several matrix spike/matrix spike duplicate (MS/MSD) analytes had recoveries or relative percent differences outside of laboratory control limits; however, the sample results were validated by the laboratory control samples. No qualification of the data is necessary, and the data are considered of sufficient quality for the purposes of this report.

GeoTracker Submittal

The laboratory prepared electronic data files for submittal to the State Water Resources Control Board GeoTracker database. The GeoTracker database is accessible via the GeoTracker website at http://geotracker.waterboards.ca.gov. The electronic data was uploaded to GeoTracker on June 17, 2014. The confirmation numbers are 7793496310, 8765352368 and 2107780218.

CONCLUSIONS AND RECOMMENDATIONS

None of the reported dissolved metals concentrations for the groundwater samples collected in June 2014 exceeded their respective numeric water quality threshold values.

With the exception of nitrate in the samples collected from wells MW-1, MW-5, MW-6, MW-9, and MW-10, none of the reported general minerals for the groundwater samples collected in June 2014 equaled or exceeded their respective California primary MCLs. TDS was reported at concentrations exceeding the secondary MCL of 500 mg/l for the samples collected from wells MW-1, MW-4, MW-5, MW-6, and MW-10.

Barium and strontium were reported for the June 2014 groundwater samples at concentrations similar to historical levels and remained significantly less than their numeric water quality thresholds. The remaining dissolved metals were also reported at concentrations similar to historical levels.

Stiff diagrams for the 2012 through June2014 groundwater sampling events show that very slight changes in ionic content have occurred since groundwater sampling resumed at the Site in March 2012. Water samples from wells MW-1, MW-2, MW-4, MW-7, MW-9, and MW-10 have consistently been reported as calcium-dominant, and those from wells MW-3, MW-5, MW-6, and MW-8 as sodium-dominant. Water samples from well MW-5 switched from calcium-dominant to sodium-dominant in 2013. This may be indicative of a mixing of different water types at this location. Groundwater monitoring is currently performed quarterly, with the next monitoring event scheduled for September 2014.

We appreciate the opportunity to provide our services on this project. Please contact us if you have any questions concerning the contents of this Report or if we may be of further service.

Sincerely,

GEOCON CONSULTANTS, INC.

Rebecca L. Silva
Project Manager

John E. Juhrend, PE, CEG
Principal/Senior Engineer

REGISTERED PROFESSIONAL ENGINEER
JOHN JUHREND
No. 46681
CIVIL
STATE OF CALIFORNIA

(1) Addressee
(1) Caltrans, Sam Haack
(1) DTSC, Randy Adams
(1) CVRWQCB, Steve Meeks

Attachments:

Figure 1, Vicinity Map
Figure 2, Site Plan
Figure 3, Groundwater Elevation and Ionic Composition Map – June 2014
Figure 4, Barium Concentrations vs. Time
Figure 5, Lead Concentrations vs. Time
Figure 6, Strontium Concentrations vs. Time

Table 1, Groundwater Elevation Data
Table 2, Summary of Groundwater Analytical Results – Title 22 Metals (Dissolved)
Table 3, Summary of Groundwater Analytical Results – General Minerals and PAHs
Table 4, Well Construction Details

Appendix A, Monitoring Well Sampling Data Sheets
Appendix B, Laboratory Reports and Chain-of-custody Documentation
Appendix C, Stiff Diagrams

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Caltrans Modesto Soil Stockpiles

Stanislaus County, California

GEOCON Proj. No. S9800-01-17

Task Order No. 17

VICINITY MAP

August 2014

Figure 1

LEGEND:

MW8 Approximate Monitoring Well Location

State Right-of-Way Boundary

N

0 300

Scale in Feet

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Stanislaus County, California

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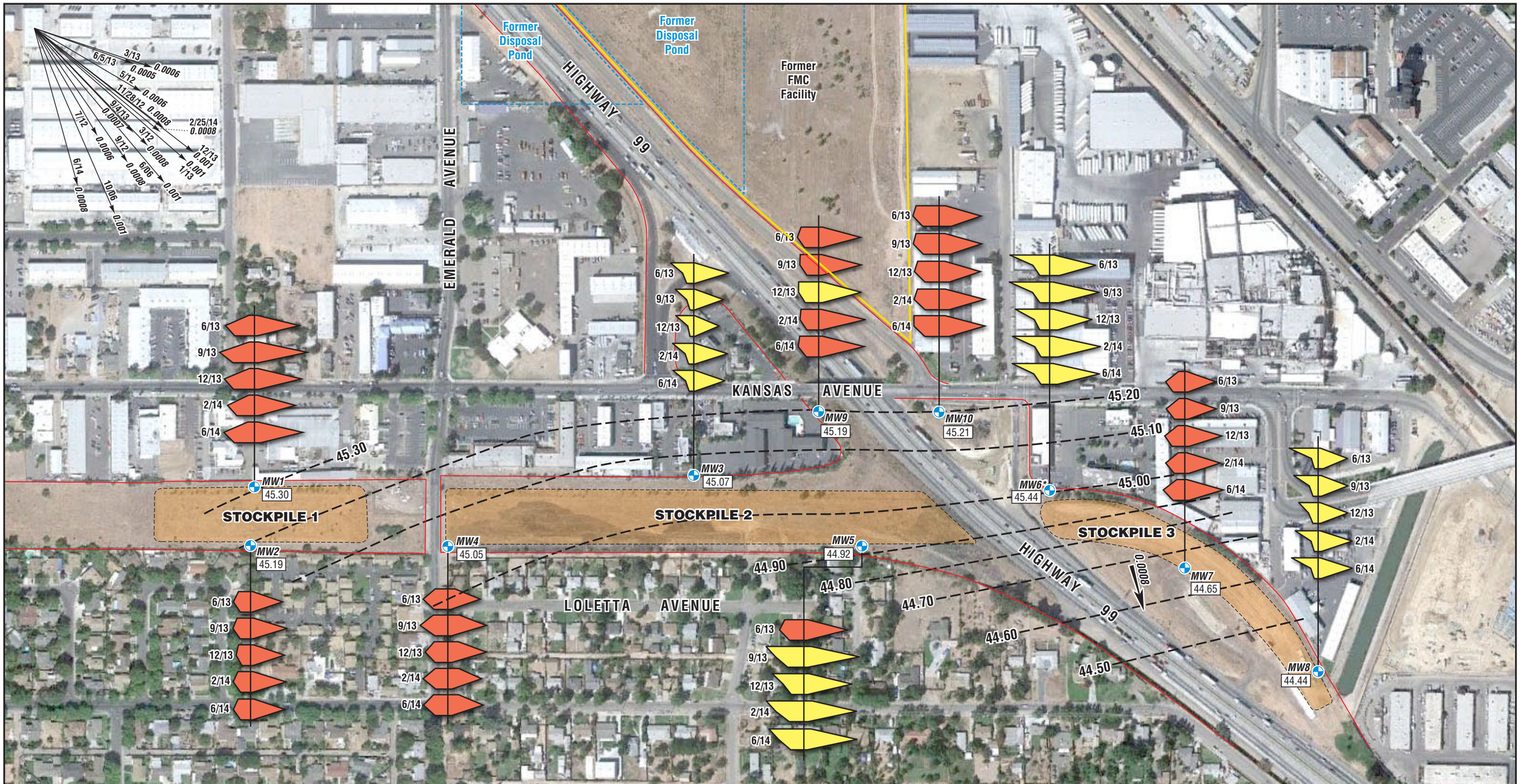
SITE PLAN

Task Order No. 17 | August 2014 | Figure 2



LEGEND:

- MW8 Approximate Monitoring Well Location
- State Right-of-Way Boundary
- Groundwater Elevation Contour (Interval = 0.10 Ft.)
- 45.19 MSL Elevation of Groundwater Measured on 6/4/14
- 0.0008 Approximate Groundwater Direction & Gradient
- * MW-6 Not Used to Calculate Gradient

STIFF DIAGRAMS:

Sample Date

- 6/14 Calcium Dominant
- 6/14 Sodium Dominant

N

0 300
Scale in Feet

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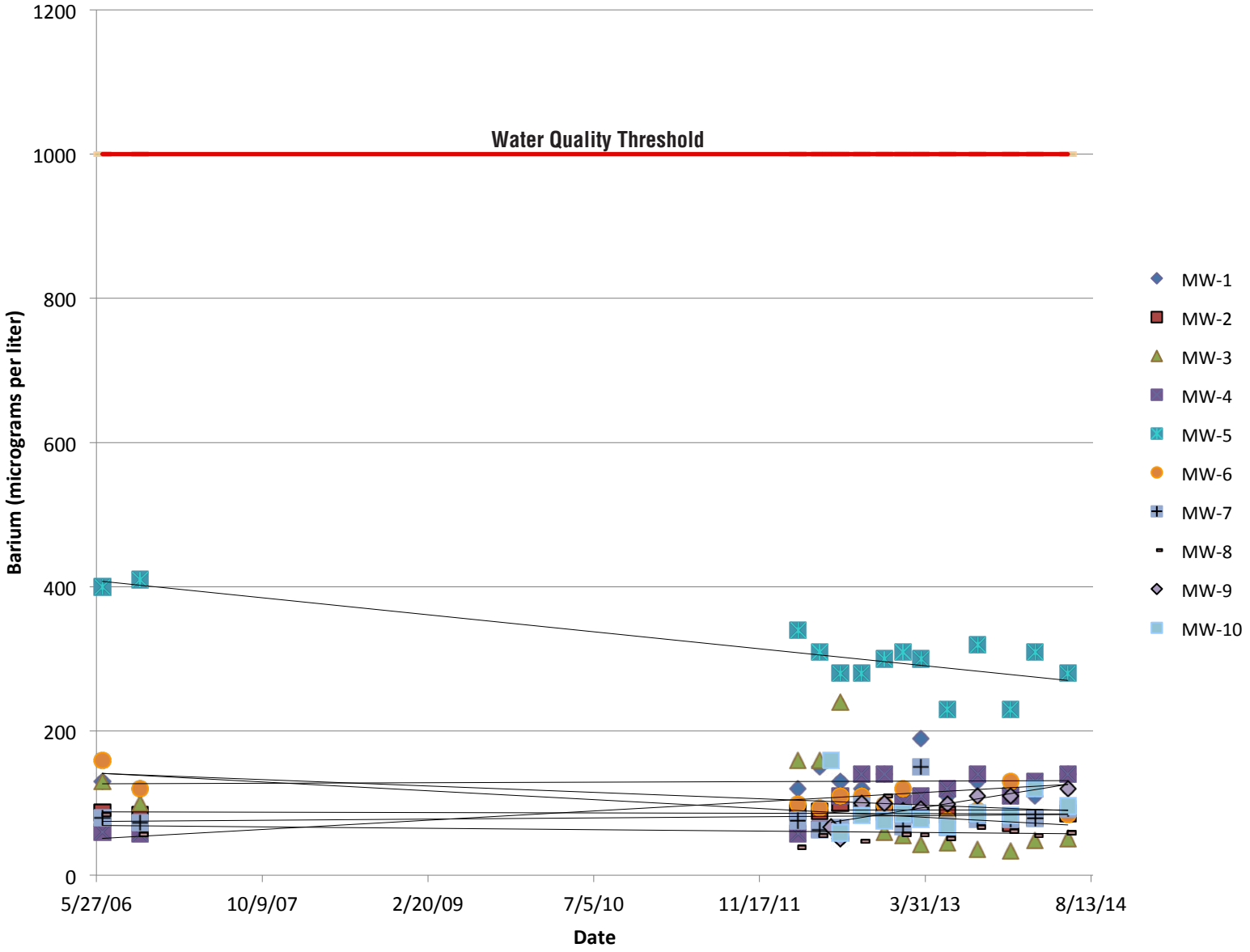
Caltrans Modesto Soil Stockpiles

Stanislaus County, California	**Groundwater Elevation and Ionic Composition Map – June 2014**
GEOCON Proj. No. S9800-01-17	
Task Order No. 17	August 2014 — Figure 3



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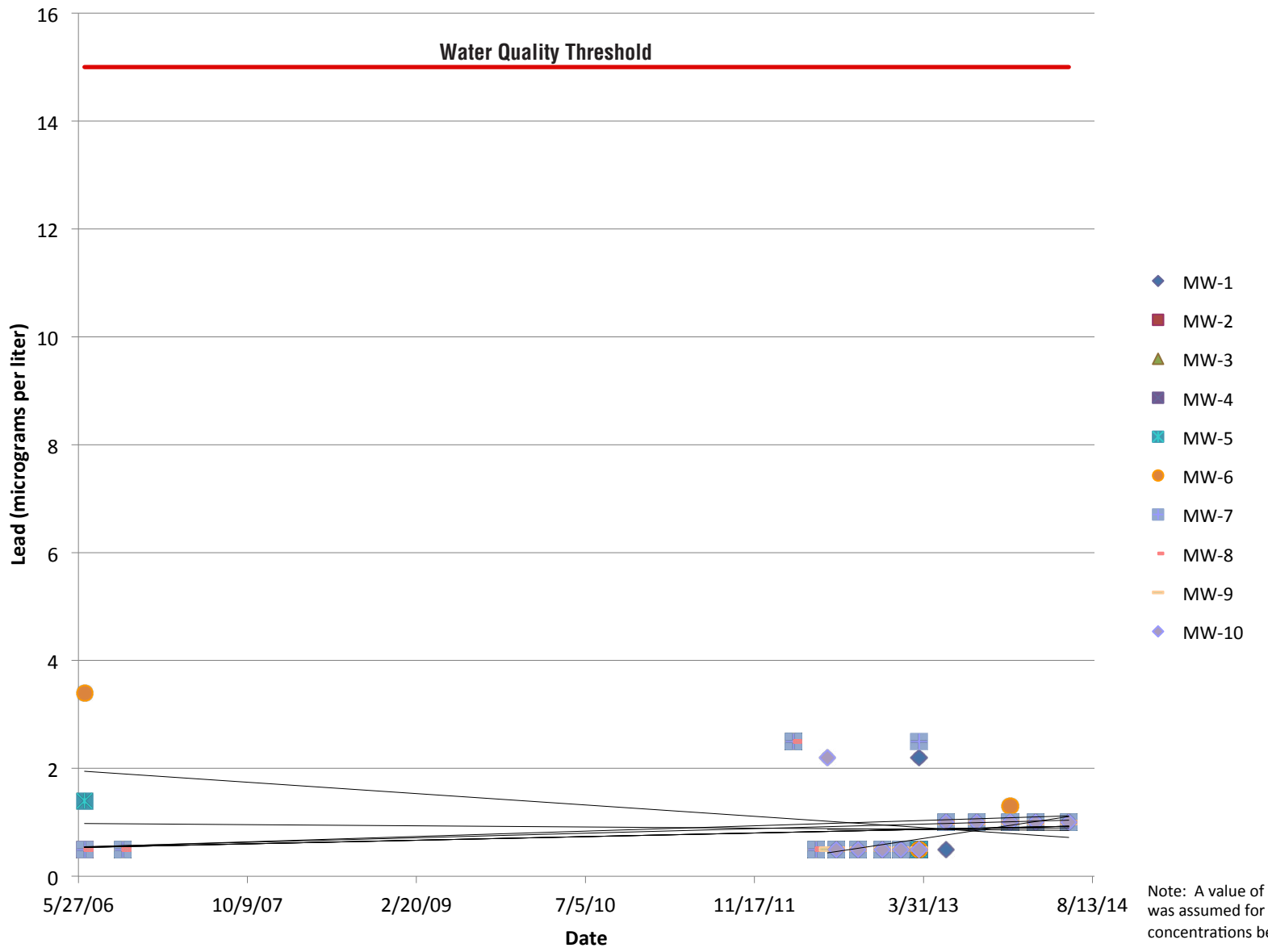
Barium Concentrations Vs. Time

Caltrans Modesto Soil Stockpiles		
GEOCON Proj. No. S9800-01-17	Stanislaus County, California	
Task Order No. 17	August 2014	Figure 4



Note: A value of one-half of the PQL was assumed for samples reported with concentrations below their PQL.

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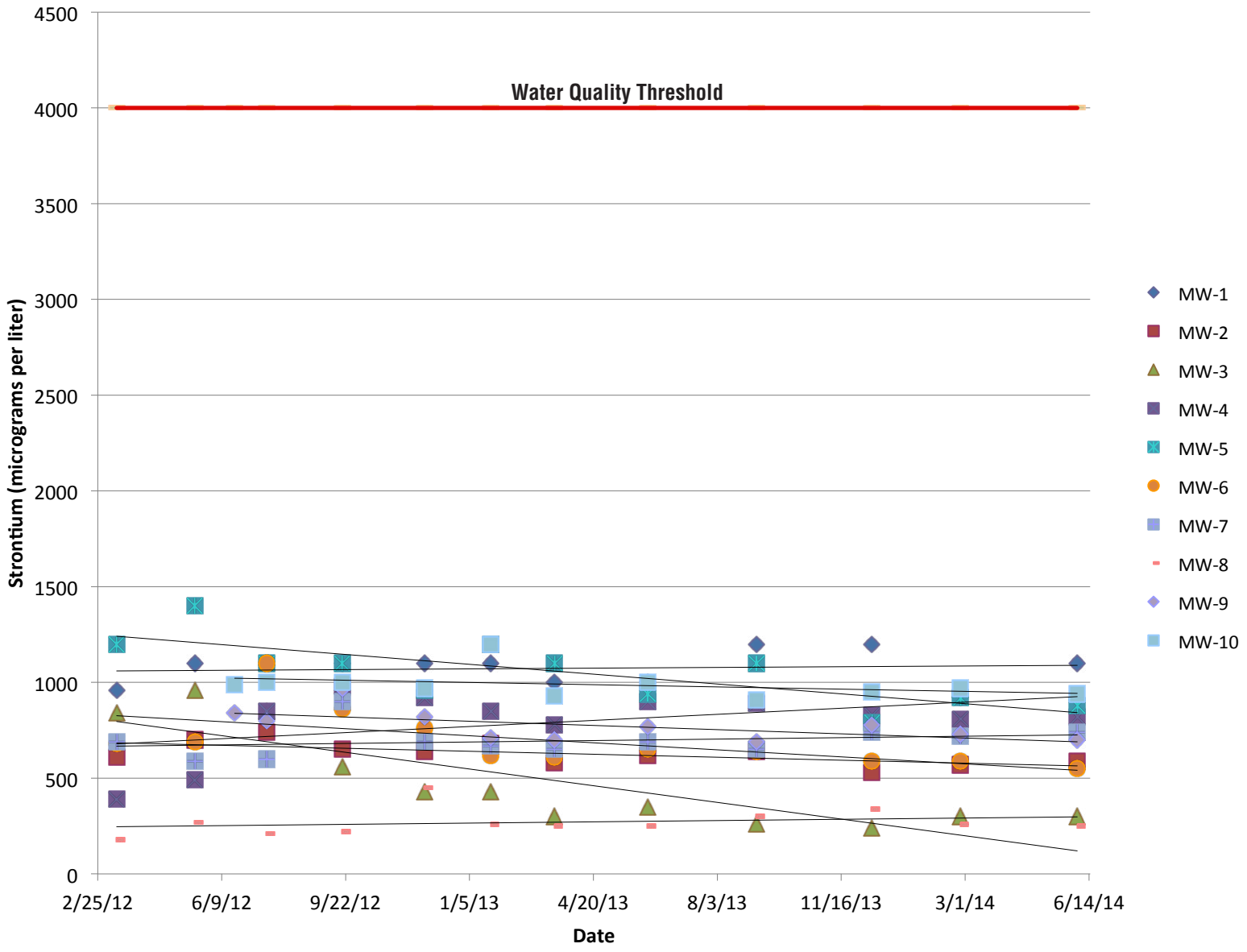
Lead Concentrations Vs. Time

Caltrans Modesto Soil Stockpiles		
GEOCON Proj. No. S9800-01-17	Stanislaus County, California	
Task Order No. 17	August 2014	Figure 5



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Strontium Concentrations Vs. Time

Caltrans Modesto Soil Stockpiles		
GEOCON Proj. No. S9800-01-17	Stanislaus County, California	
Task Order No. 17	August 2014	Figure 6

TABLE 1
GROUNDWATER ELEVATION DATA
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

WELL ID	DATE	WELL CASING ELEVATION (feet MSL)	DEPTH TO GROUNDWATER (feet below TOC)	GROUNDWATER ELEVATION (feet MSL)
MW-1	6/14/2006	80.26	29.82	50.44
MW-1	10/5/2006	80.26	32.35	47.91
MW-1	3/12/2012	80.26	30.12	50.14
MW-1	5/17/2012	80.26	29.74	50.52
MW-1	7/17/2012	80.39	31.34	49.05
MW-1	9/19/2012	80.39	32.73	47.66
MW-1	11/28/2012	80.39	32.28	48.11
MW-1	1/22/2013	80.39	31.04	49.35
MW-1	3/18/2013	80.39	31.15	49.24
MW-1	6/5/2013	80.39	31.73	48.66
MW-1	9/4/2013	80.39	33.74	46.65
MW-1	12/11/2013	80.39	33.46	46.93
MW-1	2/25/2014	80.39	33.40	46.99
MW-1	6/4/2014	80.39	35.09	45.30
MW-2	6/13/2006	81.10	30.72	50.38
MW-2	10/5/2006	81.10	33.35	47.75
MW-2	3/12/2012	81.10	31.04	50.06
MW-2	5/17/2012	81.10	30.69	50.41
MW-2	7/17/2012	81.25	33.28	47.97
MW-2	9/19/2012	81.25	33.70	47.55
MW-2	11/28/2012	81.25	33.22	48.03
MW-2	1/22/2013	81.25	31.97	49.28
MW-2	3/18/2013	81.25	32.07	49.18
MW-2	6/5/2013	81.25	32.67	48.58
MW-2	9/4/2013	81.25	34.71	46.54
MW-2	12/11/2013	81.25	34.37	46.88
MW-2	2/25/2014	81.25	34.31	46.94
MW-2	6/4/2014	81.25	36.06	45.19
MW-3	6/13/2006	81.76	32.38	49.38
MW-3	10/5/2006	81.76	34.88	46.88
MW-3	3/12/2012	81.76	32.35	49.41
MW-3	5/17/2012	81.76	31.91	49.85
MW-3	7/17/2012	81.82	33.45	48.37
MW-3	9/19/2012	81.82	34.89	46.93
MW-3	11/28/2012	81.82	34.69	47.13

TABLE 1
GROUNDWATER ELEVATION DATA
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

WELL ID	DATE	WELL CASING ELEVATION (feet MSL)	DEPTH TO GROUNDWATER (feet below TOC)	GROUNDWATER ELEVATION (feet MSL)
MW-3	1/22/2013	81.82	33.43	48.39
MW-3	3/18/2013	81.82	33.42	48.40
MW-3	6/5/2013	81.82	33.83	47.99
MW-3	9/4/2013	81.82	35.77	46.05
MW-3	12/11/2013	81.82	35.93	45.89
MW-3	2/25/2014	81.82	35.62	46.20
MW-3	6/4/2014	81.82	36.75	45.07
MW-4	6/13/2006	82.36	32.39	49.97
MW-4	10/4/2006	82.36	35.05	47.31
MW-4	3/12/2012	82.36	32.60	49.76
MW-4	5/17/2012	82.36	32.20	50.16
MW-4	7/17/2012	82.47	33.86	48.61
MW-4	9/19/2012	82.47	35.28	47.19
MW-4	11/28/2012	82.47	34.84	47.63
MW-4	1/22/2013	82.47	33.60	48.87
MW-4	3/18/2013	82.47	33.65	48.82
MW-4	6/5/2013	82.47	34.20	48.27
MW-4	9/4/2013	82.47	36.23	46.24
MW-4	12/11/2013	82.47	36.05	46.42
MW-4	2/25/2014	82.47	35.88	46.59
MW-4	6/4/2014	82.47	37.42	45.05
MW-5	6/14/2006	87.73	38.79	48.94
MW-5	10/5/2006	87.73	41.40	46.33
MW-5	3/12/2012	87.73	38.74	48.99
MW-5	5/17/2012	87.73	38.25	49.48
MW-5	7/17/2012	87.78	39.74	48.04
MW-5	9/19/2012	87.78	41.19	46.59
MW-5	11/28/2012	87.78	41.18	46.60
MW-5	1/22/2013	87.78	40.02	47.76
MW-5	3/18/2013	87.78	39.62	48.16
MW-5	6/5/2013	87.78	40.11	47.67
MW-5	9/4/2013	87.78	42.05	45.73
MW-5	12/11/2013	87.78	42.46	45.32
MW-5	2/25/2014	87.78	42.04	45.74
MW-5	6/4/2014	87.78	42.86	44.92

TABLE 1
GROUNDWATER ELEVATION DATA
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

WELL ID	DATE	WELL CASING ELEVATION (feet MSL)	DEPTH TO GROUNDWATER (feet below TOC)	GROUNDWATER ELEVATION (feet MSL)
MW-6	6/14/2006	84.37	36.35	48.02
MW-6	10/5/2006	84.37	38.55	45.82
MW-6	3/12/2012	84.37	35.70	48.67
MW-6	5/17/2012	84.37	35.18	49.19
MW-6	7/17/2012	84.52	36.40	48.12
MW-6	9/19/2012	84.52	37.99	46.53
MW-6	11/28/2012	84.52	38.19	46.33
MW-6	1/22/2013	84.52	37.07	47.45
MW-6	3/18/2013	84.52	36.78	47.74
MW-6	6/5/2013	84.52	36.94	47.58
MW-6	9/4/2013	84.52	38.86	45.66
MW-6	12/11/2013	84.52	39.01	45.51
MW-6	2/25/2014	84.52	38.49	46.03
MW-6	6/4/2014	84.52	39.08	45.44
MW-7	6/14/2006	83.64	35.59	48.05
MW-7	10/4/2006	83.64	38.32	45.32
MW-7	3/12/2012	83.64	35.31	48.33
MW-7	5/17/2012	83.64	34.72	48.92
MW-7	7/17/2012	83.74	36.00	47.74
MW-7	9/19/2012	83.74	37.60	46.14
MW-7	11/28/2012	83.74	37.35	46.39
MW-7	1/22/2013	83.74	36.78	46.96
MW-7	3/18/2013	83.74	36.42	47.32
MW-7	6/5/2013	83.74	36.49	47.25
MW-7	9/4/2013	83.74	38.53	45.21
MW-7	12/11/2013	83.74	39.21	44.53
MW-7	2/25/2014	83.74	38.60	45.14
MW-7	6/4/2014	83.74	39.09	44.65
MW-8	6/14/2006	83.73	36.12	47.61
MW-8	10/4/2006	83.73	38.95	44.78
MW-8	3/12/2012	83.73	35.75	47.98
MW-8	5/17/2012	83.73	35.11	48.62
MW-8	7/17/2012	83.85	36.29	47.56
MW-8	9/19/2012	83.85	38.04	45.81

TABLE 1
GROUNDWATER ELEVATION DATA
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

WELL ID	DATE	WELL CASING ELEVATION (feet MSL)	DEPTH TO GROUNDWATER (feet below TOC)	GROUNDWATER ELEVATION (feet MSL)
MW-8	11/28/2012	83.85	38.37	45.48
MW-8	1/22/2013	83.85	37.35	46.50
MW-8	3/18/2013	83.85	36.90	46.95
MW-8	6/5/2013	83.85	36.85	47.00
MW-8	9/4/2013	83.85	39.08	44.77
MW-8	12/11/2013	83.85	39.77	44.08
MW-8	2/25/2014	83.85	39.07	44.78
MW-8	6/4/2014	83.85	39.41	44.44
MW-9	6/18/2012	82.53	33.67	48.86
MW-9	7/17/2012	82.53	34.22	48.31
MW-9	9/19/2012	82.53	35.64	46.89
MW-9	11/28/2012	82.53	35.65	46.88
MW-9	1/22/2013	82.53	34.35	48.18
MW-9	3/18/2013	82.53	34.29	48.24
MW-9	6/5/2013	82.53	34.62	47.91
MW-9	9/4/2013	82.53	36.48	46.05
MW-9	12/11/2013	82.53	36.90	45.63
MW-9	2/25/2014	82.53	36.51	46.02
MW-9	6/4/2014	82.53	37.34	45.19
MW-10	6/18/2012	83.97	35.18	48.79
MW-10	7/17/2012	83.97	35.75	48.22
MW-10	9/19/2012	83.97	37.18	46.79
MW-10	11/28/2012	83.97	37.34	46.63
MW-10	1/22/2013	83.97	36.13	47.84
MW-10	3/18/2013	83.97	35.97	48.00
MW-10	6/5/2013	83.97	36.17	47.80
MW-10	9/4/2013	83.97	38.00	45.97

TABLE 1

GROUNDWATER ELEVATION DATA

CALTRANS MODESTO SOIL STOCKPILES

STANISLAUS COUNTY, CALIFORNIA

WELL ID	DATE	WELL CASING ELEVATION (feet MSL)	DEPTH TO GROUNDWATER (feet below TOC)	GROUNDWATER ELEVATION (feet MSL)
MW-10	12/11/2013	83.97	38.64	45.33
MW-10	2/25/2014	83.97	38.18	45.79
MW-10	6/4/2014	83.97	38.76	45.21

Notes:

MSL = Mean sea level

TOC = Top of well casing

Data prior to 3/12/2012 reproduced from *Site Investigation Report, Groundwater Assessment, Caltrans Modesto Soil Stockpiles State Route 99/132 Project, Stanislaus County, California,* Shaw Environmental, Inc., May 14, 2007.

Wells resurveyed by Morrow Surveying on June 18, 2012.

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - TITLE 22 METALS (DISSOLVED)
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

ANALYTE		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Strontium	Mercury
SAMPLE ID	SAMPLE DATE	Results in micrograms per liter																		
MW-1	6/14/2006	<1.0	**2.1**	**130**	<1.0	<1.0	**10**	<1.0	**1.1**	<1.0	**34**	**2.9**	**2.9**	<1.0	<1.0	<1.0	23	<10	---	<0.2
MW-1	10/5/2006	<1.0	**2.2**	**120**	<1.0	<1.0	**16**	<1.0	**2.0**	<1.0	<1.0	<2.0	**1.5**	<1.0	<1.0	<1.0	26	<10	---	<0.2
MW-1	3/12/2012	<2.5	<5.0	**120**	<5.0	<2.5	**6.4**	<2.5	<5.0	<5.0	<50	<2.5	<5.0	<2.5	<2.5	<2.5	**22**	<50	**960**	**0.41**
MW-1	*3/12/2012 S*	*<10*	***1.6***	***105***	*<5.0*	***0.6***	***6.8***	*<5.0*	***3.4***	*--- [2]*	***2.0***	***1.3***	*<5.0*	*<20*	*<5.0*	*<20*	***21.2***	***5.6***	***1,010***	---
MW-1	5/17/2012	<0.50	**2.3**	**150**	<0.50	<0.50	**7.0**	**1.0**	**2.5**	<1.0	**35**	**1.3**	**4.0**	**0.62**	<0.50	<0.50	**21**	<10	**1,100**	<0.20
MW-1	7/16/2012	**0.51**	**2.2**	**130**	<0.50	<0.50	**7.2**	<0.50	**1.4**	<1.0	<10	**0.73**	**3.7**	**0.60**	<0.50	<0.50	**20**	<10	**1,100**	<0.20
MW-1	9/19/2012	<0.50	**2.1**	**120**	<0.50	<0.50	**7.0**	<0.50	<1.0	<1.0	<10	**0.53**	**2.7**	**0.56**	<0.50	<0.50	**18**	<10	**1,100**	<0.20
MW-1	11/28/2012	<0.50	**2.2**	**140**	<0.50	<0.50	**5.1**	<0.50	<1.0	<1.0	<10	**0.58**	**1.9**	**0.61**	<0.50	<0.50	**18**	<10	**1,100**	<0.20
MW-1	1/22/2013	<0.50	**2.0**	**110**	<0.50	<0.50	**6.0**	<0.50	**1.4**	<1.0	**12**	**0.63**	**3.2**	<0.50	<0.50	<0.50	**17**	**23**	**1,100**	<0.20
MW-1	3/18/2013	<0.50	**3.3**	**190**	<2.5	<0.50	**12**	**3.9**	**6.7**	**2.2**	**160**	**0.89**	**8.8**	<0.50	<0.50	<0.50	**34**	**77**	**1,000**	<0.20
MW-1	6/5/2013	<0.50	**2.2**	**110**	<0.50	<0.50	**6.9**	<0.50	<1.0	<1.0	<10	**0.60**	**2.1**	<0.50	<0.50	<0.50	**20**	<10	**1,000**	<0.20
MW-1	9/4/2013	<0.50	**2.4**	**130**	<0.50	<0.50	**7.3**	<0.50	<1.0	<1.0	<10	**0.53**	**2.7**	<0.50	<0.50	<0.50	**19**	**13**	**1,200**	<0.20
MW-1	12/11/2013	<0.50	**1.8**	**120**	<0.50	<0.50	**5.7**	<0.50	<1.0	<1.0	<10	**0.59**	**2.6**	<0.50	<0.50	<0.50	**18**	<10	**1,200**	<0.20
MW-1	2/25/2014	<0.50	**1.9**	**110**	<1.0	<0.50	**5.2**	<0.50	<1.0	<1.0	<10	**0.61**	**2.4**	<0.50	<0.50	<0.50	**18**	<10	**920**	<0.20
MW-1	6/4/2014	<0.50	**1.1**	**140**	<0.50	<0.50	**5.6**	<0.50	**1.1**	<1.0	<10	**0.63**	**2.3**	<0.50	<0.50	<0.50	**19**	<10	**1,100**	<0.20
MW-2	6/13/2006	<1.0	**2.1**	**87**	<1.0	<1.0	**8.5**	<1.0	**1.2 U**	<1.0	**24**	**3.3**	**2.0**	**1.3**	<1.0	<1.0	**22**	<10	---	<0.2
MW-2	10/5/2006	<1.0	**2.6**	**84**	<1.0	<1.0	**11**	<1.0	**1.7**	<1.0	<1.0	<2.0	**1.2**	<1.0	<1.0	<1.0	**27**	<10	---	<0.2
MW-2	3/12/2012	<2.5	<5.0	**88**	<5.0	<2.5	**4.7**	<2.5	<5.0	<5.0	<50	<2.5	<5.0	<2.5	<2.5	<2.5	**23**	<50	**610**	**0.28**
MW-2	*3/12/2012 S*	*<10*	*<10*	***89.6***	*<5.0*	***0.4***	***6.1***	*<5.0*	*<5.0*	*--- [2]*	***1.4***	***1.4***	*<5.0*	*<20*	*<5.0*	***4.6***	***23.1***	***3.7***	***642***	---
MW-2	5/17/2012	<0.50	**2.6**	**89**	<0.50	<0.50	**6.6**	<0.50	**1.5**	<1.0	<10	**1.2**	**1.9**	<0.50	<0.50	<0.50	**20**	<10	**700**	<0.20
MW-2	7/16/2012	<0.50	**3.1**	**100**	<0.50	<0.50	**5.8**	<0.50	<1.0	<1.0	<10	**1.2**	**3.5**	<0.50	<0.50	<0.50	**25**	**49**	**740**	<0.20
MW-2	9/19/2012	<0.50	**2.5**	**88**	<0.50	<0.50	**5.5**	<0.50	<1.0	<1.0	<10	**1.3**	**2.1**	<0.50	<0.50	<0.50	**22**	<10	**650**	<0.20
MW-2	11/28/2012	<0.50	**2.6**	**88**	<0.50	<0.50	**4.0**	<0.50	<1.0	<1.0	<10	**0.95**	**1.4**	<0.50	<0.50	<0.50	**21**	<10	**640**	<0.20
MW-2	1/22/2013	<0.50	**2.7**	**87**	<0.50	<0.50	**4.5**	<0.50	<1.0	<1.0	<10	**1.1**	**1.8**	<0.50	<0.50	<0.50	**19**	<10	**680**	<0.20
MW-2	3/18/2013	<0.50	**2.6**	**83**	<1.0	<0.50	**5.7**	<0.50	<1.0	<1.0	<10	**0.86**	**2.0**	<0.50	<0.50	<0.50	**21**	<10	**580**	<0.20
MW-2	6/5/2013	<0.50	**2.5**	**84**	<0.50	<0.50	**5.4**	**0.56**	**1.5**	<1.0	**17**	**0.95**	**3.6**	**0.56**	<0.50	<0.50	**22**	<10	**620**	<0.20
MW-2	9/4/2013	<0.50	**3.2**	**85**	<0.50	<0.50	**5.4**	<0.50	<1.0	<1.0	<10	**0.98**	**2.5**	<0.50	<0.50	<0.50	**23**	<10	**640**	<0.20
MW-2	12/11/2013	<0.50	**2.2**	**72**	<0.50	<0.50	**4.4**	<1.0	<2.0	<1.0	<20	**0.90**	**3.0**	<0.50	<0.50	<0.50	**22**	<10	**530**	<0.20
MW-2	2/25/2014	<0.50	**2.5**	**80**	<1.0	<0.50	**4.2**	<1.0	**1.3**	<1.0	<10	**1.0**	**1.5**	<0.50	<0.50	<0.50	**22**	<10	**570**	<0.20
MW-2	6/4/2014	<0.50	**1.9**	**86**	<0.50	<0.50	**5.3**	<0.50	<1.0	<1.0	<10	**1.1**	**1.4**	<0.50	<0.50	<0.50	**22**	<10	**590**	<0.20

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - TITLE 22 METALS (DISSOLVED)
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

ANALYTE		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Strontium	Mercury
SAMPLE ID	SAMPLE DATE	Results in micrograms per liter																		
MW-3	6/13/2006	<1.0	**3.0**	**60**	<1.0	<1.0	**7.1**	<1.0	**1 U**	<1.0	**4.7**	<2.0	**1.4**	**1.4**	<1.0	<1.0	**25**	<10	---	<0.2
MW-3	10/5/2006	<1.0	**3.3**	**58**	<1.0	<1.0	**7.9**	<1.0	**1.5**	<1.0	**18**	**2.2**	<1.0	<1.0	<1.0	<1.0	**29**	<10	---	<0.2
MW-3	3/12/2012	<2.5	<5.0	**58**	<5.0	<2.5	**4.4**	<2.5	<5.0	<5.0	<50	<2.5	<5.0	<2.5	<2.5	<2.5	**28**	<50	**390**	<0.20
MW-3	*3/12/2012 S*	*<10*	***2.1***	***44.4***	***0.1***	***0.3***	***4.0***	*<5.0*	***1.5***	***--- [2]***	***1.8***	***0.9***	*<5.0*	*<20*	*<5.0*	*<20*	***22.6***	***4.5***	***342***	---
MW-3	5/17/2012	<0.50	**3.8**	**64**	<0.50	<0.50	**3.7**	<0.50	<1.0	<1.0	<10	**1.4**	**1.1**	<0.50	<0.50	<0.50	**26**	<10	**490**	<0.20
MW-3	7/16/2012	<0.50	**2.2**	**240**	<0.50	<0.50	**6.5**	<0.50	5.2	<1.0	<10	**0.6**	4.3	**<0.50**	<0.50	<0.50	**18**	48	**840**	<0.20
MW-3	9/19/2012	<0.50	**4.6**	**84**	<0.50	<0.50	**4.7**	**1.3**	**1.9**	<1.0	**74**	**1.1**	**2.8**	<0.50	<0.50	<0.50	**33**	<10	**560**	<0.20
MW-3	11/28/2012	<0.50	**4.6**	**60**	<0.50	<0.50	**3.5**	<0.50	<1.0	<1.0	<10	**1.5**	<1.0	<0.50	<0.50	<0.50	**29**	<10	**430**	<0.20
MW-3	1/22/2013	<0.50	**5.5**	**55**	<0.50	<0.50	**3.5**	<0.50	<1.0	<1.0	<10	**2.0**	<1.0	<0.50	<0.50	<0.50	**31**	**29**	**430**	<0.20
MW-3	3/18/2013	<0.50	**5.2**	**43**	<1.0	<0.50	**3.8**	<0.50	<1.0	<1.0	<10	**1.8**	<1.0	<0.50	<0.50	<0.50	**33**	<10	**300**	<0.20
MW-3	6/6/2013	<0.50	**4.8**	**45**	<0.50	<0.50	**3.6**	<0.50	<1.0	<1.0	<10	**1.9**	**2.3**	<0.50	<0.50	<0.50	**33**	<10	**350**	<0.20
MW-3	9/4/2013	<0.50	**5.8**	**36**	<0.50	<0.50	**3.4**	<0.50	<1.0	<1.0	<10	**1.7**	<1.0	<0.50	<0.50	<0.50	**34**	<10	**260**	<0.20
MW-3	12/11/2013	<0.50	**5.4**	**34**	<0.50	<0.50	**2.9**	<0.50	<1.0	<1.0	<10	**1.8**	<1.0	<0.50	<0.50	<0.50	**33**	<10	**240**	<0.20
MW-3	2/25/2014	<0.50	**5.1**	**48**	<1.0	<0.50	**3.4**	<0.50	**1.2**	<1.0	<10	**1.6**	**2.8**	<0.50	<0.50	<0.50	**33**	<10	**300**	<0.20
MW-3	6/4/2014	<0.50	**4.5**	**51**	<0.50	<0.50	**3.6**	<0.50	<1.0	<1.0	<10	**1.2**	<1.0	<0.50	<0.50	<0.50	**32**	<10	**300**	<0.20
MW-4	6/13/2006	<1.0	**1.8**	**130**	<1.0	<1.0	**8.9**	<1.0	**1.6 U**	<1.0	**62**	**2.5**	**2.4**	<1.0	<1.0	<1.0	**19**	<10	---	<0.2
MW-4	10/4/2006	<1.0	**2.1**	**100**	<1.0	<1.0	**9.9**	<1.0	**2.1**	<1.0	**4.1**	<2.0	<1.0	<1.0	<1.0	<1.0	**24**	<10	---	<0.2
MW-4	3/12/2012	<2.5	<5.0	**160**	<5.0	<2.5	**8.9**	<2.5	<5.0	<5.0	**88**	<2.5	**5.4**	<2.5	<2.5	<2.5	**26**	<50	**840**	**0.29**
MW-4	*3/12/2012 S*	*<10*	***1.4***	***134***	*<5.0*	***0.4***	***7.7***	*<5.0*	***0.9***	***--- [2]***	***0.7***	*<5.0*	*<5.0*	*<20*	*<5.0*	***3.5***	***19.3***	***3.5***	***812***	---
MW-4	5/17/2012	<0.50	**2.1**	**160**	<0.50	<0.50	**6.6**	<0.50	<1.0	<1.0	<10	<0.50	**1.7**	**0.62**	<0.50	<0.50	**18**	<10	**960**	<0.20
MW-4	7/16/2012	<0.50	**6.6**	**110**	<0.50	<0.50	**6.6**	<0.50	**1.1**	<1.0	<10	**2.4**	**3.2**	**0.55**	<0.50	<0.50	**42**	<10	**850**	<0.20
MW-4	9/19/2012	<0.50	**2.2**	**140**	<0.50	<0.50	**7.0**	<0.50	<1.0	<1.0	<10	<0.50	**2.6**	**0.78**	<0.50	<0.50	**18**	<10	**980**	<0.20
MW-4	11/28/2012	<0.50	**2.1**	**140**	<0.50	<0.50	**5.2**	<0.50	**1.0**	<1.0	**11**	<0.50	**2.3**	**0.54**	<0.50	<0.50	**18**	<10	**920**	<0.20
MW-4	1/22/2013	<0.50	**1.8**	**100**	<0.50	<0.50	**5.0**	<0.50	<1.0	<1.0	<10	<0.50	**1.9**	**0.59**	<0.50	<0.50	**15**	<10	**850**	<0.20
MW-4	3/18/2013	<0.50	**2.0**	**110**	<0.50	<0.50	**5.7**	<0.50	<1.0	<1.0	<10	<0.50	**2.3**	<0.50	<0.50	<0.50	**17**	<10	**780**	<0.20
MW-4	6/5/2013	<0.50	**2.0**	**120**	<0.50	<0.50	**5.7**	<0.50	**1.1**	<1.0	<10	<0.50	**3.5**	**0.53**	<0.50	<0.50	**19**	<10	**900**	<0.20
MW-4	9/4/2013	<0.50	**2.7**	**140**	<0.50	<0.50	**6.0**	<0.50	<1.0	<1.0	<10	<0.50	**2.3**	<0.50	<0.50	<0.50	**19**	<10	**890**	<0.20
MW-4	12/11/2013	<0.50	**1.8**	**110**	<0.50	<0.50	**5.4**	<0.50	<1.0	<1.0	<10	<0.50	**2.1**	<0.50	<0.50	<0.50	**17**	<10	**830**	<0.20
MW-4	2/25/2014	<0.50	**1.9**	**130**	<1.0	<0.50	**5.0**	<0.50	**1.3**	<1.0	<10	<0.50	**3.2**	<0.50	<0.50	<0.50	**18**	<10	**810**	<0.20
MW-4	6/4/2014	<0.50	**1.3**	**140**	<0.50	<0.50	**5.7**	<0.50	**1.2**	<1.0	<10	<0.50	**1.7**	<0.50	<0.50	<0.50	**19**	**90**	**820**	<0.20

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - TITLE 22 METALS (DISSOLVED)
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

ANALYTE		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Strontium	Mercury
SAMPLE ID	SAMPLE DATE	Results in micrograms per liter																		
MW-5	6/14/2006	<1.0	**1.8**	**400**	<1.0	<1.0	**9.6**	**2.2**	**4.8**	**1.4**	**260**	**9.9**	**7.1**	**2.0**	<1.0	<1.0	**23**	<10	---	<0.2
MW-5	10/5/2006	<1.0	**2.5**	**410**	<1.0	<1.0	**18**	<1.0	**1.9**	<1.0	**120**	**14**	**3.4**	<1.0	**2.1**	<1.0	**24**	<10	---	<0.2
MW-5	3/12/2012	<2.5	<5.0	**340**	<5.0	<2.5	**9.2**	<2.5	<5.0	<5.0	<50	<2.5	<5.0	<2.5	<2.5	<2.5	**18**	<50	**1,200**	**0.28**
MW-5	*3/12/2012 S*	*<10*	***1.3***	***310***	*<5.0*	***0.5***	***9.6***	*<5.0*	***1.0***	*--- [2]*	***4.4***	***1.5***	*<5.0*	***1.5***	*<5.0*	***3.6***	***17.8***	***14.5***	***1,140***	---
MW-5	5/17/2012	**0.59**	**2.4**	**310**	<0.50	<0.50	**12**	<0.50	**1.1**	<1.0	<10	**1.8**	**3.1**	**2.6**	<0.50	<0.50	**14**	<10	**1,400**	<0.20
MW-5	7/17/2012	**0.69**	**2.8**	**280**	<0.50	<0.50	**9.8**	<0.50	**1.2**	<1.0	<10	**1.9**	**2.8**	**2.1**	<0.50	<0.50	**20**	<10	**1,100**	<0.20
MW-5	9/20/2012	**0.55**	**2.3**	**280**	<0.50	<0.50	**5.7**	<0.50	**1.0**	<1.0	<10	**1.4**	**2.4**	**1.3**	<0.50	<0.50	**18**	<10	**1,100**	<0.20
MW-5	11/29/2012	<0.50	**2.9**	**300**	<0.50	<0.50	**6.2**	<0.50	<1.0	<1.0	<10	**1.6**	**2.0**	**1.3**	<0.50	<0.50	**20**	<10	**960**	<0.20
MW-5	1/23/2013	<0.50	**1.7**	**310**	<0.50	<0.50	**7.3**	<0.50	<1.0	<1.0	<10	**1.4**	**2.7**	**0.90**	<0.50	<0.50	**17**	<10	**1,200**	<0.20
MW-5	3/18/2013	**0.72**	**2.3**	**300**	<1.0	<0.50	**7.2**	<0.50	**1.1**	<1.0	<10	**1.4**	**3.1**	**1.1**	<0.50	<0.50	**17**	<10	**1,100**	<0.20
MW-5	6/6/2013	**0.61**	**2.2**	**230**	<0.50	<0.50	**5.0**	<0.50	**1.6**	<1.0	<10	**1.4**	**3.5**	**1.2**	<0.50	<0.50	**17**	<10	**940**	<0.20
MW-5	9/5/2013	<0.50	**1.7**	**320**	<0.50	<0.50	**8.8**	<0.50	<1.0	<1.0	<10	**1.1**	**1.8**	**0.77**	<0.50	<0.50	**22**	<10	**1100**	<0.20
MW-5	12/12/2013	<0.50	**2.2**	**230**	<0.50	<0.50	**5.1**	<1.0	<2.0	<1.0	<20	**1.2**	**3.7**	<0.50	<0.50	<0.50	**22**	<10	**790**	<0.20
MW-5	2/25/2014	<0.50	**2.4**	**310**	<1.0	<0.50	**8.2**	<0.50	**1.1**	<1.0	<10	**1.0**	**3.5**	**0.62**	<0.50	<0.50	**20**	<10	**920**	<0.20
MW-5	6/5/2014	<0.50	**2.0**	**280**	<0.50	<0.50	**7.0**	<0.50	<1.0	<1.0	<10	**1.2**	**1.7**	<0.50	<0.50	<0.50	**19**	<10	**880**	<0.20
MW-6	6/14/2006	<1.0	**3.6**	**160**	<1.0	<1.0	**16**	**3.0**	**6.2**	**3.4**	**190**	**13**	**5.9**	**3.0**	<1.0	<1.0	**33**	15	---	<0.2
MW-6	10/5/2006	<1.0	**5.2**	**120**	<1.0	<1.0	**29**	<1.0	**1.5**	<1.0	**130**	**13**	**1.7**	<1.0	<1.0	<1.0	**34**	<10	---	<0.2
MW-6	3/12/2012	<2.5	<5.0	**99**	<5.0	<2.5	**9.5**	<2.5	<5.0	<5.0	<50	**5.3**	<5.0	<2.5	<2.5	<2.5	**37**	<50	**680**	**0.27**
MW-6	*3/12/2012 S*	*<10*	***2.8***	***94.2***	*<5.0*	***0.4***	***9.9***	*<5.0*	*<5.0*	*--- [2]*	***2.7***	***5.2***	*<5.0*	*<20*	*<5.0*	***2.6***	***36.3***	***3.8***	***655***	---
MW-6	5/17/2012	<0.50	**3.9**	**93**	<0.50	<0.50	**8.3**	<0.50	**1.3**	<1.0	<10	**5.5**	**1.8**	**2.1**	<0.50	<0.50	**32**	<10	**690**	<0.20
MW-6	7/17/2012	<0.50	**6.3**	**110**	<0.50	<0.50	**14**	<0.50	**1.2**	<1.0	<10	**8.2**	**3.0**	**3.1**	<0.50	<0.50	**51**	<10	**1,100**	<0.20
MW-6	9/20/2012	<0.50	**4.7**	**110**	<0.50	<0.50	**10**	<0.50	<1.0	<1.0	<10	**5.6**	**1.7**	**2.6**	<0.50	<0.50	**39**	<10	**860**	<0.20
MW-6	11/29/2012	<0.50	**5.1**	**98**	<0.50	<0.50	**8.0**	<0.50	<1.0	<1.0	<10	**6.0**	**1.6**	**2.6**	<0.50	<0.50	**38**	<10	**760**	<0.20
MW-6	1/23/2013	<0.50	**4.2**	**120**	<0.50	<0.50	**9.5**	**1.9**	**3.2**	<1.0	**100**	**5.2**	**4.0**	**1.2**	<0.50	<0.50	**41**	**16**	**620**	<0.20
MW-6	3/18/2013	<0.50	**4.6**	**79**	<0.50	<0.50	**8.0**	<0.50	<1.0	<1.0	<10	**5.1**	**1.9**	**1.8**	<0.50	<0.50	**34**	<10	**610**	<0.20
MW-6	6/6/2013	<0.50	**4.3**	**76**	<0.50	<0.50	**7.5**	<0.50	<1.0	<1.0	<10	**5.0**	**1.1**	**2.0**	<0.50	<0.50	**35**	<10	**650**	<0.20
MW-6	9/5/2013	<0.50	**3.3**	**90**	<0.50	<0.50	**9.4**	<0.50	<1.0	<1.0	<10	**5.0**	<1.0	**0.88**	<0.50	<0.50	**38**	<10	**640**	<0.20
MW-6	12/12/2013	<0.50	**4.4**	**130**	<1.0	<0.50	**10**	**2.7**	**6.3**	**1.3**	**140**	**5.1**	**6.9**	**0.66**	<0.50	<0.50	**47**	**19**	**590**	<0.20
MW-6	2/26/2014	<0.50	**4.1**	**80**	<0.50	<0.50	**7.9**	<0.50	**2.4**	<1.0	<10	**4.8**	**2.6**	**0.77**	<0.50	<0.50	**33**	<10	**590**	<0.20
MW-6	6/5/2014	<0.50	**3.7**	**84**	<0.50	<0.50	**8.3**	<0.50	<1.0	<1.0	<10	**5.0**	**1.1**	**0.56**	<0.50	<0.50	**34**	<10	**550**	<0.20

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - TITLE 22 METALS (DISSOLVED)
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

ANALYTE		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Strontium	Mercury
SAMPLE ID	SAMPLE DATE	Results in micrograms per liter																		
MW-7	6/14/2006	<1.0	**2.3**	**80**	<1.0	<1.0	**7.0**	<1.0	<1.0	<1.0	**9.0**	**2.6**	**2.2**	**1.1**	<1.0	<1.0	**17**	<10	---	<0.2
MW-7	10/4/2006	<1.0	**2.7**	**73**	<1.0	<1.0	**10**	<1.0	**1.6**	<1.0	**1.1**	<2.0	**1.4**	**1.2**	<1.0	<1.0	**23**	<10	---	<0.2
MW-7	3/12/2012	<2.5	<5.0	**76**	<5.0	<2.5	<2.5	<2.5	<5.0	<5.0	<50	<2.5	<5.0	<2.5	<2.5	<2.5	**24**	<50	**690**	**0.28**
MW-7	5/17/2012	**0.74**	**2.3**	**63**	<0.50	<0.50	**1.6**	<0.50	<1.0	<1.0	<10	**1.0**	**1.3**	<0.50	<0.50	<0.50	**19**	<10	**590**	<0.20
MW-7	7/17/2012	**0.95**	**2.2**	**66**	<0.50	<0.50	**2.2**	<0.50	**1.1**	<1.0	<10	**1.0**	**2.3**	<0.50	<0.50	<0.50	**17**	<10	**600**	<0.20
MW-7	9/20/2012	<0.50	**3.1**	**96**	<0.50	<0.50	**3.7**	<0.50	**1.1**	<1.0	<10	**1.2**	**3.0**	**0.66**	<0.50	<0.50	**25**	<10	**900**	<0.20
MW-7	11/29/2012	<0.50	**2.5**	**77**	<0.50	<0.50	**2.3**	<0.50	<1.0	<1.0	<10	**1.2**	**1.3**	<0.50	<0.50	<0.50	**20**	<10	**690**	<0.20
MW-7	1/23/2013	<0.50	**2.9**	**68**	<0.50	<0.50	**2.9**	<0.50	<1.0	<1.0	<10	**0.99**	**1.7**	<0.50	<0.50	<0.50	**21**	<10	**670**	<0.20
MW-7	3/18/2013	**0.78**	**4.0**	**150**	<0.50	<0.50	**6.4**	**3.9**	**6.5**	**2.5**	**260**	**1.6**	**8.0**	<0.50	<0.50	<0.50	**35**	**29**	**650**	<0.20
MW-7	6/6/2013	**0.56**	**2.7**	**66**	<0.50	<0.50	**2.2**	<0.50	<1.0	<1.0	<10	**1.3**	**1.3**	**0.61**	<0.50	<0.50	**22**	<10	**690**	<0.20
MW-7	9/5/2013	<0.50	**1.4**	**78**	<0.50	<0.50	**3.9**	<0.50	**1.2**	<1.0	<10	**1.1**	**3.1**	<0.50	<0.50	<0.50	**22**	<10	**650**	<0.20
MW-7	12/12/2013	<0.50	**2.2**	**78**	<0.50	<0.50	**4.2**	<1.0	<2.0	<1.0	<20	**1.2**	**2.1**	<0.50	<0.50	<0.50	**22**	<10	**740**	<0.20
MW-7	2/26/2014	<0.50	**2.9**	**79**	<0.50	<0.50	**4.2**	<0.50	**1.2**	<1.0	<10	**1.3**	**3.6**	<0.50	<0.50	<0.50	**21**	<10	**720**	<0.20
MW-7	6/5/2014	<0.50	**2.2**	**92**	<0.50	<0.50	**5.1**	<0.50	**1.1**	<1.0	<10	**1.2**	**1.5**	<0.50	<0.50	<0.50	**21**	<10	**740**	<0.20
MW-8	6/14/2006	<1.0	**2.7**	**84**	<1.0	<1.0	**8.8**	<1.0	<1.0	<1.0	**5.8**	<2.0	**1.2**	**1.6**	<1.0	<1.0	**25**	<10	---	<0.2
MW-8	10/4/2006	<1.0	**4.0**	**57**	<1.0	<1.0	**9.7**	<1.0	**1.7**	<1.0	<1.0	**2.0**	<1.0	<1.0	<1.0	<1.0	**32**	<10	---	<0.2
MW-8	3/12/2012	<2.5	<5.0	**39**	<5.0	<2.5	**4.4**	<2.5	<5.0	<5.0	<50	<2.5	<5.0	<2.5	<2.5	<2.5	**20**	<50	**180**	**0.23**
MW-8	*3/12/2012 S*	*<10*	***2.5***	***39.4***	*<5.0*	***0.1***	***4.7***	*<5.0*	*<5.0*	*--- [2]*	***1.7***	***1.3***	*<5.0*	*<20*	*<5.0*	*<20*	***23.4***	***3.6***	***211***	---
MW-8	5/17/2012	<0.50	**3.2**	**55**	<0.50	<0.50	**4.6**	<0.50	<1.0	<1.0	<10	**1.8**	<1.0	**0.73**	<0.50	<0.50	**22**	<10	**270**	<0.20
MW-8	7/17/2012	<0.50	**3.2**	**51**	<0.50	<0.50	**5.6**	<0.50	<1.0	<1.0	<10	**1.7**	<1.0	**0.74**	<0.50	<0.50	**23**	<10	**210**	<0.20
MW-8	9/20/2012	<0.50	**3.9**	**47**	<0.50	<0.50	**3.8**	<0.50	<1.0	<1.0	<10	**1.8**	<1.0	**0.89**	<0.50	<0.50	**28**	<10	**220**	<0.20
MW-8	11/29/2012	<0.50	**4.0**	**110**	<0.50	<0.50	**6.3**	**0.94**	**2.1**	<1.0	**160**	**2.1**	**2.3**	**1.4**	<0.50	<0.50	**27**	<10	**450**	<0.20
MW-8	1/23/2013	<0.50	**4.2**	**57**	<0.50	<0.50	**5.7**	<0.50	<1.0	<1.0	<10	**2.1**	<1.0	<0.50	<0.50	<0.50	**28**	<10	**260**	<0.20
MW-8	3/18/2013	<0.50	**4.0**	**56**	<0.50	<0.50	**5.4**	<0.50	<1.0	<1.0	<10	**1.9**	<1.0	<0.50	<0.50	<0.50	**26**	<10	**250**	<0.20
MW-8	6/6/2013	<0.50	**3.8**	**51**	<0.50	<0.50	**3.8**	<0.50	<1.0	<1.0	<10	**2.0**	<1.0	**0.76**	<0.50	<0.50	**28**	<10	**250**	<0.20
MW-8	9/5/2013	<0.50	**2.5**	**67**	<0.50	<0.50	**5.7**	<0.50	<1.0	<1.0	<10	**1.4**	<1.0	<0.50	<0.50	<0.50	**24**	<10	**300**	<0.20
MW-8	12/12/2013	<0.50	**2.8**	**61**	<0.50	<0.50	**3.2**	<1.0	<2.0	<1.0	<20	**1.3**	**3.1**	<0.50	<0.50	<0.50	**23**	<10	**340**	<0.20
MW-8	2/26/2014	<0.50	**4.0**	**55**	<0.50	<0.50	**3.8**	<0.50	<1.0	<1.0	<10	**1.6**	**1.5**	<0.50	<0.50	<0.50	**24**	<10	**260**	<0.20
MW-8	6/5/2014	<0.50	**3.2**	**59**	<0.50	<0.50	**4.1**	<0.50	<1.0	<1.0	<10	**1.6**	<1.0	<0.50	<0.50	<0.50	**25**	<10	**250**	<0.20
MW-9	6/20/2012	<0.50	**2.3**	**67**	<0.50	<0.50	**2.5**	<0.50	<1.0	<1.0	**43**	**0.76**	**2.2**	**1.8**	<0.50	<0.50	**15**	**15**	**840**	<0.20

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - TITLE 22 METALS (DISSOLVED)
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

ANALYTE		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Strontium	Mercury
SAMPLE ID	SAMPLE DATE	Results in micrograms per liter																		
MW-9	7/17/2012	<0.50	**2.7**	**51**	<0.50	<0.50	**2.6**	<0.50	<1.0	<1.0	<10	**0.68**	**1.9**	**1.7**	<0.50	<0.50	**14**	<10	**800**	<0.20
MW-9	9/19/2012	<0.50	**3.1**	**100**	<0.50	<0.50	**3.6**	<0.50	**2.2**	<1.0	**73**	**0.76**	**3.4**	**2.5**	<0.50	<0.50	**22**	<10	**970**	<0.20
MW-9	11/28/2012	<0.50	**3.2**	**100**	<0.50	<0.50	**3.0**	<0.50	**1.0**	<1.0	**15**	**0.65**	**1.9**	**1.5**	<0.50	<0.50	**22**	<10	**820**	<0.20
MW-9	1/22/2013	<0.50	**2.6**	**90**	<0.50	<0.50	**3.1**	<1.0	<2.0	<1.0	<20	<0.50	<2.0	**1.1**	<0.50	<0.50	**19**	<10	**710**	<0.20
MW-9	3/18/2013	<0.50	**3.1**	**92**	<1.0	<0.50	**3.5**	<0.50	**1.1**	<1.0	<10	<0.50	**2.2**	**1.1**	<0.50	<0.50	**20**	<10	**700**	<0.20
MW-9	6/6/2013	<0.50	**2.8**	**99**	<0.50	<0.50	**3.1**	<0.50	<1.0	<1.0	<10	<0.50	**1.7**	**1.8**	<0.50	<0.50	**20**	<10	**770**	<0.20
MW-9	9/5/2013	<0.50	**2.3**	**110**	<0.50	<0.50	**4.2**	<0.50	**1.1**	<1.0	<10	**0.58**	**1.4**	<0.50	<0.50	<0.50	**24**	<10	**690**	<0.20
MW-9	12/12/2013	<0.50	**2.4**	**110**	<0.50	<0.50	**3.6**	<1.0	<2.0	<1.0	<20	<0.50	**2.3**	**0.80**	<0.50	<0.50	**21**	<10	**780**	<0.20
MW-9	2/26/2014	<0.50	**3.3**	**120**	<0.50	<0.50	**3.1**	<0.50	<1.0	<1.0	<10	<0.50	**2.7**	<0.50	<0.50	<0.50	**21**	<10	**730**	<0.20
MW-9	6/4/2014	<0.50	**1.8**	**120**	<0.50	<0.50	**3.9**	<0.50	**1.2**	<1.0	<10	<0.50	**1.4**	**0.53**	<0.50	<0.50	**21**	<10	**700**	<0.20
MW-10	6/20/2012	<0.50	**4.1**	**160**	<1.0	<0.50	**6.2**	**5.3**	**7.4**	**2.2**	**290**	**3.1**	**9.6**	**4.3**	<0.50	<0.50	**33**	**24**	**990**	<0.20
MW-10	7/17/2012	<0.50	**2.8**	**59**	<0.50	<0.50	**1.3**	<0.50	<1.0	<1.0	<10	**1.0**	**2.4**	**4.4**	<0.50	<0.50	**16**	**15**	**1,000**	<0.20
MW-10	9/20/2012	<0.50	**2.7**	**83**	<0.50	<0.50	**1.1**	<0.50	**1.0**	<1.0	**16**	**0.61**	**2.8**	**4.4**	<0.50	<0.50	**19**	**120**	**1,100**	<0.20
MW-10	11/29/2012	<0.50	**3.1**	**76**	<0.50	<0.50	**0.60**	<0.50	<1.0	<1.0	<10	<0.50	**1.7**	**3.0**	<0.50	<0.50	**18**	<10	**970**	<0.20
MW-10	1/22/2013	<0.50	**3.8**	**86**	<0.50	<0.50	**0.92**	<0.50	<1.0	<1.0	<10	<0.50	**2.4**	**3.7**	<0.50	<0.50	**18**	<10	**1,200**	<0.20
MW-10	3/18/2013	<0.50	**3.5**	**78**	<0.50	<0.50	**1.5**	**0.58**	**1.5**	<1.0	**14**	<0.50	**3.1**	**3.0**	<0.50	<0.50	**19**	<10	**930**	<0.20
MW-10	6/6/2013	<0.50	**3.1**	**68**	<0.50	<0.50	**0.77**	<0.50	<1.0	<1.0	<10	<0.50	**1.9**	**3.8**	<0.50	<0.50	**18**	<10	**1,000**	<0.20
MW-10	9/5/2013	<0.50	**1.8**	**86**	<0.50	<0.50	**1.2**	<0.50	**1.1**	<1.0	<10	<0.50	**1.6**	**0.64**	<0.50	<0.50	**21**	<10	**910**	<0.20
MW-10	12/12/2013	<0.50	**2.8**	**83**	<0.50	<0.50	<2.5	<2.5	<5.0	<1.0	<50	**0.54**	<5.0	**1.0**	<0.50	<0.50	**22**	<10	**950**	<0.20
MW-10	2/26/2014	<0.50	**3.4**	**120**	<0.50	<0.50	**2.3**	**1.7**	**3.2**	<1.0	**73**	**0.85**	**5.8**	**1.1**	<0.50	<0.50	**25**	<10	**970**	<0.20
MW-10	6/5/2014	<0.50	**2.3**	**96**	<0.50	<0.50	**1.6**	<0.50	**1.3**	<1.0	<10	**0.51**	**3.6**	**0.82**	<0.50	<0.50	**21**	<10	**940**	<0.20

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - TITLE 22 METALS (DISSOLVED)
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

ANALYTE		Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Manganese	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Strontium	Mercury
SAMPLE ID	SAMPLE DATE	Results in micrograms per liter																		
MCLs		6	10	1000/ 700 (4)	4	5	50	---	1,000 (1)/ 1,300 (3)	15 (3)	50 (1)	---	100	50	100 (1)	2	50 (5)	5,000 (1)/ 2,000 (4)	4,000 (4)	2

Notes:
--- = not analyzed or not applicable
< = Less than laboratory reporting limits
S = Split samples submitted by Central Valley Regional Water Quality Control Board (CVRWQCB) to Excelchem Environmental Labs
U = Notation: The result was qualified as a non-detect due to equipment blank contamination
MCLs = Maximum Contaminant Levels per California Environmental Protection Agency (EPA), May 2009
Bold = Reported concentration exceeds laboratory reporting limit
(1) = Secondary MCL
(2) = Laboratory error in sample preparation (CVRWQCB personal communication)
(3) = California Department of Public Health Regulatory Action Level
(4) = EPA Drinking Water Health Advisory
(5) = California Department of Public Health Notification Level for Drinking Water
Data prior to 3/12/2012 reproduced from *Site Investigation Report, Groundwater Assessment, Caltrans Modesto Soil Stockpiles State Route 99/132 Project, Stanislaus County, California,* Shaw Environmental, Inc., May 14, 2007.

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - GENERAL MINERALS AND PAHs

CALTRANS MODESTO SOIL STOCKPILES

STANISLAUS COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	DISSOLVED CALCIUM	DISSOLVED MAGNESIUM	CHLORIDE	NITROGEN, NITRATE (as N)	SULFATE	DISSOLVED POTASSIUM	DISSOLVED SODIUM	SULFIDE	ALKALINITY, BICARBONATE	ALKALINITY, CARBONATE	ALKALINITY, TOTAL	TOTAL DISSOLVED SOLIDS	PAHs (SIM)
		Results in milligrams per liter												micrograms per liter
MW-1	6/14/2006	---	---	---	5.0	18	---	---	<0.1	---	---	---	---	---
MW-1	10/5/2006	88	34	14	6.8	18	3.7	22	<0.1	360	<1	360	500	---
MW-1	3/12/2012	78	31	13	12	16	3.2	21	<0.05	328	<5.0	328	550	<0.20
MW-1	*3/12/2012 S*	*84*	*29.4*	*12*	*11.4*	*15.6*	*3.3*	*23.8*	*0.0637*	*342*	*<5.0*	*342*	*453*	---
MW-1	5/17/2012	83	34	12	12	16	3.8	20	0.1	340	<5.0	340	480	<0.20
MW-1	7/16/2012	87	34	12	12	20	2.8	17	0.1	330	<5.0	330	540	<0.20
MW-1	9/19/2012	80	30	14	12	25	2.5	13	0.28	330	<5.0	330	460	<0.20
MW-1	11/28/2012	81	35	12	12	19	2.9	19	0.12	330	<5.0	330	420	<0.20
MW-1	1/22/2013	84	30	13	12	20	2.5	15	0.52	330	<5.0	330	460	---
MW-1	3/18/2013	87	35	13	13	18	4.7	17	0.18	320	<5.0	320	500	---
MW-1	6/5/2013	82	34	12	12	18	2.9	16	<0.05	320	<5.0	320	520	---
MW-1	9/4/2013	99	37	19	12	29	2.9	15	0.28	370	<5.0	370	590	---
MW-1	12/11/2013	85	36	15	13	28	2.4	16	<0.05	330	<5.0	330	500	---
MW-1	2/25/2014	76	30	13	10	24	2.7	16	<0.010	290	<5.0	290	460	---
MW-1	6/4/2014	87	34	15	15	39	2.9	19	0.12	340	<5.0	340	530	---
MW-2	6/13/2006	---	---	---	5.5	21	---	---	<0.1	---	---	---	---	---
MW-2	10/5/2006	49	16	23	6.1	16	2.7	56	<0.1	250	<1	250	390	---
MW-2	3/12/2012	52	18	17	9.0	16	2.6	40	0.06	266	<5.0	266	460	<0.20
MW-2	*3/12/2012 S*	*58.1*	*17.2*	*15.4*	*8.77*	*15.2*	*2.89*	*54*	*0.0497*	*270*	*<5.0*	*270*	*382*	---
MW-2	5/17/2012	55	19	15	7.5	14	2.9	39	0.07	248	<5.0	248	400	<0.20
MW-2	7/16/2012	50	16	14	7.2	13	2.2	38	0.042	230	<5.0	230	410	<0.20
MW-2	9/19/2012	52	17	13	7.3	14	2.2	38	0.10	250	<5.0	250	390	<0.20
MW-2	11/28/2012	48	17	14	7.5	14	2.3	41	0.07	250	<5.0	250	390	<0.20
MW-2	1/22/2013	54	17	12	6.9	13	2.0	39	0.04	270	<5.0	270	360	---
MW-2	3/18/2013	48	17	11	6.2	11	2.5	38	<0.020	250	<5.0	250	390	---
MW-2	6/5/2013	48	18	11	6.1	11	2.3	38	0.073	230	<5.0	230	350	---
MW-2	9/4/2013	50	18	15	9.0	15	2.3	42	<0.020	260	<5.0	260	400	---
MW-2	12/11/2013	41	15	14	8.9	16	2.1	38	0.033	240	<5.0	240	380	---
MW-2	2/25/2014	49	17	12	7.4	13	2.5	40	<0.010	250	<5.0	250	390	---

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - GENERAL MINERALS AND PAHs

CALTRANS MODESTO SOIL STOCKPILES

STANISLAUS COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	DISSOLVED CALCIUM	DISSOLVED MAGNESIUM	CHLORIDE	NITROGEN, NITRATE (as N)	SULFATE	DISSOLVED POTASSIUM	DISSOLVED SODIUM	SULFIDE	ALKALINITY, BICARBONATE	ALKALINITY, CARBONATE	ALKALINITY, TOTAL	TOTAL DISSOLVED SOLIDS	PAHs (SIM)
		Results in milligrams per liter												micrograms per liter
MW-2	6/4/2014	48	17	14	9.2	16	2.4	39	<0.020	240	<5.0	240	390	---
MW-3	6/13/2006	---	---	---	5.4	18	---	---	<0.1	---	---	---	---	---
MW-3	10/5/2006	42	15	11	5.0	17	2.5	43	<0.1	220	<1	220	340	---
MW-3	3/12/2012	31	11	7.5	2.9	17	2.3	66	0.09	268	<5.0	268	400	<0.20
MW-3	*3/12/2012 S*	*29.5*	*9.19*	*5.7*	*2.24*	*13.8*	*2.04*	*66.3*	*0.0281*	*220*	*<5.0*	*220*	*273*	---
MW-3	5/17/2012	37	12	6.6	2.5	14	2.4	66	0.05	221	<5.0	221	300	<0.20
MW-3	7/16/2012	42	14	7.5	2.8	17	2.3	71	0.014	300	<5.0	300	400	<0.20
MW-3	9/19/2012	39	14	5.9	3.0	18	2.4	58	<0.05	270	<5.0	270	350	<0.20
MW-3	11/28/2012	31	11	5.7	2.8	12	2.2	68	0.062	270	<5.0	270	380	<0.20
MW-3	1/22/2013	25	7.4	5.5	2.9	9.9	1.7	64	0.034	240	<5.0	240	330	---
MW-3	3/18/2013	23	8.1	5.3	2.7	9.4	2.1	64	<0.010	230	<5.0	230	340	---
MW-3	6/6/2013	32	12	5.8	3.3	9.6	2.1	75	<0.010	250	<5.0	250	360	---
MW-3	9/4/2013	20	6.6	4.1	2.5	6.4	1.7	60	0.011	210	<5.0	210	300	---
MW-3	12/11/2013	17	6.4	4.2	2.4	7.1	1.4	57	<0.020	180	<5.0	180	270	---
MW-3	2/25/2014	24	8.9	5.6	2.8	9.1	1.9	68	<0.010	240	<5.0	240	340	---
MW-3	6/4/2014	23	8.0	4.8	2.6	8.8	1.9	66	<0.020	220	<5.0	220	320	---
MW-4	6/13/2006	---	---	---	3.5	15	---	---	<0.1	---	---	---	---	---
MW-4	10/4/2006	43	13	6.6	3.5	11	2.6	43	<0.1	250	<1	250	340	---
MW-4	3/12/2012	71	23	39	9.5	23	3.7	39	0.05	290	<5.0	290	530	<0.20
MW-4	*3/12/2012 S*	*74.2*	*20.7*	*34.8*	*9.59*	*21.8*	*3.14*	*47.4*	*0.172*	*286*	*<5.0*	*286*	*472*	---
MW-4	5/17/2012	77	26	35	10	23	3.3	45	0.09	357	<5.0	357	540	<0.20
MW-4	7/16/2012	60	19	30	8.2	20	2.5	28	<0.010	260	<5.0	260	430	<0.20
MW-4	9/19/2012	83	26	40	8.2	23	2.5	41	0.085	310	<5.0	310	480	<0.20
MW-4	11/28/2012	77	24	42	8.9	26	2.7	36	0.06	280	<5.0	280	500	<0.20
MW-4	1/22/2013	61	19	33	7.2	18	2.0	31	0.054	200	<5.0	200	370	---
MW-4	3/18/2013	64	21	32	7.1	18	2.6	34	0.022	210	<5.0	210	380	---
MW-4	6/5/2013	70	24	34	7.1	19	2.8	39	0.045	230	<5.0	230	420	---

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - GENERAL MINERALS AND PAHs

CALTRANS MODESTO SOIL STOCKPILES

STANISLAUS COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	DISSOLVED CALCIUM	DISSOLVED MAGNESIUM	CHLORIDE	NITROGEN, NITRATE (as N)	SULFATE	DISSOLVED POTASSIUM	DISSOLVED SODIUM	SULFIDE	ALKALINITY, BICARBONATE	ALKALINITY, CARBONATE	ALKALINITY, TOTAL	TOTAL DISSOLVED SOLIDS	PAHs (SIM)
		Results in milligrams per liter												micrograms per liter
MW-4	9/4/2013	78	22	57	10	26	2.8	46	0.019	270	<5.0	270	510	---
MW-4	12/11/2013	64	22	53	9.6	26	2.4	42	0.040	270	<5.0	270	510	---
MW-4	2/25/2014	70	21	53	9.5	26	2.7	39	<0.010	240	<5.0	240	490	---
MW-4	6/4/2014	68	22	54	9.5	26	2.7	44	<0.020	250	<5.0	250	510	---
MW-5	6/14/2006	---	---	---	8.3	37	---	---	<0.1	---	---	---	---	---
MW-5	10/5/2006	100	37	28	10	32	7.5	160	<0.1	540	<1	540	730	---
MW-5	3/12/2012	93	33	29	27	33	4.4	77	<0.05	415	<5.0	415	700	<0.20
MW-5	*3/12/2012 S*	*94.9*	*32.7*	*24.6*	*25.4*	*30.4*	*4.44*	*86.9*	*0.0778*	*410*	*<5.0*	*410*	*632*	---
MW-5	5/17/2012	100	40	26	26	38	3.6	48	0.08	399	<5.0	399	690	<0.20
MW-5	7/17/2012	83	30	22	20	26	4.4	51	<0.05	360	<5.0	360	620	<0.20
MW-5	*9/20/2012*	*81*	*30*	*25*	*22*	*26*	*3.4*	*75*	*0.015*	*390*	*<5.0*	*390*	*590*	*<0.20*
MW-5	11/29/2012	82	26	25	24	25	3.7	79	0.09	380	<5.0	380	640	<0.20
MW-5	1/23/2013	89	33	29	30	26	3.5	77	0.022	390	<5.0	390	680	---
MW-5	3/18/2013	91	33	30	30	26	3.8	73	<0.010	400	<5.0	400	700	---
MW-5	6/6/2013	70	25	20	17	20	3.1	60	<0.020	310	<5.0	310	530	---
MW-5	9/5/2013	80	28	37	36	28	3.9	120	0.012	390	<5.0	390	750	---
MW-5	12/12/2013	58	22	26	25	26	3.4	100	0.011	340	8.8	350	630	---
MW-5	2/25/2014	80	25	41	34	27	3.5	120	<0.010	370	<5.0	370	750	---
MW-5	6/5/2014	71	23	34	29	26	3.2	110	<0.020	370	<5.0	370	680	---
MW-6	6/14/2006	---	---	---	12	70	---	---	<0.1	---	---	---	---	---
MW-6	10/4/2006	67	22	21	15	76	5.6	160	<0.1	420	<1	420	700	---
MW-6	3/12/2012	54	19	22	18	75	3.9	130	0.05	357	<5.0	357	680	<0.20
MW-6	*3/12/2012 S*	*54.8*	*16.3*	*20.2*	*17.7*	*72.0*	*4.14*	*165*	*0.0788*	*358*	*<5.0*	*358*	*613*	---
MW-6	5/17/2012	54	19	20	18	66	3.8	140	0.07	355	<5.0	357	630	<0.20
MW-6	7/17/2012	62	21	19	19	70	4.9	130	<0.05	400	<5.0	400	590	<0.20
MW-6	9/20/2012	56	20	18	18	65	3.8	130	0.13	380	<5.0	380	610	<0.20
MW-6	11/29/2012	48	15	21	18	66	3.3	120	0.061	390	<5.0	390	610	<0.20
MW-6	1/23/2013	47	19	21	18	65	3.6	130	0.065	320	<5.0	320	600	---

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - GENERAL MINERALS AND PAHs

CALTRANS MODESTO SOIL STOCKPILES

STANISLAUS COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	DISSOLVED CALCIUM	DISSOLVED MAGNESIUM	CHLORIDE	NITROGEN, NITRATE (as N)	SULFATE	DISSOLVED POTASSIUM	DISSOLVED SODIUM	SULFIDE	ALKALINITY, BICARBONATE	ALKALINITY, CARBONATE	ALKALINITY, TOTAL	TOTAL DISSOLVED SOLIDS	PAHs (SIM)
		Results in milligrams per liter												micrograms per liter
MW-6	3/18/2013	59	21	21	17	62	3.2	150	0.082	330	<5.0	330	600	---
MW-6	6/6/2013	48	17	23	20	67	3.0	130	0.020	330	<5.0	330	620	---
MW-6	9/5/2013	48	17	17	16	61	3.5	130	0.062	350	<5.0	350	620	---
MW-6	12/12/2013	43	17	19	16	56	4.1	110	0.11	300	<5.0	300	580	---
MW-6	2/26/2014	42	15	16	15	56	3.1	120	<0.010	360	<5.0	360	570	---
MW-6	6/5/2014	45	15	16	15	51	2.8	120	<0.010	350	<5.0	350	580	---
MW-7	6/14/2006	---	---	---	3.0	29	---	---	<0.1	---	---	---	---	---
MW-7	10/4/2006	69	21	7.4	3.1	26	2.9	16	<0.1	270	<1	270	370	---
MW-7	3/12/2012	60	20	7.9	3.0	26	2.6	14	<0.05	228	<5.0	228	360	<0.20
MW-7	5/17/2012	54	20	6.3	2.5	18	2.6	15	0.1	194	<5.0	194	280	<0.20
MW-7	7/17/2012	51	17	7.6	3.3	24	1.8	12	0.07	220	<5.0	220	300	<0.20
MW-7	9/20/2012	58	19	7.4	3.6	22	2.7	15	<0.10	220	<5.0	220	320	<0.20
MW-7	11/29/2012	57	17	8.2	3.4	28	2.3	16	0.069	330	<5.0	330	340	<0.20
MW-7	1/23/2013	56	18	8.1	3.4	22	2.2	17	0.017	210	<5.0	210	310	---
MW-7	3/18/2013	52	19	7.2	3.0	20	3.2	16	0.033	190	<5.0	190	290	---
MW-7	6/6/2013	54	20	8.6	3.9	22	2.2	19	0.022	220	<5.0	220	340	---
MW-7	9/5/2013	52	18	7.9	4.1	22	2.4	18	<0.010	220	<5.0	220	350	---
MW-7	12/12/2013	57	22	8.9	4.2	31	2.5	22	<0.020	260	<5.0	260	410	---
MW-7	2/26/2014	54	18	8.9	4.2	25	2.3	20	<0.010	250	<5.0	250	340	---
MW-7	6/5/2014	61	20	9.9	5.1	29	2.4	24	<0.010	270	<5.0	270	400	---
MW-8	6/14/2006	---	---	---	9.2	26	---	---	<0.1	---	---	---	---	---
MW-8	10/4/2006	22	6.8	12	7.8	21	2.4	77	<0.1	200	<1	200	360	---
MW-8	3/12/2012	15	5.1	11	6.7	25	1.8	52	0.05	154	<5.0	154	330	<0.20
MW-8	*3/12/2012 S*	*18.4*	*5.8*	*8.3*	*5.31*	*25.2*	*2.06*	*73.6*	*0.0194*	*154*	*<5.0*	*154*	*253*	---
MW-8	5/17/2012	44	13	11	6.3	32	10	81	0.07	226	<5.0	226	390	<0.20
MW-8	7/17/2012	17	5.7	9.3	5.2	32	1.9	88	0.05	160	<5.0	160	390	<0.20
MW-8	9/20/2012	16	5.1	11	5.9	19	2.0	67	0.031	150	<5.0	150	280	<0.20

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - GENERAL MINERALS AND PAHs

CALTRANS MODESTO SOIL STOCKPILES

STANISLAUS COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	DISSOLVED CALCIUM	DISSOLVED MAGNESIUM	CHLORIDE	NITROGEN, NITRATE (as N)	SULFATE	DISSOLVED POTASSIUM	DISSOLVED SODIUM	SULFIDE	ALKALINITY, BICARBONATE	ALKALINITY, CARBONATE	ALKALINITY, TOTAL	TOTAL DISSOLVED SOLIDS	PAHs (SIM)
		Results in milligrams per liter												micrograms per liter
MW-8	11/29/2012	32	9.4	17	11	32	3.0	87	<0.05	220	<5.0	220	390	<0.20
MW-8	1/23/2013	22	6.9	9.8	3.6	26	2.2	110	0.014	290	<5.0	290	420	---
MW-8	3/18/2013	20	6.4	10	4.2	22	2.1	110	0.010	210	<5.0	210	340	---
MW-8	6/6/2013	19	6.8	11	4.8	35	2.1	95	0.023	210	<5.0	220	380	---
MW-8	9/5/2013	25	8.7	14	7.1	21	2.4	77	<0.010	210	<5.0	210	370	---
MW-8	12/12/2013	27	8.6	11	4.3	16	2.3	62	<0.020	210	8.8	220	370	---
MW-8	2/26/2014	20	6.5	9.3	3.6	21	2.1	72	<0.010	240	<5.0	240	350	---
MW-8	6/5/2014	21	6.8	9.2	4.0	18	2.0	84	0.017	240	<5.0	240	370	---
MW-9	6/20/2012	66	26	24	13	27	5.1	53	0.07	293	<5.0	293	510	<0.20
MW-9	7/17/2012	68	25	22	11	25	3.3	46	0.14	300	<5.0	300	350	<0.20
MW-9	9/19/2012	64	22	19	11	25	3.4	48	<0.05	310	<5.0	310	470	<0.20
MW-9	11/28/2012	55	20	16	9.0	22	2.9	54	<0.05	290	<5.0	290	440	<0.20
MW-9	1/22/2013	58	19	16	8.5	22	2.4	50	0.035	290	<5.0	290	430	---
MW-9	3/18/2013	56	21	17	8.8	22	2.7	52	0.015	300	<5.0	300	450	---
MW-9	6/6/2013	61	24	19	12	23	2.9	55	<0.010	300	<5.0	300	490	---
MW-9	9/5/2013	53	20	14	7.0	22	3.1	58	<0.010	300	<5.0	300	450	---
MW-9	12/12/2013	56	23	19	11	26	3.1	63	0.021	300	18	310	520	---
MW-9	2/26/2014	53	20	13	7.7	19	2.7	55	<0.010	330	<5.0	330	460	---
MW-9	6/4/2014	58	21	18	10	23	2.9	59	<0.020	320	<5.0	320	480	---
MW-10	6/20/2012	77	32	63	9.2	120	9.2	100	<0.05	356	<5.0	356	710	<0.20
MW-10	7/17/2012	86	31	39	9.8	110	4.6	75	0.18	330	<5.0	330	710	<0.20
MW-10	9/20/2012	85	30	33	14	99	3.9	79	0.011	330	<5.0	330	630	<0.20
MW-10	11/29/2012	78	27	30	16	98	3.3	78	0.089	300	<5.0	300	640	<0.20
MW-10	*1/22/2013*	*76*	*25*	*31*	*18*	*83*	*2.8*	*71*	*0.022*	*320*	*<5.0*	*320*	*610*	---
MW-10	3/18/2013	78	27	30	17	77	3.2	72	0.027	310	<5.0	310	620	---
MW-10	6/6/2013	75	28	31	20	83	3.1	73	0.35	300	<5.0	300	620	---
MW-10	9/5/2013	73	27	29	17	75	3.4	73	0.015	300	<5.0	300	610	---

TABLE 3

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - GENERAL MINERALS AND PAHs

CALTRANS MODESTO SOIL STOCKPILES

STANISLAUS COUNTY, CALIFORNIA

SAMPLE ID	SAMPLE DATE	DISSOLVED CALCIUM	DISSOLVED MAGNESIUM	CHLORIDE	NITROGEN, NITRATE (as N)	SULFATE	DISSOLVED POTASSIUM	DISSOLVED SODIUM	SULFIDE	ALKALINITY, BICARBONATE	ALKALINITY, CARBONATE	ALKALINITY, TOTAL	TOTAL DISSOLVED SOLIDS	PAHs (SIM)
		Results in milligrams per liter												micrograms per liter
MW-10	12/12/2013	70	24	29	18	70	3.2	67	0.19	290	<5.0	290	610	---
MW-10	2/26/2014	71	26	30	18	68	3.2	68	<0.010	320	<5.0	320	630	---
MW-10	6/5/2014	71	24	29	18	66	2.9	79	0.023	320	<5.0	320	620	---
MCLs		---	---	250 (1)	10	250 (1)	---	---	---	---	---	---	500 (1)	Various

Notes:

PAHs (SIM) = Polycyclic aromatic hydrocarbons (selective ion monitoring) by EPA Test Method 8270C for semi-volatile organic compounds

S = Split samples submitted by the Central Valley Regional Water Quality Control Board to Excelchem Environmental Labs.

< = Less than the indicated laboratory reporting limit

--- = Not analyzed or not applicable

MCLs = Maximum Contaminant Levels per California Environmental Protection Agency, May 2009

(1) = Secondary MCL

Data prior to 3/12/2012 reproduced from *Site Investigation Report, Groundwater Assessment, Caltrans Modesto Soil Stockpiles State Route 99/132 Project, Stanislaus County, California,* Shaw Environmental, Inc., May 14, 2007.

TABLE 4
WELL CONSTRUCTION DETAILS
CALTRANS MODESTO SOIL STOCKPILES
STANISLAUS COUNTY, CALIFORNIA

WELL ID	WELL INSTALLATION DATE	TOC ELEVATION [1] (MSL)	CASING MATERIAL	TOTAL BORING DEPTH (feet)	COMPLETED WELL DEPTH (feet)	BOREHOLE DIAMETER (inches)	CASING DIAMETER (inches)	SCREENED INTERVAL (feet)	SLOT SIZE (inches)	FILTER PACK INTERVAL (feet)	FILTER PACK MATERIAL
MW-1	6/2/2006	80.39	SCH 40 PVC	44	42	8	2	32-42	0.010	27-44	#2/12 Sand
MW-2	6/2/2006	81.25	SCH 40 PVC	40	39	8	2	29-39	0.010	27.5-40	#2/12 Sand
MW-3	5/22/2006	81.82	SCH 40 PVC	41	41	8	2	31-41	0.010	28-41	#2/12 Sand
MW-4	5/8/2006	82.47	SCH 40 PVC	42	40	8	2	30-40	0.010	26-42	#2/12 Sand
MW-5	5/22/2006	87.78	SCH 40 PVC	45	45	8	2	35-45	0.010	33.7-46.5	#2/12 Sand
MW-6	5/9/2006	84.52	SCH 40 PVC	46.5	43	8	2	33-43	0.010	30-46.5	#2/12 Sand
MW-7	6/6/2006	83.74	SCH 40 PVC	48	45.5	8	2	35.5-45.5	0.010	34.5-48	#2/12 Sand
MW-8	5/9/2006	83.85	SCH 40 PVC	45	41	8	2	31-41	0.010	27-45	#2/12 Sand
MW-9	5/30/2012	82.53	SCH 40 PVC	40	40	8	2	29.5-39.5	0.010	27.5-40	#2/12 Sand
MW-10	5/29/2012	83.97	SCH 40 PVC	40	40	8	2	29.5-39.5	0.010	27.5-40	#2/12 Sand

Notes: TOC = Top of casing
MSL = Mean sea level
PVC = Polyvinyl chloride
[1] = Wells resurveyed by Morrow Surveying on June 18, 2012.

APPENDIX A

MONITORING WELL SAMPLING DATA

Project Name: Caltrans Modesto Soil Stockpiles	**Project Number**: S9800-01-17
Well No.: MW-1	Date: 6/4/14
Well Diameter: 2 in.	Field Personnel: JE/MO
Casing Length: 44 feet	Screened Casing Length: 10 feet
Well Elevation: 80.39 feet above MSL	Water Elevation: 48.66 feet above MSL

PURGE CHARACTERISTICS	
Water Depth Before Purging: 35.09 ft.	2 in. = .1632 gal/ft. 4 in. = .6528 gal/ft.
Calculated Water Column Volume: 1.45 gal.	Volumes Purged: 3.1
Start Purging Time: 0849	End Purging Time: 0852
Total Time: 3 min.	Flow Measurement: 5-gal bucket
Total Volume Purged: 4.5 gal.	Avg. Flow Rate: 1.5 gpm
Dissolved Oxygen: 4.74 mg/l	Free Product: (N); Thickness: inches

SAMPLING CHARACTERISTICS

Purging Method: Submersible Pump	Sampling Method: Disposable Bailer

Laboratory Analysis: General Minerals, Title 22 Dissolved Metals

TIME	TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	pH	Gallons Purged
0850	21.5	0916	7.69	1
0851	21.1	1022	7.64	2
0852	21.0	1048	7.64	4.5
0900				Sample

Comments: Turbid first 1.5 gallons, water cleared. No odor.

ORP = 14 millivolts, Turbidity = 503 ntu at start of purge, 60 ntu at end.

MONITORING WELL SAMPLING DATA

Project Name: Caltrans Modesto Soil Stockpiles	**Project Number**: S9800-01-17
Well No.: MW-2	Date: 6/4/14
Well Diameter: 2 in.	Field Personnel: JE/MO
Casing Length: 40 feet	Screened Casing Length: 10 feet
Well Elevation: 81.25 feet above MSL	Water Elevation: 48.58 feet above MSL

PURGE CHARACTERISTICS	
Water Depth Before Purging: 36.06 ft.	2 in. = .1632 gal/ft. 4 in. = .6528 gal/ft.
Calculated Water Column Volume: 0.64 gal.	Volumes Purged: 3.1
Start Purging Time: 0818	End Purging Time: 0821
Total Time: 3 min.	Flow Measurement: 5-gal bucket
Total Volume Purged: 2 gal.	Avg. Flow Rate: 0.7 gpm
Dissolved Oxygen: 3.44 mg/l	Free Product: (N); Thickness: inches

SAMPLING CHARACTERISTICS

Purging Method: Submersible Pump	Sampling Method: Disposable Bailer

Laboratory Analysis: General Minerals, Title 22 Dissolved Metals

TIME	TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	pH	Gallons Purged
0819	22.4	679	7.22	0.5
0820	22.0	669	7.23	1.5
0821	21.4	664	7.57	2
0830				Sample

Comments: First 1 gallon silty, light brown. Water changed to clear after 1 gallon. No odors.

ORP = 153 millivolts, Turbidity = 105 ntu at start of purge, 15 ntu at end.

MONITORING WELL SAMPLING DATA

Project Name: Caltrans Modesto Soil Stockpiles	**Project Number**: S9800-01-17
Well No.: MW-3	Date: 6/4/14
Well Diameter: 2 in.	Field Personnel: JE/MO
Casing Length: 41 feet	Screened Casing Length: 10 feet
Well Elevation: 81.82 feet above MSL	Water Elevation: 47.99 feet above MSL

PURGE CHARACTERISTICS	
Water Depth Before Purging: 36.75 ft.	2 in. = .1632 gal/ft. 4 in. = .6528 gal/ft.
Calculated Water Column Volume: 0.69 gal.	Volumes Purged: 3.6
Start Purging Time: 0944	End Purging Time: 0947
Total Time: 3 min.	Flow Measurement: 5-gal bucket
Total Volume Purged: 2.5 gal.	Avg. Flow Rate: 0.8 gpm
Dissolved Oxygen: 5.3 mg//l	Free Product: (N); Thickness: inches

SAMPLING CHARACTERISTICS				
Purging Method: Submersible Pump		Sampling Method: Disposable Bailer		
Laboratory Analysis: General Minerals, Title 22 Dissolved Metals				
TIME	TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	pH	Gallons Purged
0945	22.4	556	8.82	1
0946	21.9	545	8.51	2
0947	21.6	542	8.42	2.5
1000				Sample

Comments: Clear, no odor
ORP = -26 millivolts, Turbidity = 91 ntu at start of purge, 22 ntu at end of purge.

MONITORING WELL SAMPLING DATA

Project Name: Caltrans Modesto Soil Stockpiles	**Project Number**: S9800-01-17
Well No.: MW-4	Date: 6/4/14
Well Diameter: 2 in.	Field Personnel: JE/MO
Casing Length: 42 feet	Screened Casing Length: 10 feet
Well Elevation: 82.47 feet above MSL	Water Elevation: 48.27 feet above MSL

PURGE CHARACTERISTICS	
Water Depth Before Purging: 37.42 ft.	2 in. = .1632 gal/ft. 4 in. = .6528 gal/ft.
Calculated Water Column Volume: 0.75 gal.	Volumes Purged: 3.3
Start Purging Time: 0915	End Purging Time: 0918
Total Time: 3 min.	Flow Measurement: 5-gal bucket
Total Volume Purged: 2.5 gal.	Avg. Flow Rate: 0.8 gpm
Dissolved Oxygen: 4.07 mg/l	Free Product: (N); Thickness: inches

SAMPLING CHARACTERISTICS

Purging Method: Submersible Pump	Sampling Method: Disposable Bailer

Laboratory Analysis: General Minerals, Title 22 Dissolved Metals

TIME	TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	pH	Gallons Purged
0916	21.7	924	8.45	0.75
0917	21.8	892	8.23	1.5
0918	21.5	894	8.12	2.5
0930				Sample

Comments: Clear after 1 gallon. No odor.

ORP = 41 millivolts, Turbidity = 135 ntu at start of purge, 10 ntu at end.

MONITORING WELL SAMPLING DATA

Project Name: Caltrans Modesto Soil Stockpiles	**Project Number**: S9800-01-17
Well No.: MW-5	Date: 6/5/14
Well Diameter: 2 in.	Field Personnel: JE/MO
Casing Length: 45 feet	Screened Casing Length: 10 feet
Well Elevation: 87.78 feet above MSL	Water Elevation: 47.67 feet above MSL

PURGE CHARACTERISTICS	
Water Depth Before Purging: 42.86 ft.	2 in. = .1632 gal/ft. 4 in. = .6528 gal/ft.
Calculated Water Column Volume: 0.35 gal.	Volumes Purged: 3.6
Start Purging Time: 6/4 1010	End Purging Time: 6/4 1011
Total Time: 1 min.	Flow Measurement: 5-gal bucket
Total Volume Purged: 0.5 gal.	Avg. Flow Rate: gpm
Dissolved Oxygen: 5.23 mg/l	Free Product: (N); Thickness: inches

SAMPLING CHARACTERISTICS				
Purging Method: Disposable Bailer		Sampling Method: Disposable Bailer		
Laboratory Analysis: General Minerals, Title 22 Dissolved Metals				
TIME	TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	pH	Gallons Purged
6/4 1011	22.6	1020	8.25	0.5
6/5 0820				Sample

Comments: Water had slight silt, no odor. Well went dry at 0.5 gallons.
Allowed well to recharge and sampled
ORP = 18 millivolts, Turbidity = 193 ntu

MONITORING WELL SAMPLING DATA

Project Name: Caltrans Modesto Soil Stockpiles	**Project Number**: S9800-01-17
Well No.: MW-6	Date: 6/5/14
Well Diameter: 2 in.	Field Personnel: JE/MO
Casing Length: 46.5 feet	Screened Casing Length: 10 feet
Well Elevation: 84.52 feet above MSL	Water Elevation: 47.58 feet above MSL

PURGE CHARACTERISTICS	
Water Depth Before Purging: 39.08 ft.	2 in. = .1632 gal/ft. 4 in. = .6528 gal/ft.
Calculated Water Column Volume: 1.21 gal.	Volumes Purged: 1.0
Start Purging Time: 6/4 1033, 6/5 0844	End Purging Time: 6/4 1034 , 6/5 0845
Total Time: 2 min.	Flow Measurement: 5-gal bucket
Total Volume Purged: 1.25 gal.	Avg. Flow Rate: gpm
Dissolved Oxygen: 5.66 mg/l	Free Product: (N); Thickness: inches

SAMPLING CHARACTERISTICS				
Purging Method: Submersible Pump		Sampling Method: Disposable Bailer		
Laboratory Analysis: General Minerals, Title 22 Dissolved Metals				
TIME	TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	pH	Gallons Purged
6/4 1034	23.5	1,024	8.74	0.5
6/5 0845	23.1	895	8.00	1.25
6/5 0900				Sample

Comments: Turbid, no odor. Dry at 0.5 gallon. Waited for recharge. Purged next day, well went dry.
Waited for recharge and sampled.
ORP = 16 millivolts, Turbidity = 611 ntu at start of purge, 301 ntu at end.

MONITORING WELL SAMPLING DATA

Project Name: Caltrans Modesto Soil Stockpiles	**Project Number**: S9800-01-17
Well No.: MW-7	Date: 6/5/14
Well Diameter: 2 in.	Field Personnel: JE/MO
Casing Length: 48 feet	Screened Casing Length: 10 feet
Well Elevation: 83.74 feet above MSL	Water Elevation: 47.25 feet above MSL

PURGE CHARACTERISTICS	
Water Depth Before Purging:39.09 ft.	2 in. = .1632 gal/ft. 4 in. = .6528 gal/ft.
Calculated Water Column Volume: 1.45 gal.	Volumes Purged: 3.1
Start Purging Time: 0915	End Purging Time: 0918
Total Time: 3 min.	Flow Measurement: 5-gal bucket
Total Volume Purged: 4.5 gal.	Avg. Flow Rate: 1.5 gpm
Dissolved Oxygen: 6.36 mg/l	Free Product: (N); Thickness: inches

SAMPLING CHARACTERISTICS

Purging Method: Submersible Pump	Sampling Method: Disposable Bailer

Laboratory Analysis: General Minerals, Title 22 Dissolved Metals

TIME	TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	pH	Gallons Purged
0916	22.2	635	7.89	2
0917	21.4	690	7.74	3
0918	21.0	694	7.62	4.5
0930				Sample

Comments: Clear, no odor.

ORP = 41 millivolts, Turbidity = 517 ntu at start of purge, 62 ntu at end

MONITORING WELL SAMPLING DATA

Project Name: Caltrans Modesto Soil Stockpiles	**Project Number**: S9800-01-17
Well No.: MW-8	Date: 6/5/14
Well Diameter: 2 in.	Field Personnel: JE/MO
Casing Length: 45 feet	Screened Casing Length: 10 feet
Well Elevation: 83.85 feet above MSL	Water Elevation: 47.00 feet above MSL

PURGE CHARACTERISTICS	
Water Depth Before Purging: 39.41 ft.	2 in. = .1632 gal/ft. 4 in. = .6528 gal/ft.
Calculated Water Column Volume: 0.91 gal.	Volumes Purged: 3.3
Start Purging Time: 0940	End Purging Time: 0943
Total Time: 3 min.	Flow Measurement: 5-gal bucket
Total Volume Purged: 3 gal.	Avg. Flow Rate: 1.0 gpm
Dissolved Oxygen: 6.11 mg/l	Free Product: (N); Thickness: inches

SAMPLING CHARACTERISTICS

Purging Method: Submersible Pump	Sampling Method: Disposable Bailer

Laboratory Analysis: General Minerals, Title 22 Dissolved Metals

TIME	TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	pH	Gallons Purged
0941	23.0	592	7.82	1
0942	21.9	620	7.62	2
0943	21.3	625	7.55	3
0955				Sample

Comments: Clear. No odor.

ORP = 97 millivolts.

MONITORING WELL SAMPLING DATA

Project Name: Caltrans Modesto Soil Stockpiles	**Project Number**: S9800-01-17
Well No.: MW-9	Date: 6/4/14
Well Diameter: 2 in.	Field Personnel: JE/MO
Casing Length: 40 feet	Screened Casing Length: 10 feet
Well Elevation: 82.53 feet above MSL	Water Elevation: 47.91 feet above MSL

PURGE CHARACTERISTICS	
Water Depth Before Purging: 37.34 ft.	2 in. = .1632 gal/ft. 4 in. = .6528 gal/ft.
Calculated Water Column Volume: 0.43 gal.	Volumes Purged: 3.5
Start Purging Time: 1059	End Purging Time: 1102
Total Time: 3 min.	Flow Measurement: 5-gal bucket
Total Volume Purged: 1.5 gal.	Avg. Flow Rate: 0.5 gpm
Dissolved Oxygen: 4.28 mg/l	Free Product: (N); Thickness: inches

SAMPLING CHARACTERISTICS

Purging Method: Submersible Pump	Sampling Method: Disposable Bailer

Laboratory Analysis: General Minerals, Title 22 Dissolved Metals

TIME	TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	pH	Gallons Purged
1100	24.6	868	6.95	0.5
1101	24.4	889	6.78	1
1102	24.2	897	6.71	1.5
1115				Sample

Comments: Slightly silty, turbid, no odor.

ORP = 25 millivolts, Turbidity = 392 ntu at start of purge, 162 ntu at end.

MONITORING WELL SAMPLING DATA

Project Name: Caltrans Modesto Soil Stockpiles	**Project Number**: S9800-01-17
Well No.: MW-10	Date: 6/5/14
Well Diameter: 2 in.	Field Personnel: JE/MO
Casing Length: 40 feet	Screened Casing Length: 10 feet
Well Elevation: 83.97 feet above MSL	Water Elevation: 47.80 feet above MSL

PURGE CHARACTERISTICS	
Water Depth Before Purging: 38.76 ft.	2 in. = .1632 gal/ft. 4 in. = .6528 gal/ft.
Calculated Water Column Volume: 0.20 gal.	Volumes Purged: 3.8
Start Purging Time: 1010	End Purging Time: 1013
Total Time: 3 min.	Flow Measurement: 5-gal bucket
Total Volume Purged: 0.75 gal.	Avg. Flow Rate: gpm
Dissolved Oxygen: 3.81 mg/l	Free Product: (N); Thickness: inches

SAMPLING CHARACTERISTICS	
Purging Method: Disposable Bailer	Sampling Method: Disposable Bailer
Laboratory Analysis: General Minerals, Title 22 Dissolved Metals	

TIME	TEMPERATURE (°C)	CONDUCTIVITY (µmhos/cm)	pH	Gallons Purged
1011	21.8	1,092	7.52	0.25
1012	21.4	1,082	7.38	0.50
1013	20.9	1,077	7.35	0.75
1030				Sample

Comments: Slightly silty. No odor. Slow recharge.
ORP = 109 millivolts, Turbidity = 513 ntu at start of purge, 53 ntu at end.

APPENDIX B

June 13, 2014

Rebecca Silva
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Tel: (916) 852-9118
Fax:(916) 852-9132

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1401663
Client Reference : Modesto Stockpiles, S9800-01-17

Enclosed are the results for sample(s) received on June 05, 2014 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-2	1401663-01	Water	6/04/14 8:30	6/05/14 8:20
MW-1	1401663-02	Water	6/04/14 9:00	6/05/14 8:20
MW-4	1401663-03	Water	6/04/14 9:30	6/05/14 8:20
MW-3	1401663-04	Water	6/04/14 10:00	6/05/14 8:20
MW-9	1401663-05	Water	6/04/14 11:15	6/05/14 8:20

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Client Sample ID MW-2
Lab ID: 1401663-01

Chloride by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	**14**	0.50	NA	1	B4F0132	06/05/2014	06/05/14 11:49	

Nitrate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Nitrate as N	**9.2**	0.10	NA	1	B4F0132	06/05/2014	06/05/14 11:49	

Sulfate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfate	**16**	0.50	NA	1	B4F0132	06/05/2014	06/05/14 11:49	

Alkalinity, Speciated by SM 2320B

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	**240**	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Total (as CaCO3)	**240**	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**390**	10	NA	1	B4F0167	06/09/2014	06/10/14 09:15	

Sulfide, Total by SM 4500-S=D

Analyst: LA

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfide, Total	ND	0.020	NA	2	B4F0085	06/05/2014	06/05/14 15:05	D1

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-2
Lab ID: 1401663-01

Cation-Anion Balance

Analyst: Various

Analyte	Result (meq/L)	PQL (meq/L)	MDL (meq/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Cation	**5.5**	0.11	NA		[CALC]			
Total Anions	**6.1**	0.43	NA		[CALC]			

Dissolved Metals by ICP-MS EPA 6020

Analyst: SB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Arsenic	**1.9**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Barium	**86**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Beryllium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 17:09	
Cadmium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Chromium	**5.3**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Cobalt	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Copper	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Lead	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Manganese	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Molybdenum	**1.1**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Nickel	**1.4**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Selenium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Silver	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Thallium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Vanadium	**22**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Zinc	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Strontium	**590**	10	NA	1	B4F0126	06/09/2014	06/10/14 13:44	
Calcium	**48000**	1000	NA	20	B4F0126	06/09/2014	06/12/14 14:51	D6
Magnesium	**17000**	500	NA	10	B4F0126	06/09/2014	06/10/14 18:49	D6
Potassium	**2400**	50	NA	1	B4F0126	06/09/2014	06/10/14 17:09	
Sodium	**39000**	500	NA	10	B4F0126	06/09/2014	06/10/14 18:49	D6

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Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-2

Lab ID: 1401663-01

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A **Analyst: VV**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	NA	1	B4F0162	06/10/2014	06/11/14 12:36	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Client Sample ID MW-1
Lab ID: 1401663-02

Chloride by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	**15**	1.0	NA	2	B4F0132	06/05/2014	06/05/14 15:05	

Nitrate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Nitrate as N	**15**	0.10	NA	1	B4F0132	06/05/2014	06/05/14 12:00	

Sulfate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfate	**39**	1.0	NA	2	B4F0132	06/05/2014	06/05/14 15:05	

Alkalinity, Speciated by SM 2320B

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	**340**	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Total (as CaCO3)	**340**	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**530**	10	NA	1	B4F0167	06/09/2014	06/10/14 09:15	

Sulfide, Total by SM 4500-S=D

Analyst: LA

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfide, Total	**0.12**	0.050	NA	5	B4F0085	06/05/2014	06/05/14 15:05	D1

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-1
Lab ID: 1401663-02

Cation-Anion Balance

Analyst: Various

Analyte	Result (meq/L)	PQL (meq/L)	MDL (meq/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Cation	**8.0**	0.19	NA		[CALC]			
Total Anions	**9.1**	0.46	NA		[CALC]			

Dissolved Metals by ICP-MS EPA 6020

Analyst: SB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Arsenic	**1.1**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Barium	**140**	2.0	NA	2	B4F0126	06/09/2014	06/10/14 15:15	D6
Beryllium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 17:14	
Cadmium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Chromium	**5.6**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Cobalt	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Copper	**1.1**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Lead	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Manganese	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Molybdenum	**0.63**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Nickel	**2.3**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Selenium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Silver	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Thallium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Vanadium	**19**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Zinc	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 13:49	
Strontium	**1100**	20	NA	2	B4F0126	06/09/2014	06/10/14 15:15	D6
Calcium	**87000**	2500	NA	50	B4F0126	06/09/2014	06/12/14 14:56	D6
Magnesium	**34000**	500	NA	10	B4F0126	06/09/2014	06/10/14 19:02	D6
Potassium	**2900**	50	NA	1	B4F0126	06/09/2014	06/10/14 17:14	
Sodium	**19000**	500	NA	10	B4F0126	06/09/2014	06/10/14 19:02	D6

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Client Sample ID MW-1

Lab ID: 1401663-02

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A **Analyst: VV**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	NA	1	B4F0162	06/10/2014	06/11/14 12:48	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Client Sample ID MW-4
Lab ID: 1401663-03

Chloride by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	**54**	5.0	NA	10	B4F0155	06/06/2014	06/06/14 10:40	

Nitrate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Nitrate as N	**9.5**	0.10	NA	1	B4F0132	06/05/2014	06/05/14 12:12	

Sulfate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfate	**26**	0.50	NA	1	B4F0132	06/05/2014	06/05/14 12:12	

Alkalinity, Speciated by SM 2320B

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	**250**	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Total (as CaCO3)	**250**	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**510**	10	NA	1	B4F0167	06/09/2014	06/10/14 09:15	

Sulfide, Total by SM 4500-S=D

Analyst: LA

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfide, Total	ND	0.020	NA	2	B4F0085	06/05/2014	06/05/14 15:05	D1

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-4
Lab ID: 1401663-03

Cation-Anion Balance

Analyst: Various

Analyte	Result (meq/L)	PQL (meq/L)	MDL (meq/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Cation	**7.2**	0.11	NA		[CALC]			
Total Anions	**7.8**	0.56	NA		[CALC]			

Dissolved Metals by ICP-MS EPA 6020

Analyst: SB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Arsenic	**1.3**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Barium	**140**	2.0	NA	2	B4F0126	06/09/2014	06/10/14 15:24	D6
Beryllium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 17:23	
Cadmium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Chromium	**5.7**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Cobalt	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Copper	**1.2**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Lead	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Manganese	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Molybdenum	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Nickel	**1.7**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Selenium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Silver	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Thallium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Vanadium	**19**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Zinc	**90**	10	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Strontium	**820**	10	NA	1	B4F0126	06/09/2014	06/10/14 13:58	
Calcium	**68000**	1000	NA	20	B4F0126	06/09/2014	06/12/14 15:05	D6
Magnesium	**22000**	500	NA	10	B4F0126	06/09/2014	06/10/14 19:16	D6
Potassium	**2700**	50	NA	1	B4F0126	06/09/2014	06/10/14 17:23	
Sodium	**44000**	500	NA	10	B4F0126	06/09/2014	06/10/14 19:16	D6

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Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-4

Lab ID: 1401663-03

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A **Analyst: VV**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	NA	1	B4F0162	06/10/2014	06/11/14 12:50	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Client Sample ID MW-3
Lab ID: 1401663-04

Chloride by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	**4.8**	0.50	NA	1	B4F0132	06/05/2014	06/05/14 12:23	

Nitrate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Nitrate as N	**2.6**	0.10	NA	1	B4F0132	06/05/2014	06/05/14 12:23	

Sulfate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfate	**8.8**	0.50	NA	1	B4F0132	06/05/2014	06/05/14 12:23	

Alkalinity, Speciated by SM 2320B

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	**220**	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Total (as CaCO3)	**220**	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**320**	10	NA	1	B4F0167	06/09/2014	06/10/14 09:15	

Sulfide, Total by SM 4500-S=D

Analyst: LA

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfide, Total	ND	0.020	NA	2	B4F0085	06/05/2014	06/05/14 15:05	D1

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-3
Lab ID: 1401663-04

Cation-Anion Balance

Analyst: Various

Analyte	Result (meq/L)	PQL (meq/L)	MDL (meq/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Cation	**4.8**	0.18	NA		[CALC]			
Total Anions	**4.9**	0.43	NA		[CALC]			

Dissolved Metals by ICP-MS EPA 6020

Analyst: SB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Arsenic	**4.5**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Barium	**51**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Beryllium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 17:28	
Cadmium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Chromium	**3.6**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Cobalt	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Copper	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Lead	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Manganese	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Molybdenum	**1.2**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Nickel	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Selenium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Silver	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Thallium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Vanadium	**32**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Zinc	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Strontium	**300**	10	NA	1	B4F0126	06/09/2014	06/10/14 14:02	
Calcium	**23000**	500	NA	10	B4F0126	06/09/2014	06/12/14 15:10	D6
Magnesium	**8000**	500	NA	10	B4F0126	06/09/2014	06/10/14 19:25	D6
Potassium	**1900**	50	NA	1	B4F0126	06/09/2014	06/10/14 17:28	
Sodium	**66000**	2500	NA	50	B4F0126	06/09/2014	06/10/14 19:20	D6

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-3

Lab ID: 1401663-04

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A **Analyst: VV**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	NA	1	B4F0162	06/10/2014	06/11/14 12:52	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Client Sample ID MW-9
Lab ID: 1401663-05

Chloride by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	**18**	5.0	NA	10	B4F0132	06/05/2014	06/05/14 16:36	

Nitrate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Nitrate as N	**10**	0.10	NA	1	B4F0132	06/05/2014	06/05/14 12:35	

Sulfate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfate	**23**	0.50	NA	1	B4F0132	06/05/2014	06/05/14 12:35	

Alkalinity, Speciated by SM 2320B

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	**320**	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	
Alkalinity, Total (as CaCO3)	**320**	5.0	NA	1	B4F0091	06/05/2014	06/05/14 14:25	

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**480**	10	NA	1	B4F0167	06/09/2014	06/10/14 09:15	

Sulfide, Total by SM 4500-S=D

Analyst: LA

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfide, Total	ND	0.020	NA	2	B4F0085	06/05/2014	06/05/14 15:05	D1

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-9
Lab ID: 1401663-05

Cation-Anion Balance

Analyst: Various

Analyte	Result (meq/L)	PQL (meq/L)	MDL (meq/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Cation	**7.3**	0.18	NA		[CALC]			
Total Anions	**8.1**	0.56	NA		[CALC]			

Dissolved Metals by ICP-MS EPA 6020

Analyst: SB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Arsenic	**1.8**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Barium	**120**	2.0	NA	2	B4F0126	06/09/2014	06/10/14 15:28	D6
Beryllium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 17:32	
Cadmium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Chromium	**3.9**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Cobalt	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Copper	**1.2**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Lead	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Manganese	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Molybdenum	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Nickel	**1.4**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Selenium	**0.53**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Silver	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Thallium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Vanadium	**21**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Zinc	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Strontium	**700**	10	NA	1	B4F0126	06/09/2014	06/10/14 14:07	
Calcium	**58000**	1000	NA	20	B4F0126	06/09/2014	06/12/14 15:15	D6
Magnesium	**21000**	1000	NA	20	B4F0126	06/09/2014	06/10/14 19:43	D6
Potassium	**2900**	50	NA	1	B4F0126	06/09/2014	06/10/14 17:32	
Sodium	**59000**	1000	NA	20	B4F0126	06/09/2014	06/10/14 19:43	D6

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3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-9

Lab ID: 1401663-05

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A **Analyst: VV**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	NA	1	B4F0162	06/10/2014	06/11/14 12:59	

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

QUALITY CONTROL SECTION

Chloride by Ion Chromatography EPA 300 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0132 - No_Prep_IC_1									
Blank (B4F0132-BLK1)				Prepared: 6/5/2014 Analyzed: 6/5/2014					
Chloride	ND	0.50			NR				
LCS (B4F0132-BS1)				Prepared: 6/5/2014 Analyzed: 6/5/2014					
Chloride	0.953800	0.50	1.00000		95.4	90 - 110			
Duplicate (B4F0132-DUP1)		**Source: 1401663-02**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Chloride	14.7350	1.0		14.7860	NR		0.346	20	
Matrix Spike (B4F0132-MS1)		**Source: 1401663-02**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Chloride	17.7312	1.0	2.50000	14.7860	118	80 - 120			
Matrix Spike Dup (B4F0132-MSD1)		**Source: 1401663-02**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Chloride	17.6264	1.0	2.50000	14.7860	114	80 - 120	0.593	20	
Batch B4F0155 - No_Prep_IC_1									
Blank (B4F0155-BLK1)				Prepared: 6/6/2014 Analyzed: 6/6/2014					
Chloride	ND	0.50			NR				
LCS (B4F0155-BS1)				Prepared: 6/6/2014 Analyzed: 6/6/2014					
Chloride	0.954900	0.50	1.00000		95.5	90 - 110			
Duplicate (B4F0155-DUP1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Chloride	33.7130	2.5		33.7670	NR		0.160	20	
Matrix Spike (B4F0155-MS1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Chloride	37.6720	2.5	2.50000	33.7670	156	80 - 120			M1
Matrix Spike Dup (B4F0155-MSD1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Chloride	37.5795	2.5	2.50000	33.7670	152	80 - 120	0.246	20	M1

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Nitrate by Ion Chromatography EPA 300 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0132 - No_Prep_IC_1									
Blank (B4F0132-BLK1)				Prepared: 6/5/2014 Analyzed: 6/5/2014					
Nitrate as N	ND	0.10			NR				
LCS (B4F0132-BS1)				Prepared: 6/5/2014 Analyzed: 6/5/2014					
Nitrate as N	0.979900	0.10	1.00000		98.0	90 - 110			
Duplicate (B4F0132-DUP1)		**Source: 1401663-02**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Nitrate as N	14.2554	0.20		14.8980	NR		4.41	20	
Matrix Spike (B4F0132-MS1)		**Source: 1401663-02**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Nitrate as N	15.9832	0.20	2.50000	14.8980	43.4	80 - 120			M1
Matrix Spike Dup (B4F0132-MSD1)		**Source: 1401663-02**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Nitrate as N	15.9830	0.20	2.50000	14.8980	43.4	80 - 120	0.00125	20	M1

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Sulfate by Ion Chromatography EPA 300 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0132 - No_Prep_IC_1									
Blank (B4F0132-BLK1)				Prepared: 6/5/2014 Analyzed: 6/5/2014					
Sulfate	ND	0.50			NR				
LCS (B4F0132-BS1)				Prepared: 6/5/2014 Analyzed: 6/5/2014					
Sulfate	2.00070	0.50	2.00000		100	90 - 110			
Duplicate (B4F0132-DUP1)		**Source: 1401663-02**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Sulfate	38.9260	1.0		39.0890	NR		0.418	20	
Matrix Spike (B4F0132-MS1)		**Source: 1401663-02**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Sulfate	42.7012	1.0	5.00000	39.0890	72.2	80 - 120			M1
Matrix Spike Dup (B4F0132-MSD1)		**Source: 1401663-02**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Sulfate	42.6774	1.0	5.00000	39.0890	71.8	80 - 120	0.0558	20	M1

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Rancho Cordova , CA 95742	Reported :	06/13/2014

Alkalinity, Speciated by SM 2320B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0091 - No_Prep_WC_1									
Blank (B4F0091-BLK1)				Prepared: 6/5/2014 Analyzed: 6/5/2014					
Alkalinity, Bicarbonate (as CaCO3)	ND	5.0			NR				
Alkalinity, Carbonate (as CaCO3)	ND	5.0			NR				
Alkalinity, Hydroxide (as CaCO3)	ND	5.0			NR				
Alkalinity, Total (as CaCO3)	ND	5.0			NR				
LCS (B4F0091-BS1)				Prepared: 6/5/2014 Analyzed: 6/5/2014					
Alkalinity, Bicarbonate (as CaCO3)	13.0100	5.0	0.00000		NR	80 - 120			
Alkalinity, Carbonate (as CaCO3)	89.2200	5.0	99.9580		89.3	80 - 120			
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	0.00000		NR	80 - 120			
Alkalinity, Total (as CaCO3)	102.230	5.0	99.9580		102	80 - 120			
Duplicate (B4F0091-DUP1)		**Source: 1401663-05**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Alkalinity, Bicarbonate (as CaCO3)	322.490	5.0		320.630	NR		0.578	20	
Alkalinity, Carbonate (as CaCO3)	ND	5.0		ND	NR			20	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0		ND	NR			20	
Alkalinity, Total (as CaCO3)	322.490	5.0		320.630	NR		0.578	20	
Matrix Spike (B4F0091-MS1)		**Source: 1401591-01**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Alkalinity, Bicarbonate (as CaCO3)	462.830		0.00000	263.940	NR	80 - 120			
Alkalinity, Carbonate (as CaCO3)	0.00000		99.9580	ND	NR	80 - 120			M2
Alkalinity, Hydroxide (as CaCO3)	0.00000		0.00000	ND	NR	80 - 120			
Alkalinity, Total (as CaCO3)	462.830		99.9580	263.940	199	80 - 120			M2
Matrix Spike Dup (B4F0091-MSD1)		**Source: 1401591-01**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Alkalinity, Bicarbonate (as CaCO3)	464.680		0.00000	263.940	NR	80 - 120	0.399	20	
Alkalinity, Carbonate (as CaCO3)	0.00000		99.9580	ND	NR	80 - 120		20	M2
Alkalinity, Hydroxide (as CaCO3)	0.00000		0.00000	ND	NR	80 - 120		20	
Alkalinity, Total (as CaCO3)	464.680		99.9580	263.940	201	80 - 120	0.399	20	M2

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Rancho Cordova , CA 95742	Reported :	06/13/2014

Total Dissolved Solids (Residue, Filterable) by SM 2540C - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0167 - No_Prep_WC_1									
Blank (B4F0167-BLK1)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Residue, Dissolved	ND	10			NR				

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Total Dissolved Solids (Residue, Filterable) by SM 2540C - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0167 - No_Prep_WC_1 (continued)									
LCS (B4F0167-BS1)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Residue, Dissolved	981.000	10	970.000		101	80 - 120			

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Rancho Cordova , CA 95742	Reported :	06/13/2014

Total Dissolved Solids (Residue, Filterable) by SM 2540C - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0167 - No_Prep_WC_1 (continued)									
Duplicate (B4F0167-DUP1)			**Source: 1401663-01**		Prepared: 6/9/2014 Analyzed: 6/10/2014				
Residue, Dissolved	385.000	10		386.000	NR		0.259	10	

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Rancho Cordova , CA 95742	Reported :	06/13/2014

Sulfide, Total by SM 4500-S=D - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0085 - Prep_WC_3_W									
Blank (B4F0085-BLK1)				Prepared: 6/5/2014 Analyzed: 6/5/2014					
Sulfide, Total	ND	0.010			NR				

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Sulfide, Total by SM 4500-S=D - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0085 - Prep_WC_3_W (continued)									
LCS (B4F0085-BS1)				Prepared: 6/5/2014 Analyzed: 6/5/2014					
Sulfide, Total	0.100700	0.010	0.100000		101	80 - 120			

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Rancho Cordova , CA 95742		Reported :	06/13/2014

Sulfide, Total by SM 4500-S=D - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0085 - Prep_WC_3_W (continued)									
Matrix Spike (B4F0085-MS1)		**Source: 1401663-01**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Sulfide, Total	0.0746	0.020	0.100000	0.0142	60.4	70 - 120			D1, M2

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Rancho Cordova , CA 95742	Reported :	06/13/2014

Sulfide, Total by SM 4500-S=D - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0085 - Prep_WC_3_W (continued)									
Matrix Spike Dup (B4F0085-MSD1)		**Source: 1401663-01**		Prepared: 6/5/2014 Analyzed: 6/5/2014					
Sulfide, Total	0.0956	0.020	0.100000	0.0142	81.4	70 - 120	24.7	20	D1, M2

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Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Metals by ICP-MS EPA 6020 - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS									
Blank (B4F0126-BLK1)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	ND	0.50			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				
Beryllium	ND	0.50			NR				
Cadmium	ND	0.50			NR				
Calcium	66.3165	50			NR				
Chromium	ND	0.50			NR				
Cobalt	ND	0.50			NR				
Copper	ND	1.0			NR				
Lead	ND	1.0			NR				
Magnesium	ND	50			NR				
Manganese	ND	10			NR				
Molybdenum	ND	0.50			NR				
Nickel	ND	1.0			NR				
Potassium	ND	50			NR				
Selenium	ND	0.50			NR				
Silver	ND	0.50			NR				
Sodium	ND	50			NR				
Thallium	ND	0.50			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	10			NR				
Strontium	ND	10			NR				

Certificate of Analysis

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Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Blank (B4F0126-BLK2)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	ND	0.50			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				
Beryllium	ND	0.50			NR				
Cadmium	ND	0.50			NR				
Calcium	ND	50			NR				
Chromium	ND	0.50			NR				
Cobalt	ND	0.50			NR				
Copper	ND	1.0			NR				
Lead	ND	1.0			NR				
Magnesium	ND	50			NR				
Manganese	ND	10			NR				
Molybdenum	ND	0.50			NR				
Nickel	ND	1.0			NR				
Potassium	ND	50			NR				
Selenium	ND	0.50			NR				
Silver	ND	0.50			NR				
Sodium	ND	50			NR				
Thallium	ND	0.50			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	10			NR				
Strontium	ND	10			NR				

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
LCS (B4F0126-BS1)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	11.0644	0.50	10.0000		111	85 - 115			
Arsenic	10.1300	1.0	10.0000		101	85 - 115			
Barium	10.0743	1.0	10.0000		101	85 - 115			
Beryllium	10.2528	0.50	10.0000		103	85 - 115			
Cadmium	9.63970	0.50	10.0000		96.4	85 - 115			
Calcium	614.855	50	500.000		123	85 - 115			B
Chromium	10.2492	0.50	10.0000		102	85 - 115			
Cobalt	9.63602	0.50	10.0000		96.4	85 - 115			
Copper	9.81840	1.0	10.0000		98.2	85 - 115			
Lead	9.86348	1.0	10.0000		98.6	85 - 115			
Magnesium	467.805	50	500.000		93.6	85 - 115			
Manganese	98.4783	10	100.000		98.5	85 - 115			
Molybdenum	9.92654	0.50	10.0000		99.3	85 - 115			
Nickel	9.57394	1.0	10.0000		95.7	85 - 115			
Potassium	509.979	50	500.000		102	85 - 115			
Selenium	8.91295	0.50	10.0000		89.1	85 - 115			
Silver	9.72282	0.50	10.0000		97.2	85 - 115			
Sodium	460.760	50	500.000		92.2	85 - 115			
Thallium	9.69877	0.50	10.0000		97.0	85 - 115			
Vanadium	9.44476	1.0	10.0000		94.4	85 - 115			
Zinc	90.6679	10	100.000		90.7	85 - 115			
Strontium	95.8033	10	100.000		95.8	85 - 115			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
LCS (B4F0126-BS2)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	10.5220	0.50	10.0000		105	85 - 115			
Arsenic	9.49187	1.0	10.0000		94.9	85 - 115			
Barium	9.83111	1.0	10.0000		98.3	85 - 115			
Beryllium	9.69565	0.50	10.0000		97.0	85 - 115			
Cadmium	9.78736	0.50	10.0000		97.9	85 - 115			
Calcium	574.992	50	500.000		115	85 - 115			B
Chromium	10.0250	0.50	10.0000		100	85 - 115			
Cobalt	10.1302	0.50	10.0000		101	85 - 115			
Copper	10.0155	1.0	10.0000		100	85 - 115			
Lead	9.65345	1.0	10.0000		96.5	85 - 115			
Magnesium	504.205	50	500.000		101	85 - 115			
Manganese	103.450	10	100.000		103	85 - 115			
Molybdenum	10.0898	0.50	10.0000		101	85 - 115			
Nickel	10.0172	1.0	10.0000		100	85 - 115			
Potassium	542.495	50	500.000		108	85 - 115			
Selenium	9.86839	0.50	10.0000		98.7	85 - 115			
Silver	10.0464	0.50	10.0000		100	85 - 115			
Sodium	506.522	50	500.000		101	85 - 115			
Thallium	9.57915	0.50	10.0000		95.8	85 - 115			
Vanadium	9.73724	1.0	10.0000		97.4	85 - 115			
Zinc	98.9401	10	100.000		98.9	85 - 115			
Strontium	99.3041	10	100.000		99.3	85 - 115			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Duplicate (B4F0126-DUP1)		**Source: 1401663-02**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	0.230283	0.50		0.242387	NR		5.12	20	
Arsenic	1.40932	1.0		1.10647	NR		24.1	20	R
Barium	143.488	1.0		137.107	NR		4.55	20	E
Beryllium	ND	0.50		ND	NR			20	
Cadmium	ND	0.50		ND	NR			20	
Calcium	79921.0	50		77552.2	NR		3.01	20	B, E
Chromium	5.61882	0.50		5.57762	NR		0.736	20	
Cobalt	0.212629	0.50		0.195826	NR		8.23	20	
Copper	1.15212	1.0		1.09444	NR		5.14	20	
Lead	ND	1.0		ND	NR			20	
Magnesium	30327.4	50		28667.8	NR		5.63	20	E
Manganese	4.26475	10		3.97409	NR		7.06	20	
Molybdenum	0.795265	0.50		0.632880	NR		22.7	20	R
Nickel	2.17380	1.0		2.27012	NR		4.34	20	
Potassium	2916.04	50		2831.32	NR		2.95	20	
Selenium	0.334139	0.50		0.363499	NR		8.42	20	
Silver	ND	0.50		ND	NR			20	
Sodium	17144.5	50		16499.7	NR		3.83	20	E
Thallium	ND	0.50		ND	NR			20	
Vanadium	19.0180	1.0		18.5343	NR		2.58	20	
Zinc	ND	10		ND	NR			20	
Strontium	1142.75	10		1098.39	NR		3.96	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Duplicate (B4F0126-DUP2)		**Source: 1401663-02RE1**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	ND	1.0		ND	NR			20	
Arsenic	ND	2.0		1.89829	NR			20	
Barium	144.746	2.0		143.301	NR		1.00	20	
Beryllium	ND	1.0		ND	NR			20	
Cadmium	ND	1.0		ND	NR			20	
Calcium	66536.2	100		65406.9	NR		1.71	20	B, E
Chromium	6.10541	1.0		6.16986	NR		1.05	20	
Cobalt	0.233350	1.0		0.226504	NR		2.98	20	
Copper	1.29322	2.0		1.26892	NR		1.90	20	
Lead	ND	2.0		ND	NR			20	
Magnesium	31647.8	100		32388.5	NR		2.31	20	E
Manganese	4.37113	20		4.29329	NR		1.80	20	
Molybdenum	0.695958	1.0		0.674048	NR		3.20	20	
Nickel	2.49089	2.0		2.48120	NR		0.390	20	
Potassium	2215.95	100		2178.05	NR		1.73	20	
Selenium	ND	1.0		ND	NR			20	
Silver	ND	1.0		ND	NR			20	
Sodium	17603.6	100		17777.4	NR		0.983	20	E
Thallium	ND	1.0		ND	NR			20	
Vanadium	19.7543	2.0		20.1160	NR		1.81	20	
Zinc	ND	20		ND	NR			20	
Strontium	1092.79	20		1061.87	NR		2.87	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Duplicate (B4F0126-DUP3)		**Source: 1401663-02RE2**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	0.204938	0.50		0.216944	NR		5.69	20	
Arsenic	1.40430	1.0		1.37700	NR		1.96	20	
Barium	141.149	1.0		134.010	NR		5.19	20	E
Beryllium	ND	0.50		ND	NR			20	
Cadmium	ND	0.50		ND	NR			20	
Calcium	77071.6	50		75525.6	NR		2.03	20	B, E
Chromium	5.56556	0.50		5.41309	NR		2.78	20	
Cobalt	0.230846	0.50		0.217155	NR		6.11	20	
Copper	1.18850	1.0		1.08268	NR		9.32	20	
Lead	ND	1.0		ND	NR			20	
Magnesium	30745.3	50		30042.5	NR		2.31	20	E
Manganese	4.21530	10		4.02620	NR		4.59	20	
Molybdenum	0.839615	0.50		0.802266	NR		4.55	20	
Nickel	2.28804	1.0		2.10802	NR		8.19	20	
Potassium	2914.30	50		2875.83	NR		1.33	20	
Selenium	0.297037	0.50		ND	NR			20	
Silver	ND	0.50		ND	NR			20	
Sodium	17819.5	50		17656.8	NR		0.917	20	E
Thallium	ND	0.50		ND	NR			20	
Vanadium	18.7962	1.0		18.1274	NR		3.62	20	
Zinc	ND	10		ND	NR			20	
Strontium	1191.87	10		1130.03	NR		5.33	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Duplicate (B4F0126-DUP4)		**Source: 1401663-02RE3**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	ND	5.0		ND	NR			20	
Arsenic	ND	10		ND	NR			20	
Barium	140.325	10		136.431	NR		2.81	20	
Beryllium	ND	5.0		ND	NR			20	
Cadmium	ND	5.0		ND	NR			20	
Calcium	83809.8	500		80535.3	NR		3.98	20	B, E
Chromium	5.27842	5.0		4.61435	NR		13.4	20	
Cobalt	ND	5.0		ND	NR			20	
Copper	ND	10		ND	NR			20	
Lead	ND	10		ND	NR			20	
Magnesium	35127.9	500		33643.2	NR		4.32	20	D6
Manganese	ND	100		ND	NR			20	
Molybdenum	ND	5.0		ND	NR			20	
Nickel	2.68720	10		2.63458	NR		1.98	20	
Potassium	3064.74	500		2931.58	NR		4.44	20	
Selenium	ND	5.0		ND	NR			20	
Silver	ND	5.0		ND	NR			20	
Sodium	20141.0	500		19147.6	NR		5.06	20	D6
Thallium	ND	5.0		ND	NR			20	
Vanadium	24.6121	10		23.5234	NR		4.52	20	
Zinc	ND	100		ND	NR			20	
Strontium	1173.36	100		1130.58	NR		3.71	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Duplicate (B4F0126-DUP5)		**Source: 1401663-02RE4**		Prepared: 6/9/2014 Analyzed: 6/12/2014					
Antimony	ND	25		ND	NR			20	
Arsenic	ND	50		ND	NR			20	
Barium	146.445	50		136.869	NR		6.76	20	
Beryllium	ND	25		ND	NR			20	
Cadmium	ND	25		ND	NR			20	
Calcium	95696.5	2500		86828.2	NR		9.72	20	B, D6
Chromium	ND	25		ND	NR			20	
Cobalt	ND	25		ND	NR			20	
Copper	ND	50		ND	NR			20	
Lead	ND	50		ND	NR			20	
Magnesium	38089.4	2500		34962.2	NR		8.56	20	
Manganese	ND	500		ND	NR			20	
Molybdenum	ND	25		ND	NR			20	
Nickel	ND	50		ND	NR			20	
Potassium	3583.65	2500		3216.23	NR		10.8	20	
Selenium	ND	25		ND	NR			20	
Silver	ND	25		ND	NR			20	
Sodium	20882.3	2500		19419.5	NR		7.26	20	
Thallium	ND	25		ND	NR			20	
Vanadium	29.0126	50		30.1958	NR		4.00	20	
Zinc	ND	500		ND	NR			20	
Strontium	1198.75	500		1114.85	NR		7.25	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS1)		**Source: 1401676-02**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	11.3037	0.50	10.0000	0.130907	112	70 - 130			
Arsenic	13.5955	1.0	10.0000	3.72856	98.7	70 - 130			
Barium	96.6986	1.0	10.0000	83.7359	130	70 - 130			E
Beryllium	9.36506	0.50	10.0000	ND	93.7	70 - 130			
Cadmium	9.19213	0.50	10.0000	ND	91.9	70 - 130			
Calcium	33792.8	50	500.000	32575.0	244	70 - 130			B, E
Chromium	16.4507	0.50	10.0000	8.26365	81.9	70 - 130			
Cobalt	7.88071	0.50	10.0000	ND	78.8	70 - 130			
Copper	8.50983	1.0	10.0000	0.793041	77.2	70 - 130			
Lead	9.10843	1.0	10.0000	ND	91.1	70 - 130			
Magnesium	13665.1	50	500.000	12868.9	159	70 - 130			E
Manganese	80.9426	10	100.000	ND	80.9	70 - 130			
Molybdenum	15.7424	0.50	10.0000	5.00286	107	70 - 130			
Nickel	8.81428	1.0	10.0000	1.08091	77.3	70 - 130			
Potassium	2783.04	50	500.000	2399.31	76.7	70 - 130			
Selenium	8.62231	0.50	10.0000	0.563629	80.6	70 - 130			
Silver	9.12955	0.50	10.0000	ND	91.3	70 - 130			
Sodium	ND	50	500.000	ND	NR	70 - 130			
Thallium	8.90517	0.50	10.0000	ND	89.1	70 - 130			
Vanadium	43.3984	1.0	10.0000	33.7369	96.6	70 - 130			
Zinc	79.7143	10	100.000	ND	79.7	70 - 130			
Strontium	672.116	10	100.000	553.300	119	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS2)		**Source: 1401676-02**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	9.98270	1.0	10.0000	0.130907	98.5	70 - 130			
Arsenic	13.1547	2.0	10.0000	3.72856	94.3	70 - 130			
Barium	89.3053	2.0	10.0000	83.7359	55.7	70 - 130			D6, M1
Beryllium	10.1552	1.0	10.0000	ND	102	70 - 130			
Cadmium	8.67115	1.0	10.0000	ND	86.7	70 - 130			
Calcium	31692.9	100	500.000	32575.0	-176	70 - 130			B, E
Chromium	16.5821	1.0	10.0000	8.26365	83.2	70 - 130			
Cobalt	8.08842	1.0	10.0000	ND	80.9	70 - 130			
Copper	9.15971	2.0	10.0000	0.793041	83.7	70 - 130			
Lead	8.32508	2.0	10.0000	ND	83.3	70 - 130			
Magnesium	14416.7	100	500.000	12868.9	310	70 - 130			E
Manganese	82.3819	20	100.000	ND	82.4	70 - 130			
Molybdenum	13.8146	1.0	10.0000	5.00286	88.1	70 - 130			
Nickel	9.18338	2.0	10.0000	1.08091	81.0	70 - 130			
Potassium	2599.29	100	500.000	2399.31	40.0	70 - 130			
Selenium	8.04821	1.0	10.0000	0.563629	74.8	70 - 130			
Silver	8.52277	1.0	10.0000	ND	85.2	70 - 130			
Sodium	ND	100	500.000	ND	NR	70 - 130			
Thallium	8.14676	1.0	10.0000	ND	81.5	70 - 130			
Vanadium	43.9370	2.0	10.0000	33.7369	102	70 - 130			
Zinc	75.8225	20	100.000	ND	75.8	70 - 130			
Strontium	625.946	20	100.000	553.300	72.6	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS3)		**Source: 1401676-02RE1**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	10.6509	0.50	10.0000	ND	107	70 - 130			
Arsenic	13.2608	1.0	10.0000	3.57779	96.8	70 - 130			
Barium	92.0499	1.0	10.0000	81.1639	109	70 - 130			E
Beryllium	8.61804	0.50	10.0000	ND	86.2	70 - 130			
Cadmium	9.07964	0.50	10.0000	ND	90.8	70 - 130			
Calcium	37348.1	50	500.000	36136.5	242	70 - 130			B, E
Chromium	16.5593	0.50	10.0000	8.24413	83.2	70 - 130			
Cobalt	8.24452	0.50	10.0000	ND	82.4	70 - 130			
Copper	8.43006	1.0	10.0000	0.800703	76.3	70 - 130			
Lead	9.17948	1.0	10.0000	ND	91.8	70 - 130			
Magnesium	14394.1	50	500.000	13314.4	216	70 - 130			E
Manganese	82.2748	10	100.000	ND	82.3	70 - 130			
Molybdenum	15.5018	0.50	10.0000	5.01905	105	70 - 130			
Nickel	8.95951	1.0	10.0000	1.16600	77.9	70 - 130			
Potassium	3372.77	50	500.000	2842.84	106	70 - 130			
Selenium	9.12793	0.50	10.0000	0.556837	85.7	70 - 130			
Silver	9.18765	0.50	10.0000	ND	91.9	70 - 130			
Sodium	ND	50	500.000	ND	NR	70 - 130			
Thallium	8.88082	0.50	10.0000	ND	88.8	70 - 130			
Vanadium	43.9153	1.0	10.0000	34.2915	96.2	70 - 130			
Zinc	84.8295	10	100.000	ND	84.8	70 - 130			
Strontium	714.699	10	100.000	600.357	114	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS4)		**Source: 1401676-02RE2**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	12.7036	25	10.0000	ND	127	70 - 130			
Arsenic	ND	50	10.0000	ND	NR	70 - 130			
Barium	132.354	50	10.0000	83.4338	489	70 - 130			
Beryllium	13.6100	25	10.0000	ND	136	70 - 130			
Cadmium	12.5538	25	10.0000	ND	126	70 - 130			
Calcium	65838.0	2500	500.000	43240.6	4520	70 - 130			B
Chromium	30.1094	25	10.0000	ND	301	70 - 130			
Cobalt	14.6707	25	10.0000	ND	147	70 - 130			
Copper	15.9500	50	10.0000	ND	160	70 - 130			
Lead	13.3340	50	10.0000	ND	133	70 - 130			
Magnesium	22778.1	2500	500.000	16023.7	1350	70 - 130			
Manganese	143.974	500	100.000	ND	144	70 - 130			
Molybdenum	20.6732	25	10.0000	ND	207	70 - 130			
Nickel	17.4204	50	10.0000	ND	174	70 - 130			
Potassium	6936.32	2500	500.000	3431.18	701	70 - 130			
Selenium	ND	25	10.0000	ND	NR	70 - 130			
Silver	13.0167	25	10.0000	ND	130	70 - 130			
Sodium	170597	2500	500.000	120710	9980	70 - 130			D6, M1
Thallium	13.4240	25	10.0000	ND	134	70 - 130			
Vanadium	91.2282	50	10.0000	47.2812	439	70 - 130			
Zinc	ND	500	100.000	ND	NR	70 - 130			
Strontium	979.732	500	100.000	596.557	383	70 - 130			

Certificate of Analysis

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS5)		**Source: 1401676-02RE3**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	9.98965	5.0	10.0000	ND	99.9	70 - 130			
Arsenic	14.1857	10	10.0000	ND	142	70 - 130			
Barium	93.3227	10	10.0000	80.7319	126	70 - 130			
Beryllium	9.40647	5.0	10.0000	ND	94.1	70 - 130			
Cadmium	9.46470	5.0	10.0000	ND	94.6	70 - 130			
Calcium	42376.6	500	500.000	40626.7	350	70 - 130			B
Chromium	17.9845	5.0	10.0000	7.40186	106	70 - 130			
Cobalt	10.1047	5.0	10.0000	ND	101	70 - 130			
Copper	10.7773	10	10.0000	ND	108	70 - 130			
Lead	9.19560	10	10.0000	ND	92.0	70 - 130			
Magnesium	15865.8	500	500.000	14876.4	198	70 - 130			D6, M1
Manganese	100.198	100	100.000	ND	100	70 - 130			
Molybdenum	14.8668	5.0	10.0000	4.85782	100	70 - 130			
Nickel	11.3209	10	10.0000	1.27441	100	70 - 130			
Potassium	3913.88	500	500.000	3302.30	122	70 - 130			
Selenium	8.95836	5.0	10.0000	ND	89.6	70 - 130			
Silver	9.76373	5.0	10.0000	ND	97.6	70 - 130			
Sodium	122046	500	500.000	116058	1200	70 - 130			E
Thallium	9.40907	5.0	10.0000	ND	94.1	70 - 130			
Vanadium	53.8991	10	10.0000	42.4237	115	70 - 130			
Zinc	90.6267	100	100.000	ND	90.6	70 - 130			
Strontium	702.801	100	100.000	585.856	117	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS6)		**Source: 1401676-02RE4**		Prepared: 6/9/2014 Analyzed: 6/12/2014					
Antimony	6.16334	10	10.0000	ND	61.6	70 - 130			
Arsenic	ND	20	10.0000	ND	NR	70 - 130			
Barium	92.7481	20	10.0000	80.8794	119	70 - 130			
Beryllium	8.21456	10	10.0000	ND	82.1	70 - 130			
Cadmium	9.15686	10	10.0000	ND	91.6	70 - 130			
Calcium	46780.0	1000	500.000	44745.3	407	70 - 130			B, D6, M1
Chromium	17.2841	10	10.0000	7.65866	96.3	70 - 130			
Cobalt	9.51656	10	10.0000	ND	95.2	70 - 130			
Copper	10.6309	20	10.0000	ND	106	70 - 130			
Lead	9.21712	20	10.0000	ND	92.2	70 - 130			
Magnesium	16041.5	1000	500.000	15220.8	164	70 - 130			
Manganese	95.2969	200	100.000	ND	95.3	70 - 130			
Molybdenum	13.5998	10	10.0000	3.78760	98.1	70 - 130			
Nickel	10.6664	20	10.0000	ND	107	70 - 130			
Potassium	4395.15	1000	500.000	3758.43	127	70 - 130			
Selenium	6.93572	10	10.0000	ND	69.4	70 - 130			
Silver	8.92288	10	10.0000	ND	89.2	70 - 130			
Sodium	119357	1000	500.000	114296	1010	70 - 130			E
Thallium	9.22290	10	10.0000	ND	92.2	70 - 130			
Vanadium	51.5837	20	10.0000	41.1575	104	70 - 130			
Zinc	ND	200	100.000	ND	NR	70 - 130			
Strontium	705.253	200	100.000	579.343	126	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD1)		**Source: 1401676-02**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	10.7385	0.50	10.0000	0.130907	106	70 - 130	5.13	20	
Arsenic	13.2915	1.0	10.0000	3.72856	95.6	70 - 130	2.26	20	
Barium	93.1064	1.0	10.0000	83.7359	93.7	70 - 130	3.79	20	E
Beryllium	9.19624	0.50	10.0000	ND	92.0	70 - 130	1.82	20	
Cadmium	8.91833	0.50	10.0000	ND	89.2	70 - 130	3.02	20	
Calcium	32612.5	50	500.000	32575.0	7.51	70 - 130	3.55	20	B, E
Chromium	16.4269	0.50	10.0000	8.26365	81.6	70 - 130	0.145	20	
Cobalt	7.74581	0.50	10.0000	ND	77.5	70 - 130	1.73	20	
Copper	8.34356	1.0	10.0000	0.793041	75.5	70 - 130	1.97	20	
Lead	8.77786	1.0	10.0000	ND	87.8	70 - 130	3.70	20	
Magnesium	13625.8	50	500.000	12868.9	151	70 - 130	0.288	20	E
Manganese	78.4982	10	100.000	ND	78.5	70 - 130	3.07	20	
Molybdenum	15.0706	0.50	10.0000	5.00286	101	70 - 130	4.36	20	
Nickel	8.64152	1.0	10.0000	1.08091	75.6	70 - 130	1.98	20	
Potassium	2691.45	50	500.000	2399.31	58.4	70 - 130	3.35	20	
Selenium	8.61730	0.50	10.0000	0.563629	80.5	70 - 130	0.0581	20	
Silver	8.95725	0.50	10.0000	ND	89.6	70 - 130	1.91	20	
Sodium	ND	50	500.000	ND	NR	70 - 130		20	
Thallium	8.63682	0.50	10.0000	ND	86.4	70 - 130	3.06	20	
Vanadium	42.9416	1.0	10.0000	33.7369	92.0	70 - 130	1.06	20	
Zinc	77.6620	10	100.000	ND	77.7	70 - 130	2.61	20	
Strontium	651.888	10	100.000	553.300	98.6	70 - 130	3.06	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD2)		**Source: 1401676-02**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	10.9619	1.0	10.0000	0.130907	108	70 - 130	9.35	20	
Arsenic	14.0790	2.0	10.0000	3.72856	104	70 - 130	6.79	20	
Barium	99.1220	2.0	10.0000	83.7359	154	70 - 130	10.4	20	D6, M1
Beryllium	11.0904	1.0	10.0000	ND	111	70 - 130	8.80	20	
Cadmium	9.31260	1.0	10.0000	ND	93.1	70 - 130	7.13	20	
Calcium	33981.5	100	500.000	32575.0	281	70 - 130	6.97	20	B, E
Chromium	17.9632	1.0	10.0000	8.26365	97.0	70 - 130	8.00	20	
Cobalt	8.75289	1.0	10.0000	ND	87.5	70 - 130	7.89	20	
Copper	9.60477	2.0	10.0000	0.793041	88.1	70 - 130	4.74	20	
Lead	9.29274	2.0	10.0000	ND	92.9	70 - 130	11.0	20	
Magnesium	15462.9	100	500.000	12868.9	519	70 - 130	7.00	20	E
Manganese	88.4967	20	100.000	ND	88.5	70 - 130	7.16	20	
Molybdenum	15.1205	1.0	10.0000	5.00286	101	70 - 130	9.03	20	
Nickel	9.85609	2.0	10.0000	1.08091	87.8	70 - 130	7.07	20	
Potassium	2794.74	100	500.000	2399.31	79.1	70 - 130	7.25	20	
Selenium	8.26368	1.0	10.0000	0.563629	77.0	70 - 130	2.64	20	
Silver	9.19693	1.0	10.0000	ND	92.0	70 - 130	7.61	20	
Sodium	ND	100	500.000	ND	NR	70 - 130		20	
Thallium	9.01374	1.0	10.0000	ND	90.1	70 - 130	10.1	20	
Vanadium	47.6355	2.0	10.0000	33.7369	139	70 - 130	8.08	20	
Zinc	83.0657	20	100.000	ND	83.1	70 - 130	9.12	20	
Strontium	682.392	20	100.000	553.300	129	70 - 130	8.63	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD3)		**Source: 1401676-02RE1**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	10.1850	0.50	10.0000	ND	102	70 - 130	4.47	20	
Arsenic	12.8118	1.0	10.0000	3.57779	92.3	70 - 130	3.44	20	
Barium	90.6367	1.0	10.0000	81.1639	94.7	70 - 130	1.55	20	E
Beryllium	8.21706	0.50	10.0000	ND	82.2	70 - 130	4.76	20	
Cadmium	8.83248	0.50	10.0000	ND	88.3	70 - 130	2.76	20	
Calcium	35644.7	50	500.000	36136.5	-98.4	70 - 130	4.67	20	B, E
Chromium	15.9382	0.50	10.0000	8.24413	76.9	70 - 130	3.82	20	
Cobalt	7.91966	0.50	10.0000	ND	79.2	70 - 130	4.02	20	
Copper	8.18127	1.0	10.0000	0.800703	73.8	70 - 130	3.00	20	
Lead	9.05973	1.0	10.0000	ND	90.6	70 - 130	1.31	20	
Magnesium	13638.8	50	500.000	13314.4	64.9	70 - 130	5.39	20	E
Manganese	79.8312	10	100.000	ND	79.8	70 - 130	3.01	20	
Molybdenum	15.1013	0.50	10.0000	5.01905	101	70 - 130	2.62	20	
Nickel	8.65357	1.0	10.0000	1.16600	74.9	70 - 130	3.47	20	
Potassium	3226.23	50	500.000	2842.84	76.7	70 - 130	4.44	20	
Selenium	8.78301	0.50	10.0000	0.556837	82.3	70 - 130	3.85	20	
Silver	8.86787	0.50	10.0000	ND	88.7	70 - 130	3.54	20	
Sodium	ND	50	500.000	ND	NR	70 - 130		20	
Thallium	8.85094	0.50	10.0000	ND	88.5	70 - 130	0.337	20	
Vanadium	41.7051	1.0	10.0000	34.2915	74.1	70 - 130	5.16	20	
Zinc	82.5420	10	100.000	ND	82.5	70 - 130	2.73	20	
Strontium	685.984	10	100.000	600.357	85.6	70 - 130	4.10	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD4)		**Source: 1401676-02RE2**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	8.69660	25	10.0000	ND	87.0	70 - 130	37.4	20	
Arsenic	ND	50	10.0000	ND	NR	70 - 130		20	
Barium	94.2934	50	10.0000	83.4338	109	70 - 130	33.6	20	
Beryllium	8.93485	25	10.0000	ND	89.3	70 - 130	41.5	20	
Cadmium	9.68065	25	10.0000	ND	96.8	70 - 130	25.8	20	
Calcium	44254.1	2500	500.000	43240.6	203	70 - 130	39.2	20	B
Chromium	11.0964	25	10.0000	ND	111	70 - 130	92.3	20	
Cobalt	11.0118	25	10.0000	ND	110	70 - 130	28.5	20	
Copper	11.6322	50	10.0000	ND	116	70 - 130	31.3	20	
Lead	9.13120	50	10.0000	ND	91.3	70 - 130	37.4	20	
Magnesium	16725.1	2500	500.000	16023.7	140	70 - 130	30.6	20	
Manganese	103.297	500	100.000	ND	103	70 - 130	32.9	20	
Molybdenum	13.9954	25	10.0000	ND	140	70 - 130	38.5	20	
Nickel	12.3706	50	10.0000	ND	124	70 - 130	33.9	20	
Potassium	4110.37	2500	500.000	3431.18	136	70 - 130	51.2	20	
Selenium	ND	25	10.0000	ND	NR	70 - 130		20	
Silver	10.1474	25	10.0000	ND	101	70 - 130	24.8	20	
Sodium	124240	2500	500.000	120710	706	70 - 130	31.4	20	D6, M1
Thallium	9.32600	25	10.0000	ND	93.3	70 - 130	36.0	20	
Vanadium	67.4191	50	10.0000	47.2812	201	70 - 130	30.0	20	
Zinc	ND	500	100.000	ND	NR	70 - 130		20	
Strontium	708.502	500	100.000	596.557	112	70 - 130	32.1	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD5)		**Source: 1401676-02RE3**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	9.87974	5.0	10.0000	ND	98.8	70 - 130	1.11	20	
Arsenic	14.8219	10	10.0000	ND	148	70 - 130	4.39	20	
Barium	92.2502	10	10.0000	80.7319	115	70 - 130	1.16	20	
Beryllium	9.87462	5.0	10.0000	ND	98.7	70 - 130	4.86	20	
Cadmium	9.55608	5.0	10.0000	ND	95.6	70 - 130	0.961	20	
Calcium	41534.5	500	500.000	40626.7	182	70 - 130	2.01	20	B
Chromium	17.2506	5.0	10.0000	7.40186	98.5	70 - 130	4.17	20	
Cobalt	9.87923	5.0	10.0000	ND	98.8	70 - 130	2.26	20	
Copper	10.9562	10	10.0000	ND	110	70 - 130	1.65	20	
Lead	8.92843	10	10.0000	ND	89.3	70 - 130	2.95	20	
Magnesium	15961.4	500	500.000	14876.4	217	70 - 130	0.601	20	D6, M1
Manganese	97.7249	100	100.000	ND	97.7	70 - 130	2.50	20	
Molybdenum	14.6510	5.0	10.0000	4.85782	97.9	70 - 130	1.46	20	
Nickel	11.3042	10	10.0000	1.27441	100	70 - 130	0.148	20	
Potassium	3932.47	500	500.000	3302.30	126	70 - 130	0.474	20	
Selenium	8.62192	5.0	10.0000	ND	86.2	70 - 130	3.83	20	
Silver	9.50639	5.0	10.0000	ND	95.1	70 - 130	2.67	20	
Sodium	121746	500	500.000	116058	1140	70 - 130	0.246	20	E
Thallium	9.04937	5.0	10.0000	ND	90.5	70 - 130	3.90	20	
Vanadium	53.4839	10	10.0000	42.4237	111	70 - 130	0.773	20	
Zinc	87.4686	100	100.000	ND	87.5	70 - 130	3.55	20	
Strontium	695.329	100	100.000	585.856	109	70 - 130	1.07	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD6)		**Source: 1401676-02RE4**		Prepared: 6/9/2014 Analyzed: 6/12/2014					
Antimony	6.05694	10	10.0000	ND	60.6	70 - 130	1.74	20	
Arsenic	ND	20	10.0000	ND	NR	70 - 130		20	
Barium	89.7267	20	10.0000	80.8794	88.5	70 - 130	3.31	20	
Beryllium	7.98502	10	10.0000	ND	79.9	70 - 130	2.83	20	
Cadmium	9.21572	10	10.0000	ND	92.2	70 - 130	0.641	20	
Calcium	46497.3	1000	500.000	44745.3	350	70 - 130	0.606	20	B, D6, M1
Chromium	16.9489	10	10.0000	7.65866	92.9	70 - 130	1.96	20	
Cobalt	9.36186	10	10.0000	ND	93.6	70 - 130	1.64	20	
Copper	9.90256	20	10.0000	ND	99.0	70 - 130	7.09	20	
Lead	9.17030	20	10.0000	ND	91.7	70 - 130	0.509	20	
Magnesium	15886.7	1000	500.000	15220.8	133	70 - 130	0.970	20	
Manganese	94.1050	200	100.000	ND	94.1	70 - 130	1.26	20	
Molybdenum	12.4232	10	10.0000	3.78760	86.4	70 - 130	9.04	20	
Nickel	10.2232	20	10.0000	ND	102	70 - 130	4.24	20	
Potassium	4405.14	1000	500.000	3758.43	129	70 - 130	0.227	20	
Selenium	8.75232	10	10.0000	ND	87.5	70 - 130	23.2	20	
Silver	8.59256	10	10.0000	ND	85.9	70 - 130	3.77	20	
Sodium	118622	1000	500.000	114296	865	70 - 130	0.617	20	E
Thallium	9.12298	10	10.0000	ND	91.2	70 - 130	1.09	20	
Vanadium	50.1696	20	10.0000	41.1575	90.1	70 - 130	2.78	20	
Zinc	ND	200	100.000	ND	NR	70 - 130		20	
Strontium	682.381	200	100.000	579.343	103	70 - 130	3.30	20	

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Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470									
Blank (B4F0162-BLK1)				Prepared: 6/10/2014 Analyzed: 6/11/2014					
Mercury	ND	0.20			NR				

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470 (continued)									
LCS (B4F0162-BS1)				Prepared: 6/10/2014 Analyzed: 6/11/2014					
Mercury	10.3170	0.20	10.0000		103	80 - 120			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470 (continued)									
Duplicate (B4F0162-DUP1)		**Source: 1401663-01**		Prepared: 6/10/2014 Analyzed: 6/11/2014					
Mercury	ND	0.20		ND	NR			20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470 (continued)									
Matrix Spike (B4F0162-MS1)		**Source: 1401663-01**		Prepared: 6/10/2014 Analyzed: 6/11/2014					
Mercury	10.6408	0.20	10.0000	ND	106	70 - 130			

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470 (continued)									
Matrix Spike Dup (B4F0162-MSD1)		**Source: 1401663-01**		Prepared: 6/10/2014 Analyzed: 6/11/2014					
Mercury	10.6332	0.20	10.0000	ND	106	70 - 130	0.0710	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470 (continued)									
Post Spike (B4F0162-PS1)			**Source: 1401663-01**		Prepared: 6/10/2014 Analyzed: 6/11/2014				
Mercury	5.18356		5.00000	-0.009275	104	85 - 115			

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
E	Result value above quantitation range.
D6	Sample required dilution due to high concentration of target analyte.
D1	Sample required dilution due to possible matrix interference.
B	Analyte detected in the associated method blank.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED 1, 2 Y ☑ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐
4. SEALED Y ☐ N ☐
5. # OF SPLS MATCH COC Y ☐ N ☐
6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: Modesto Stockpiles
Project #: S9800-01-17
Sampler: (Printed Name) J. Esquivel (Signature)

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
J. Esquivel	6/4/14	1500	Ontrac	6/4/14	1500
			C. Bynik	6/5/14	820

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans Contract 06A1895
*Dissolved CAM 17 Metals plus Strontium and manganese - samples were field filtered
Please calculate Anion/Cation Balance
Please prepare EDF for GeoTracker

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Sulfide (EPA 9030/376)	Sulfate and Nitrate (EPA 9056 or 300.0)	Alkalinity - Speciated (SM 2320B)	Chloride (EPA 300.0)	Ca, Mg, NA, K (EPA 6020)* dissolved	TDS (EPA 160.1)	TITLE 22 / CAM 17 (6020 / 7000)*	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Type	PRESERVATION	REMARKS
	1406663-1	MW-2		830					X		X					X	E	1	P	P	n/c
		↓		↓	X											X	E	1	P	P	c/z/c
		↓		↓		X	X	X		X						X	E	1	L	P	c
	2	MW-1		900					X		X					X	E	1	P	P	n/c
		↓		↓	X											X	E	1	P	P	c/z/c
		↓		↓		X	X	X		X						X	E	1	L	P	c
	3	MW-4		930					X		X					X	E	1	P	P	n/c
		↓		↓	X											X	E	1	P	P	c/z/c
		↓		↓		X	X	X		X						X	E	1	L	P	c

- TAT starts 8AM the following day if samples received after 3 PM

TAT: A = Overnight ≤ 24 hrs; B = Emergency Next Workday; C = Critical 2 Workdays; D = Urgent 3 Workdays; E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED 1.2 Y ☑ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: Modesto Stockpiles
Project #: S9800-01-17
Sampler: (Printed Name) J. Esquivel (Signature)

Relinquished by: (Signature and Printed Name) J. Esquivel Date: 6/4/14 Time: 1500
Received by: (Signature and Printed Name) Ontrac Date: 6/4/14 Time: 1500
Relinquished by: (Signature and Printed Name) Date: Time:
Received by: (Signature and Printed Name) Date: 6/5/14 Time: 830
Relinquished by: (Signature and Printed Name) Date: Time:
Received by: (Signature and Printed Name) Date: Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans Contract 06A1895
*Dissolved CAM 17 Metals plus Strontium and manganese - samples were field filtered
Please calculate Anion/Cation Balance
Please prepare EDF for GeoTracker

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode _____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Sulfide (EPA 9030/376)	Sulfate and Nitrate (EPA 9056 or 300.0)	Alkalinity - Speciated (SM 2320B)	Chloride (EPA 300.0)	Ca, Mg, NA, K (EPA 6020)* dissolved	TDS (EPA 160.1)	TITLE 22 / CAM 17 (6020 / 7000)*	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Type	PRESERVATION	REMARKS
	1401663-4	MW-3		1000					X		X		X				E	1	P	P	n/c
					X								X				E	1	P	P	c/z/c
						X	X	X		X			X				E	1	L	P	c
	5	MW-9		1115					X		X		X				E	1	P	P	n/c
					X								X				E	1	P	P	c/z/c
						X	X	X		X			X				E	1	L	P	c
									X		X		X				E	1	P	P	n/c
					X								X				E	1	P	P	c/z/c
						X	X	X		X			X				E	1	L	P	c

JAE

- TAT starts 8AM the following day if samples received after 3 PM

TAT: A = Overnight ≤ 24 hrs; B = Emergency Next Workday; C = Critical 2 Workdays; D = Urgent 3 Workdays; E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

June 13, 2014

Rebecca Silva
Geocon Consultants, Inc.
3160 Gold Valley Drive, Suite 800
Rancho Cordova, CA 95742
Tel: (916) 852-9118
Fax:(916) 852-9132

ELAP No.: 1838
CSDLAC No.: 10196
ORELAP No.: CA300003
TCEQ No. : T104704502

Re: ATL Work Order Number : 1401676
Client Reference : Modesto Stockpiles, S9800-01-17

Enclosed are the results for sample(s) received on June 06, 2014 by Advanced Technology Laboratories. The sample(s) are tested for the parameters as indicated on the enclosed chain of custody in accordance with applicable laboratory certifications. The laboratory results contained in this report specifically pertains to the sample(s) submitted.

Thank you for the opportunity to serve the needs of your company. If you have any questions, please feel free to contact me or your Project Manager.

Sincerely,

Eddie Rodriguez
Laboratory Director

The cover letter and the case narrative are an integral part of this analytical report and its absence renders the report invalid. Test results contained within this data package meet the requirements of applicable state-specific certification programs. The report cannot be reproduced without written permission from the client and Advanced Technology Laboratories.

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

SUMMARY OF SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-5	1401676-01	Water	6/05/14 8:20	6/06/14 8:30
MW-6	1401676-02	Water	6/05/14 9:00	6/06/14 8:30
MW-7	1401676-03	Water	6/05/14 9:30	6/06/14 8:30
MW-8	1401676-04	Water	6/05/14 9:55	6/06/14 8:30
MW-10	1401676-05	Water	6/05/14 10:30	6/06/14 8:30

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-5
Lab ID: 1401676-01

Chloride by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	**34**	2.5	NA	5	B4F0155	06/06/2014	06/06/14 12:45	

Nitrate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Nitrate as N	**29**	0.50	NA	5	B4F0155	06/06/2014	06/06/14 12:45	

Sulfate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfate	**26**	0.50	NA	1	B4F0155	06/06/2014	06/06/14 10:51	

Alkalinity, Speciated by SM 2320B

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	**370**	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Total (as CaCO3)	**370**	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**680**	10	NA	1	B4F0167	06/09/2014	06/10/14 09:15	

Sulfide, Total by SM 4500-S=D

Analyst: LA

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfide, Total	ND	0.020	NA	2	B4F0144	06/10/2014	06/10/14 10:46	D1

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-5
Lab ID: 1401676-01

Cation-Anion Balance

Analyst: Various

Analyte	Result (meq/L)	PQL (meq/L)	MDL (meq/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Cation	**10**	0.20	NA		[CALC]			
Total Anions	**11**	0.52	NA		[CALC]			

Dissolved Metals by ICP-MS EPA 6020

Analyst: SB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Arsenic	**2.0**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Barium	**280**	5.0	NA	5	B4F0126	06/09/2014	06/10/14 15:32	D6
Beryllium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 17:37	
Cadmium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Chromium	**7.0**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Cobalt	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Copper	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Lead	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Manganese	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Molybdenum	**1.2**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Nickel	**1.7**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Selenium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Silver	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Thallium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Vanadium	**19**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Zinc	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Strontium	**880**	10	NA	1	B4F0126	06/09/2014	06/10/14 14:12	
Calcium	**71000**	1000	NA	20	B4F0126	06/09/2014	06/12/14 15:42	D6
Magnesium	**23000**	500	NA	10	B4F0126	06/09/2014	06/10/14 20:01	D6
Potassium	**3200**	50	NA	1	B4F0126	06/09/2014	06/10/14 17:37	
Sodium	**110000**	2500	NA	50	B4F0126	06/09/2014	06/10/14 19:52	D6

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-5

Lab ID: 1401676-01

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A **Analyst: VV**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	NA	1	B4F0162	06/10/2014	06/11/14 13:01	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Client Sample ID MW-6
Lab ID: 1401676-02

Chloride by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	**16**	2.5	NA	5	B4F0155	06/06/2014	06/06/14 11:59	

Nitrate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Nitrate as N	**15**	0.10	NA	1	B4F0155	06/06/2014	06/06/14 11:02	

Sulfate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfate	**51**	2.5	NA	5	B4F0155	06/06/2014	06/06/14 11:59	

Alkalinity, Speciated by SM 2320B

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	**350**	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Total (as CaCO3)	**350**	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**580**	10	NA	1	B4F0167	06/09/2014	06/10/14 09:15	

Sulfide, Total by SM 4500-S=D

Analyst: LA

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfide, Total	ND	0.010	NA	1	B4F0144	06/10/2014	06/10/14 10:46	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-6
Lab ID: 1401676-02

Cation-Anion Balance

Analyst: Various

Analyte	Result (meq/L)	PQL (meq/L)	MDL (meq/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Cation	**8.8**	0.20	NA		[CALC]			
Total Anions	**9.6**	0.53	NA		[CALC]			

Dissolved Metals by ICP-MS EPA 6020

Analyst: SB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Arsenic	**3.7**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Barium	**84**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Beryllium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 17:41	
Cadmium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Chromium	**8.3**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Cobalt	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Copper	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Lead	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Manganese	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Molybdenum	**5.0**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Nickel	**1.1**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Selenium	**0.56**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Silver	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Thallium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Vanadium	**34**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Zinc	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Strontium	**550**	10	NA	1	B4F0126	06/09/2014	06/10/14 14:16	
Calcium	**45000**	1000	NA	20	B4F0126	06/09/2014	06/12/14 15:19	D6
Magnesium	**15000**	500	NA	10	B4F0126	06/09/2014	06/10/14 20:42	D6
Potassium	**2800**	50	NA	1	B4F0126	06/09/2014	06/10/14 17:41	
Sodium	**120000**	2500	NA	50	B4F0126	06/09/2014	06/10/14 20:05	D6

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-6

Lab ID: 1401676-02

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A **Analyst: VV**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	NA	1	B4F0162	06/10/2014	06/11/14 13:03	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Client Sample ID MW-7
Lab ID: 1401676-03

Chloride by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	**9.9**	0.50	NA	1	B4F0155	06/06/2014	06/06/14 11:14	

Nitrate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Nitrate as N	**5.1**	0.10	NA	1	B4F0155	06/06/2014	06/06/14 11:14	

Sulfate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfate	**29**	0.50	NA	1	B4F0155	06/06/2014	06/06/14 11:14	

Alkalinity, Speciated by SM 2320B

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	**270**	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Total (as CaCO3)	**270**	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**400**	10	NA	1	B4F0167	06/09/2014	06/10/14 09:15	

Sulfide, Total by SM 4500-S=D

Analyst: LA

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfide, Total	ND	0.010	NA	1	B4F0144	06/10/2014	06/10/14 10:46	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-7
Lab ID: 1401676-03

Cation-Anion Balance

Analyst: Various

Analyte	Result (meq/L)	PQL (meq/L)	MDL (meq/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Cation	**5.8**	0.11	NA		[CALC]			
Total Anions	**6.7**	0.43	NA		[CALC]			

Dissolved Metals by ICP-MS EPA 6020

Analyst: SB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Arsenic	**2.2**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Barium	**92**	2.0	NA	2	B4F0126	06/09/2014	06/10/14 15:46	D6
Beryllium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 18:15	
Cadmium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Chromium	**5.1**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Cobalt	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Copper	**1.1**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Lead	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Manganese	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Molybdenum	**1.2**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Nickel	**1.5**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Selenium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Silver	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Thallium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Vanadium	**21**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Zinc	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Strontium	**740**	10	NA	1	B4F0126	06/09/2014	06/10/14 14:39	
Calcium	**61000**	1000	NA	20	B4F0126	06/09/2014	06/12/14 15:47	D6
Magnesium	**20000**	500	NA	10	B4F0126	06/09/2014	06/10/14 21:00	D6
Potassium	**2400**	50	NA	1	B4F0126	06/09/2014	06/10/14 18:15	
Sodium	**24000**	500	NA	10	B4F0126	06/09/2014	06/10/14 21:00	D6

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-7

Lab ID: 1401676-03

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A **Analyst: VV**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	NA	1	B4F0162	06/10/2014	06/11/14 13:05	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-8
Lab ID: 1401676-04

Chloride by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	**9.2**	0.50	NA	1	B4F0155	06/06/2014	06/06/14 11:25	

Nitrate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Nitrate as N	**4.0**	0.10	NA	1	B4F0155	06/06/2014	06/06/14 11:25	

Sulfate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfate	**18**	0.50	NA	1	B4F0155	06/06/2014	06/06/14 11:25	

Alkalinity, Speciated by SM 2320B

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	**240**	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Total (as CaCO3)	**240**	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**370**	10	NA	1	B4F0167	06/09/2014	06/10/14 09:15	

Sulfide, Total by SM 4500-S=D

Analyst: LA

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfide, Total	**0.017**	0.010	NA	1	B4F0144	06/10/2014	06/10/14 10:46	

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-8
Lab ID: 1401676-04

Cation-Anion Balance

Analyst: Various

Analyte	Result (meq/L)	PQL (meq/L)	MDL (meq/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Cation	**5.3**	0.18	NA		[CALC]			
Total Anions	**5.7**	0.43	NA		[CALC]			

Dissolved Metals by ICP-MS EPA 6020

Analyst: SB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Arsenic	**3.2**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Barium	**59**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Beryllium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 18:20	
Cadmium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Chromium	**4.1**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 18:20	
Cobalt	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 18:20	
Copper	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 18:20	
Lead	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Manganese	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 18:20	
Molybdenum	**1.6**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Nickel	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 18:20	
Selenium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Silver	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Thallium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Vanadium	**25**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 18:20	
Zinc	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Strontium	**250**	10	NA	1	B4F0126	06/09/2014	06/10/14 14:44	
Calcium	**21000**	500	NA	10	B4F0126	06/09/2014	06/12/14 15:52	D6
Magnesium	**6800**	500	NA	10	B4F0126	06/09/2014	06/10/14 21:09	D6
Potassium	**2000**	50	NA	1	B4F0126	06/09/2014	06/10/14 18:20	
Sodium	**84000**	2500	NA	50	B4F0126	06/09/2014	06/10/14 21:04	D6

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-8

Lab ID: 1401676-04

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A **Analyst: VV**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	NA	1	B4F0162	06/10/2014	06/11/14 13:08	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Client Sample ID MW-10
Lab ID: 1401676-05

Chloride by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Chloride	**29**	2.5	NA	5	B4F0155	06/06/2014	06/06/14 13:53	

Nitrate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Nitrate as N	**18**	0.50	NA	5	B4F0155	06/06/2014	06/06/14 13:53	

Sulfate by Ion Chromatography EPA 300

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfate	**66**	2.5	NA	5	B4F0155	06/06/2014	06/06/14 13:53	

Alkalinity, Speciated by SM 2320B

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Alkalinity, Bicarbonate (as CaCO3)	**320**	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Carbonate (as CaCO3)	ND	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	
Alkalinity, Total (as CaCO3)	**320**	5.0	NA	1	B4F0188	06/11/2014	06/12/14 10:45	

Total Dissolved Solids (Residue, Filterable) by SM 2540C

Analyst: PT

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Residue, Dissolved	**620**	10	NA	1	B4F0167	06/09/2014	06/10/14 09:15	

Sulfide, Total by SM 4500-S=D

Analyst: LA

Analyte	Result (mg/L)	PQL (mg/L)	MDL (mg/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Sulfide, Total	**0.023**	0.020	NA	2	B4F0144	06/10/2014	06/10/14 10:46	D1

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Client Sample ID MW-10
Lab ID: 1401676-05

Cation-Anion Balance

Analyst: Various

Analyte	Result (meq/L)	PQL (meq/L)	MDL (meq/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Total Cation	**9.1**	0.20	NA		[CALC]			
Total Anions	**9.9**	0.56	NA		[CALC]			

Dissolved Metals by ICP-MS EPA 6020

Analyst: SB

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Antimony	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:49	
Arsenic	**2.3**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:49	
Barium	**96**	2.0	NA	2	B4F0126	06/09/2014	06/10/14 15:50	D6
Beryllium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 18:24	
Cadmium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:49	
Chromium	**1.6**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 18:24	
Cobalt	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 18:24	
Copper	**1.3**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 18:24	
Lead	ND	1.0	NA	1	B4F0126	06/09/2014	06/10/14 14:49	
Manganese	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 18:24	
Molybdenum	**0.51**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:49	
Nickel	**3.6**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 18:24	
Selenium	**0.82**	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:49	
Silver	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:49	
Thallium	ND	0.50	NA	1	B4F0126	06/09/2014	06/10/14 14:49	
Vanadium	**21**	1.0	NA	1	B4F0126	06/09/2014	06/10/14 18:24	
Zinc	ND	10	NA	1	B4F0126	06/09/2014	06/10/14 14:49	
Strontium	**940**	20	NA	2	B4F0126	06/09/2014	06/10/14 15:50	D6
Calcium	**71000**	1000	NA	20	B4F0126	06/09/2014	06/12/14 15:56	D6
Magnesium	**24000**	500	NA	10	B4F0126	06/09/2014	06/10/14 21:27	D6
Potassium	**2900**	50	NA	1	B4F0126	06/09/2014	06/10/14 18:24	
Sodium	**79000**	2500	NA	50	B4F0126	06/09/2014	06/10/14 21:13	D6

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Client Sample ID MW-10

Lab ID: 1401676-05

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A **Analyst: VV**

Analyte	Result (ug/L)	PQL (ug/L)	MDL (ug/L)	Dilution	Batch	Prepared	Date/Time Analyzed	Notes
Mercury	ND	0.20	NA	1	B4F0162	06/10/2014	06/11/14 13:10	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

QUALITY CONTROL SECTION

Chloride by Ion Chromatography EPA 300 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0155 - No_Prep_IC_1									
Blank (B4F0155-BLK1)				Prepared: 6/6/2014 Analyzed: 6/6/2014					
Chloride	ND	0.50			NR				
LCS (B4F0155-BS1)				Prepared: 6/6/2014 Analyzed: 6/6/2014					
Chloride	0.954900	0.50	1.00000		95.5	90 - 110			
Duplicate (B4F0155-DUP1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Chloride	33.7130	2.5		33.7670	NR		0.160	20	
Matrix Spike (B4F0155-MS1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Chloride	37.6720	2.5	2.50000	33.7670	156	80 - 120			M1
Matrix Spike Dup (B4F0155-MSD1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Chloride	37.5795	2.5	2.50000	33.7670	152	80 - 120	0.246	20	M1

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Nitrate by Ion Chromatography EPA 300 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0155 - No_Prep_IC_1									
Blank (B4F0155-BLK1)				Prepared: 6/6/2014 Analyzed: 6/6/2014					
Nitrate as N	ND	0.10			NR				
LCS (B4F0155-BS1)				Prepared: 6/6/2014 Analyzed: 6/6/2014					
Nitrate as N	0.993900	0.10	1.00000		99.4	90 - 110			
Duplicate (B4F0155-DUP1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Nitrate as N	29.1570	0.50		29.2775	NR		0.412	20	
Matrix Spike (B4F0155-MS1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Nitrate as N	31.7375	0.50	2.50000	29.2775	98.4	80 - 120			
Matrix Spike Dup (B4F0155-MSD1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Nitrate as N	31.6715	0.50	2.50000	29.2775	95.8	80 - 120	0.208	20	

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Sulfate by Ion Chromatography EPA 300 - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0155 - No_Prep_IC_1									
Blank (B4F0155-BLK1)				Prepared: 6/6/2014 Analyzed: 6/6/2014					
Sulfate	ND	0.50			NR				
LCS (B4F0155-BS1)				Prepared: 6/6/2014 Analyzed: 6/6/2014					
Sulfate	1.95220	0.50	2.00000		97.6	90 - 110			
Duplicate (B4F0155-DUP1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Sulfate	27.4855	2.5		26.1629	NR		4.93	20	
Matrix Spike (B4F0155-MS1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Sulfate	34.1870	2.5	5.00000	26.1629	160	80 - 120			M1
Matrix Spike Dup (B4F0155-MSD1)		**Source: 1401676-01**		Prepared: 6/6/2014 Analyzed: 6/6/2014					
Sulfate	34.1260	2.5	5.00000	26.1629	159	80 - 120	0.179	20	M1

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Alkalinity, Speciated by SM 2320B - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0188 - No_Prep_WC_1									
Blank (B4F0188-BLK1)				Prepared: 6/11/2014 Analyzed: 6/12/2014					
Alkalinity, Bicarbonate (as CaCO3)	ND	5.0			NR				
Alkalinity, Carbonate (as CaCO3)	ND	5.0			NR				
Alkalinity, Hydroxide (as CaCO3)	ND	5.0			NR				
Alkalinity, Total (as CaCO3)	ND	5.0			NR				
LCS (B4F0188-BS1)				Prepared: 6/11/2014 Analyzed: 6/12/2014					
Alkalinity, Bicarbonate (as CaCO3)	10.9900	5.0	0.00000		NR	80 - 120			
Alkalinity, Carbonate (as CaCO3)	89.7400	5.0	99.9580		89.8	80 - 120			
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	0.00000		NR	80 - 120			
Alkalinity, Total (as CaCO3)	100.730	5.0	99.9580		101	80 - 120			
Duplicate (B4F0188-DUP1)		**Source: 1401676-01**		Prepared: 6/11/2014 Analyzed: 6/12/2014					
Alkalinity, Bicarbonate (as CaCO3)	373.630	5.0		371.790	NR		0.494	20	
Alkalinity, Carbonate (as CaCO3)	ND	5.0		ND	NR			20	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0		ND	NR			20	
Alkalinity, Total (as CaCO3)	373.630	5.0		371.790	NR		0.494	20	
Matrix Spike (B4F0188-MS1)		**Source: 1401676-01**		Prepared: 6/11/2014 Analyzed: 6/12/2014					
Alkalinity, Bicarbonate (as CaCO3)	476.190	5.0	0.00000	371.790	NR	80 - 120			
Alkalinity, Carbonate (as CaCO3)	109.890	5.0	99.9580	ND	110	80 - 120			
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	0.00000	ND	NR	80 - 120			
Alkalinity, Total (as CaCO3)	586.080	5.0	99.9580	371.790	214	80 - 120			M1
Matrix Spike Dup (B4F0188-MSD1)		**Source: 1401676-01**		Prepared: 6/11/2014 Analyzed: 6/12/2014					
Alkalinity, Bicarbonate (as CaCO3)	479.850	5.0	0.00000	371.790	NR	80 - 120	0.766	20	
Alkalinity, Carbonate (as CaCO3)	106.230	5.0	99.9580	ND	106	80 - 120	3.39	20	
Alkalinity, Hydroxide (as CaCO3)	ND	5.0	0.00000	ND	NR	80 - 120		20	
Alkalinity, Total (as CaCO3)	586.080	5.0	99.9580	371.790	214	80 - 120	0.00	20	M1

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Total Dissolved Solids (Residue, Filterable) by SM 2540C - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0167 - No_Prep_WC_1									
Blank (B4F0167-BLK1)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Residue, Dissolved	ND	10			NR				
LCS (B4F0167-BS1)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Residue, Dissolved	981.000	10	970.000		101	80 - 120			
Duplicate (B4F0167-DUP1)		**Source: 1401663-01**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Residue, Dissolved	385.000	10		386.000	NR		0.259	10	

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Sulfide, Total by SM 4500-S=D - Quality Control

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0144 - Prep_WC_3_W									
Blank (B4F0144-BLK1)				Prepared: 6/10/2014 Analyzed: 6/10/2014					
Sulfide, Total	ND	0.010			NR				
LCS (B4F0144-BS1)				Prepared: 6/10/2014 Analyzed: 6/10/2014					
Sulfide, Total	0.0972	0.010	0.100000		97.2	80 - 120			
Matrix Spike (B4F0144-MS1)		**Source: 1401676-01**		Prepared: 6/10/2014 Analyzed: 6/10/2014					
Sulfide, Total	0.0712	0.020	0.100000	ND	71.2	70 - 120			D1

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Sulfide, Total by SM 4500-S=D - Quality Control (cont'd)

Analyte	Result (mg/L)	PQL (mg/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0144 - Prep_WC_3_W (continued)									
Matrix Spike Dup (B4F0144-MSD1)		**Source: 1401676-01**		Prepared: 6/10/2014 Analyzed: 6/10/2014					
Sulfide, Total	0.0686	0.020	0.100000	ND	68.6	70 - 120	3.72	20	D1, M2

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS									
Blank (B4F0126-BLK1)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	ND	0.50			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				
Beryllium	ND	0.50			NR				
Cadmium	ND	0.50			NR				
Calcium	66.3165	50			NR				
Chromium	ND	0.50			NR				
Cobalt	ND	0.50			NR				
Copper	ND	1.0			NR				
Lead	ND	1.0			NR				
Magnesium	ND	50			NR				
Manganese	ND	10			NR				
Molybdenum	ND	0.50			NR				
Nickel	ND	1.0			NR				
Potassium	ND	50			NR				
Selenium	ND	0.50			NR				
Silver	ND	0.50			NR				
Sodium	ND	50			NR				
Thallium	ND	0.50			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	10			NR				
Strontium	ND	10			NR				

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Blank (B4F0126-BLK2)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	ND	0.50			NR				
Arsenic	ND	1.0			NR				
Barium	ND	1.0			NR				
Beryllium	ND	0.50			NR				
Cadmium	ND	0.50			NR				
Calcium	ND	50			NR				
Chromium	ND	0.50			NR				
Cobalt	ND	0.50			NR				
Copper	ND	1.0			NR				
Lead	ND	1.0			NR				
Magnesium	ND	50			NR				
Manganese	ND	10			NR				
Molybdenum	ND	0.50			NR				
Nickel	ND	1.0			NR				
Potassium	ND	50			NR				
Selenium	ND	0.50			NR				
Silver	ND	0.50			NR				
Sodium	ND	50			NR				
Thallium	ND	0.50			NR				
Vanadium	ND	1.0			NR				
Zinc	ND	10			NR				
Strontium	ND	10			NR				

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
LCS (B4F0126-BS1)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	11.0644	0.50	10.0000		111	85 - 115			
Arsenic	10.1300	1.0	10.0000		101	85 - 115			
Barium	10.0743	1.0	10.0000		101	85 - 115			
Beryllium	10.2528	0.50	10.0000		103	85 - 115			
Cadmium	9.63970	0.50	10.0000		96.4	85 - 115			
Calcium	614.855	50	500.000		123	85 - 115			B
Chromium	10.2492	0.50	10.0000		102	85 - 115			
Cobalt	9.63602	0.50	10.0000		96.4	85 - 115			
Copper	9.81840	1.0	10.0000		98.2	85 - 115			
Lead	9.86348	1.0	10.0000		98.6	85 - 115			
Magnesium	467.805	50	500.000		93.6	85 - 115			
Manganese	98.4783	10	100.000		98.5	85 - 115			
Molybdenum	9.92654	0.50	10.0000		99.3	85 - 115			
Nickel	9.57394	1.0	10.0000		95.7	85 - 115			
Potassium	509.979	50	500.000		102	85 - 115			
Selenium	8.91295	0.50	10.0000		89.1	85 - 115			
Silver	9.72282	0.50	10.0000		97.2	85 - 115			
Sodium	460.760	50	500.000		92.2	85 - 115			
Thallium	9.69877	0.50	10.0000		97.0	85 - 115			
Vanadium	9.44476	1.0	10.0000		94.4	85 - 115			
Zinc	90.6679	10	100.000		90.7	85 - 115			
Strontium	95.8033	10	100.000		95.8	85 - 115			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
LCS (B4F0126-BS2)				Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	10.5220	0.50	10.0000		105	85 - 115			
Arsenic	9.49187	1.0	10.0000		94.9	85 - 115			
Barium	9.83111	1.0	10.0000		98.3	85 - 115			
Beryllium	9.69565	0.50	10.0000		97.0	85 - 115			
Cadmium	9.78736	0.50	10.0000		97.9	85 - 115			
Calcium	574.992	50	500.000		115	85 - 115			B
Chromium	10.0250	0.50	10.0000		100	85 - 115			
Cobalt	10.1302	0.50	10.0000		101	85 - 115			
Copper	10.0155	1.0	10.0000		100	85 - 115			
Lead	9.65345	1.0	10.0000		96.5	85 - 115			
Magnesium	504.205	50	500.000		101	85 - 115			
Manganese	103.450	10	100.000		103	85 - 115			
Molybdenum	10.0898	0.50	10.0000		101	85 - 115			
Nickel	10.0172	1.0	10.0000		100	85 - 115			
Potassium	542.495	50	500.000		108	85 - 115			
Selenium	9.86839	0.50	10.0000		98.7	85 - 115			
Silver	10.0464	0.50	10.0000		100	85 - 115			
Sodium	506.522	50	500.000		101	85 - 115			
Thallium	9.57915	0.50	10.0000		95.8	85 - 115			
Vanadium	9.73724	1.0	10.0000		97.4	85 - 115			
Zinc	98.9401	10	100.000		98.9	85 - 115			
Strontium	99.3041	10	100.000		99.3	85 - 115			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Duplicate (B4F0126-DUP1)		**Source: 1401663-02**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	0.230283	0.50		0.242387	NR		5.12	20	
Arsenic	1.40932	1.0		1.10647	NR		24.1	20	R
Barium	143.488	1.0		137.107	NR		4.55	20	E
Beryllium	ND	0.50		ND	NR			20	
Cadmium	ND	0.50		ND	NR			20	
Calcium	79921.0	50		77552.2	NR		3.01	20	B, E
Chromium	5.61882	0.50		5.57762	NR		0.736	20	
Cobalt	0.212629	0.50		0.195826	NR		8.23	20	
Copper	1.15212	1.0		1.09444	NR		5.14	20	
Lead	ND	1.0		ND	NR			20	
Magnesium	30327.4	50		28667.8	NR		5.63	20	E
Manganese	4.26475	10		3.97409	NR		7.06	20	
Molybdenum	0.795265	0.50		0.632880	NR		22.7	20	R
Nickel	2.17380	1.0		2.27012	NR		4.34	20	
Potassium	2916.04	50		2831.32	NR		2.95	20	
Selenium	0.334139	0.50		0.363499	NR		8.42	20	
Silver	ND	0.50		ND	NR			20	
Sodium	17144.5	50		16499.7	NR		3.83	20	E
Thallium	ND	0.50		ND	NR			20	
Vanadium	19.0180	1.0		18.5343	NR		2.58	20	
Zinc	ND	10		ND	NR			20	
Strontium	1142.75	10		1098.39	NR		3.96	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Duplicate (B4F0126-DUP2)		**Source: 1401663-02RE1**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	ND	1.0		ND	NR			20	
Arsenic	ND	2.0		1.89829	NR			20	
Barium	144.746	2.0		143.301	NR		1.00	20	
Beryllium	ND	1.0		ND	NR			20	
Cadmium	ND	1.0		ND	NR			20	
Calcium	66536.2	100		65406.9	NR		1.71	20	B, E
Chromium	6.10541	1.0		6.16986	NR		1.05	20	
Cobalt	0.233350	1.0		0.226504	NR		2.98	20	
Copper	1.29322	2.0		1.26892	NR		1.90	20	
Lead	ND	2.0		ND	NR			20	
Magnesium	31647.8	100		32388.5	NR		2.31	20	E
Manganese	4.37113	20		4.29329	NR		1.80	20	
Molybdenum	0.695958	1.0		0.674048	NR		3.20	20	
Nickel	2.49089	2.0		2.48120	NR		0.390	20	
Potassium	2215.95	100		2178.05	NR		1.73	20	
Selenium	ND	1.0		ND	NR			20	
Silver	ND	1.0		ND	NR			20	
Sodium	17603.6	100		17777.4	NR		0.983	20	E
Thallium	ND	1.0		ND	NR			20	
Vanadium	19.7543	2.0		20.1160	NR		1.81	20	
Zinc	ND	20		ND	NR			20	
Strontium	1092.79	20		1061.87	NR		2.87	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Duplicate (B4F0126-DUP3)		**Source: 1401663-02RE2**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	0.204938	0.50		0.216944	NR		5.69	20	
Arsenic	1.40430	1.0		1.37700	NR		1.96	20	
Barium	141.149	1.0		134.010	NR		5.19	20	E
Beryllium	ND	0.50		ND	NR			20	
Cadmium	ND	0.50		ND	NR			20	
Calcium	77071.6	50		75525.6	NR		2.03	20	B, E
Chromium	5.56556	0.50		5.41309	NR		2.78	20	
Cobalt	0.230846	0.50		0.217155	NR		6.11	20	
Copper	1.18850	1.0		1.08268	NR		9.32	20	
Lead	ND	1.0		ND	NR			20	
Magnesium	30745.3	50		30042.5	NR		2.31	20	E
Manganese	4.21530	10		4.02620	NR		4.59	20	
Molybdenum	0.839615	0.50		0.802266	NR		4.55	20	
Nickel	2.28804	1.0		2.10802	NR		8.19	20	
Potassium	2914.30	50		2875.83	NR		1.33	20	
Selenium	0.297037	0.50		ND	NR			20	
Silver	ND	0.50		ND	NR			20	
Sodium	17819.5	50		17656.8	NR		0.917	20	E
Thallium	ND	0.50		ND	NR			20	
Vanadium	18.7962	1.0		18.1274	NR		3.62	20	
Zinc	ND	10		ND	NR			20	
Strontium	1191.87	10		1130.03	NR		5.33	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Duplicate (B4F0126-DUP4)		**Source: 1401663-02RE3**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	ND	5.0		ND	NR			20	
Arsenic	ND	10		ND	NR			20	
Barium	140.325	10		136.431	NR		2.81	20	
Beryllium	ND	5.0		ND	NR			20	
Cadmium	ND	5.0		ND	NR			20	
Calcium	83809.8	500		80535.3	NR		3.98	20	B, E
Chromium	5.27842	5.0		4.61435	NR		13.4	20	
Cobalt	ND	5.0		ND	NR			20	
Copper	ND	10		ND	NR			20	
Lead	ND	10		ND	NR			20	
Magnesium	35127.9	500		33643.2	NR		4.32	20	D6
Manganese	ND	100		ND	NR			20	
Molybdenum	ND	5.0		ND	NR			20	
Nickel	2.68720	10		2.63458	NR		1.98	20	
Potassium	3064.74	500		2931.58	NR		4.44	20	
Selenium	ND	5.0		ND	NR			20	
Silver	ND	5.0		ND	NR			20	
Sodium	20141.0	500		19147.6	NR		5.06	20	D6
Thallium	ND	5.0		ND	NR			20	
Vanadium	24.6121	10		23.5234	NR		4.52	20	
Zinc	ND	100		ND	NR			20	
Strontium	1173.36	100		1130.58	NR		3.71	20	

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Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Duplicate (B4F0126-DUP5)		**Source: 1401663-02RE4**		Prepared: 6/9/2014 Analyzed: 6/12/2014					
Antimony	ND	25		ND	NR			20	
Arsenic	ND	50		ND	NR			20	
Barium	146.445	50		136.869	NR		6.76	20	
Beryllium	ND	25		ND	NR			20	
Cadmium	ND	25		ND	NR			20	
Calcium	95696.5	2500		86828.2	NR		9.72	20	B, D6
Chromium	ND	25		ND	NR			20	
Cobalt	ND	25		ND	NR			20	
Copper	ND	50		ND	NR			20	
Lead	ND	50		ND	NR			20	
Magnesium	38089.4	2500		34962.2	NR		8.56	20	
Manganese	ND	500		ND	NR			20	
Molybdenum	ND	25		ND	NR			20	
Nickel	ND	50		ND	NR			20	
Potassium	3583.65	2500		3216.23	NR		10.8	20	
Selenium	ND	25		ND	NR			20	
Silver	ND	25		ND	NR			20	
Sodium	20882.3	2500		19419.5	NR		7.26	20	
Thallium	ND	25		ND	NR			20	
Vanadium	29.0126	50		30.1958	NR		4.00	20	
Zinc	ND	500		ND	NR			20	
Strontium	1198.75	500		1114.85	NR		7.25	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS1)		**Source: 1401676-02**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	11.3037	0.50	10.0000	0.130907	112	70 - 130			
Arsenic	13.5955	1.0	10.0000	3.72856	98.7	70 - 130			
Barium	96.6986	1.0	10.0000	83.7359	130	70 - 130			E
Beryllium	9.36506	0.50	10.0000	ND	93.7	70 - 130			
Cadmium	9.19213	0.50	10.0000	ND	91.9	70 - 130			
Calcium	33792.8	50	500.000	32575.0	244	70 - 130			B, E
Chromium	16.4507	0.50	10.0000	8.26365	81.9	70 - 130			
Cobalt	7.88071	0.50	10.0000	ND	78.8	70 - 130			
Copper	8.50983	1.0	10.0000	0.793041	77.2	70 - 130			
Lead	9.10843	1.0	10.0000	ND	91.1	70 - 130			
Magnesium	13665.1	50	500.000	12868.9	159	70 - 130			E
Manganese	80.9426	10	100.000	ND	80.9	70 - 130			
Molybdenum	15.7424	0.50	10.0000	5.00286	107	70 - 130			
Nickel	8.81428	1.0	10.0000	1.08091	77.3	70 - 130			
Potassium	2783.04	50	500.000	2399.31	76.7	70 - 130			
Selenium	8.62231	0.50	10.0000	0.563629	80.6	70 - 130			
Silver	9.12955	0.50	10.0000	ND	91.3	70 - 130			
Sodium	ND	50	500.000	ND	NR	70 - 130			
Thallium	8.90517	0.50	10.0000	ND	89.1	70 - 130			
Vanadium	43.3984	1.0	10.0000	33.7369	96.6	70 - 130			
Zinc	79.7143	10	100.000	ND	79.7	70 - 130			
Strontium	672.116	10	100.000	553.300	119	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS2)		**Source: 1401676-02**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	9.98270	1.0	10.0000	0.130907	98.5	70 - 130			
Arsenic	13.1547	2.0	10.0000	3.72856	94.3	70 - 130			
Barium	89.3053	2.0	10.0000	83.7359	55.7	70 - 130			D6, M1
Beryllium	10.1552	1.0	10.0000	ND	102	70 - 130			
Cadmium	8.67115	1.0	10.0000	ND	86.7	70 - 130			
Calcium	31692.9	100	500.000	32575.0	-176	70 - 130			B, E
Chromium	16.5821	1.0	10.0000	8.26365	83.2	70 - 130			
Cobalt	8.08842	1.0	10.0000	ND	80.9	70 - 130			
Copper	9.15971	2.0	10.0000	0.793041	83.7	70 - 130			
Lead	8.32508	2.0	10.0000	ND	83.3	70 - 130			
Magnesium	14416.7	100	500.000	12868.9	310	70 - 130			E
Manganese	82.3819	20	100.000	ND	82.4	70 - 130			
Molybdenum	13.8146	1.0	10.0000	5.00286	88.1	70 - 130			
Nickel	9.18338	2.0	10.0000	1.08091	81.0	70 - 130			
Potassium	2599.29	100	500.000	2399.31	40.0	70 - 130			
Selenium	8.04821	1.0	10.0000	0.563629	74.8	70 - 130			
Silver	8.52277	1.0	10.0000	ND	85.2	70 - 130			
Sodium	ND	100	500.000	ND	NR	70 - 130			
Thallium	8.14676	1.0	10.0000	ND	81.5	70 - 130			
Vanadium	43.9370	2.0	10.0000	33.7369	102	70 - 130			
Zinc	75.8225	20	100.000	ND	75.8	70 - 130			
Strontium	625.946	20	100.000	553.300	72.6	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS3)		**Source: 1401676-02RE1**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	10.6509	0.50	10.0000	ND	107	70 - 130			
Arsenic	13.2608	1.0	10.0000	3.57779	96.8	70 - 130			
Barium	92.0499	1.0	10.0000	81.1639	109	70 - 130			E
Beryllium	8.61804	0.50	10.0000	ND	86.2	70 - 130			
Cadmium	9.07964	0.50	10.0000	ND	90.8	70 - 130			
Calcium	37348.1	50	500.000	36136.5	242	70 - 130			B, E
Chromium	16.5593	0.50	10.0000	8.24413	83.2	70 - 130			
Cobalt	8.24452	0.50	10.0000	ND	82.4	70 - 130			
Copper	8.43006	1.0	10.0000	0.800703	76.3	70 - 130			
Lead	9.17948	1.0	10.0000	ND	91.8	70 - 130			
Magnesium	14394.1	50	500.000	13314.4	216	70 - 130			E
Manganese	82.2748	10	100.000	ND	82.3	70 - 130			
Molybdenum	15.5018	0.50	10.0000	5.01905	105	70 - 130			
Nickel	8.95951	1.0	10.0000	1.16600	77.9	70 - 130			
Potassium	3372.77	50	500.000	2842.84	106	70 - 130			
Selenium	9.12793	0.50	10.0000	0.556837	85.7	70 - 130			
Silver	9.18765	0.50	10.0000	ND	91.9	70 - 130			
Sodium	ND	50	500.000	ND	NR	70 - 130			
Thallium	8.88082	0.50	10.0000	ND	88.8	70 - 130			
Vanadium	43.9153	1.0	10.0000	34.2915	96.2	70 - 130			
Zinc	84.8295	10	100.000	ND	84.8	70 - 130			
Strontium	714.699	10	100.000	600.357	114	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS4)		**Source: 1401676-02RE2**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	12.7036	25	10.0000	ND	127	70 - 130			
Arsenic	ND	50	10.0000	ND	NR	70 - 130			
Barium	132.354	50	10.0000	83.4338	489	70 - 130			
Beryllium	13.6100	25	10.0000	ND	136	70 - 130			
Cadmium	12.5538	25	10.0000	ND	126	70 - 130			
Calcium	65838.0	2500	500.000	43240.6	4520	70 - 130			B
Chromium	30.1094	25	10.0000	ND	301	70 - 130			
Cobalt	14.6707	25	10.0000	ND	147	70 - 130			
Copper	15.9500	50	10.0000	ND	160	70 - 130			
Lead	13.3340	50	10.0000	ND	133	70 - 130			
Magnesium	22778.1	2500	500.000	16023.7	1350	70 - 130			
Manganese	143.974	500	100.000	ND	144	70 - 130			
Molybdenum	20.6732	25	10.0000	ND	207	70 - 130			
Nickel	17.4204	50	10.0000	ND	174	70 - 130			
Potassium	6936.32	2500	500.000	3431.18	701	70 - 130			
Selenium	ND	25	10.0000	ND	NR	70 - 130			
Silver	13.0167	25	10.0000	ND	130	70 - 130			
Sodium	170597	2500	500.000	120710	9980	70 - 130			D6, M1
Thallium	13.4240	25	10.0000	ND	134	70 - 130			
Vanadium	91.2282	50	10.0000	47.2812	439	70 - 130			
Zinc	ND	500	100.000	ND	NR	70 - 130			
Strontium	979.732	500	100.000	596.557	383	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS5)		**Source: 1401676-02RE3**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	9.98965	5.0	10.0000	ND	99.9	70 - 130			
Arsenic	14.1857	10	10.0000	ND	142	70 - 130			
Barium	93.3227	10	10.0000	80.7319	126	70 - 130			
Beryllium	9.40647	5.0	10.0000	ND	94.1	70 - 130			
Cadmium	9.46470	5.0	10.0000	ND	94.6	70 - 130			
Calcium	42376.6	500	500.000	40626.7	350	70 - 130			B
Chromium	17.9845	5.0	10.0000	7.40186	106	70 - 130			
Cobalt	10.1047	5.0	10.0000	ND	101	70 - 130			
Copper	10.7773	10	10.0000	ND	108	70 - 130			
Lead	9.19560	10	10.0000	ND	92.0	70 - 130			
Magnesium	15865.8	500	500.000	14876.4	198	70 - 130			D6, M1
Manganese	100.198	100	100.000	ND	100	70 - 130			
Molybdenum	14.8668	5.0	10.0000	4.85782	100	70 - 130			
Nickel	11.3209	10	10.0000	1.27441	100	70 - 130			
Potassium	3913.88	500	500.000	3302.30	122	70 - 130			
Selenium	8.95836	5.0	10.0000	ND	89.6	70 - 130			
Silver	9.76373	5.0	10.0000	ND	97.6	70 - 130			
Sodium	122046	500	500.000	116058	1200	70 - 130			E
Thallium	9.40907	5.0	10.0000	ND	94.1	70 - 130			
Vanadium	53.8991	10	10.0000	42.4237	115	70 - 130			
Zinc	90.6267	100	100.000	ND	90.6	70 - 130			
Strontium	702.801	100	100.000	585.856	117	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike (B4F0126-MS6)		**Source: 1401676-02RE4**		Prepared: 6/9/2014 Analyzed: 6/12/2014					
Antimony	6.16334	10	10.0000	ND	61.6	70 - 130			
Arsenic	ND	20	10.0000	ND	NR	70 - 130			
Barium	92.7481	20	10.0000	80.8794	119	70 - 130			
Beryllium	8.21456	10	10.0000	ND	82.1	70 - 130			
Cadmium	9.15686	10	10.0000	ND	91.6	70 - 130			
Calcium	46780.0	1000	500.000	44745.3	407	70 - 130			B, D6, M1
Chromium	17.2841	10	10.0000	7.65866	96.3	70 - 130			
Cobalt	9.51656	10	10.0000	ND	95.2	70 - 130			
Copper	10.6309	20	10.0000	ND	106	70 - 130			
Lead	9.21712	20	10.0000	ND	92.2	70 - 130			
Magnesium	16041.5	1000	500.000	15220.8	164	70 - 130			
Manganese	95.2969	200	100.000	ND	95.3	70 - 130			
Molybdenum	13.5998	10	10.0000	3.78760	98.1	70 - 130			
Nickel	10.6664	20	10.0000	ND	107	70 - 130			
Potassium	4395.15	1000	500.000	3758.43	127	70 - 130			
Selenium	6.93572	10	10.0000	ND	69.4	70 - 130			
Silver	8.92288	10	10.0000	ND	89.2	70 - 130			
Sodium	119357	1000	500.000	114296	1010	70 - 130			E
Thallium	9.22290	10	10.0000	ND	92.2	70 - 130			
Vanadium	51.5837	20	10.0000	41.1575	104	70 - 130			
Zinc	ND	200	100.000	ND	NR	70 - 130			
Strontium	705.253	200	100.000	579.343	126	70 - 130			

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD1)		**Source: 1401676-02**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	10.7385	0.50	10.0000	0.130907	106	70 - 130	5.13	20	
Arsenic	13.2915	1.0	10.0000	3.72856	95.6	70 - 130	2.26	20	
Barium	93.1064	1.0	10.0000	83.7359	93.7	70 - 130	3.79	20	E
Beryllium	9.19624	0.50	10.0000	ND	92.0	70 - 130	1.82	20	
Cadmium	8.91833	0.50	10.0000	ND	89.2	70 - 130	3.02	20	
Calcium	32612.5	50	500.000	32575.0	7.51	70 - 130	3.55	20	B, E
Chromium	16.4269	0.50	10.0000	8.26365	81.6	70 - 130	0.145	20	
Cobalt	7.74581	0.50	10.0000	ND	77.5	70 - 130	1.73	20	
Copper	8.34356	1.0	10.0000	0.793041	75.5	70 - 130	1.97	20	
Lead	8.77786	1.0	10.0000	ND	87.8	70 - 130	3.70	20	
Magnesium	13625.8	50	500.000	12868.9	151	70 - 130	0.288	20	E
Manganese	78.4982	10	100.000	ND	78.5	70 - 130	3.07	20	
Molybdenum	15.0706	0.50	10.0000	5.00286	101	70 - 130	4.36	20	
Nickel	8.64152	1.0	10.0000	1.08091	75.6	70 - 130	1.98	20	
Potassium	2691.45	50	500.000	2399.31	58.4	70 - 130	3.35	20	
Selenium	8.61730	0.50	10.0000	0.563629	80.5	70 - 130	0.0581	20	
Silver	8.95725	0.50	10.0000	ND	89.6	70 - 130	1.91	20	
Sodium	ND	50	500.000	ND	NR	70 - 130		20	
Thallium	8.63682	0.50	10.0000	ND	86.4	70 - 130	3.06	20	
Vanadium	42.9416	1.0	10.0000	33.7369	92.0	70 - 130	1.06	20	
Zinc	77.6620	10	100.000	ND	77.7	70 - 130	2.61	20	
Strontium	651.888	10	100.000	553.300	98.6	70 - 130	3.06	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD2)		**Source: 1401676-02**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	10.9619	1.0	10.0000	0.130907	108	70 - 130	9.35	20	
Arsenic	14.0790	2.0	10.0000	3.72856	104	70 - 130	6.79	20	
Barium	99.1220	2.0	10.0000	83.7359	154	70 - 130	10.4	20	D6, M1
Beryllium	11.0904	1.0	10.0000	ND	111	70 - 130	8.80	20	
Cadmium	9.31260	1.0	10.0000	ND	93.1	70 - 130	7.13	20	
Calcium	33981.5	100	500.000	32575.0	281	70 - 130	6.97	20	B, E
Chromium	17.9632	1.0	10.0000	8.26365	97.0	70 - 130	8.00	20	
Cobalt	8.75289	1.0	10.0000	ND	87.5	70 - 130	7.89	20	
Copper	9.60477	2.0	10.0000	0.793041	88.1	70 - 130	4.74	20	
Lead	9.29274	2.0	10.0000	ND	92.9	70 - 130	11.0	20	
Magnesium	15462.9	100	500.000	12868.9	519	70 - 130	7.00	20	E
Manganese	88.4967	20	100.000	ND	88.5	70 - 130	7.16	20	
Molybdenum	15.1205	1.0	10.0000	5.00286	101	70 - 130	9.03	20	
Nickel	9.85609	2.0	10.0000	1.08091	87.8	70 - 130	7.07	20	
Potassium	2794.74	100	500.000	2399.31	79.1	70 - 130	7.25	20	
Selenium	8.26368	1.0	10.0000	0.563629	77.0	70 - 130	2.64	20	
Silver	9.19693	1.0	10.0000	ND	92.0	70 - 130	7.61	20	
Sodium	ND	100	500.000	ND	NR	70 - 130		20	
Thallium	9.01374	1.0	10.0000	ND	90.1	70 - 130	10.1	20	
Vanadium	47.6355	2.0	10.0000	33.7369	139	70 - 130	8.08	20	
Zinc	83.0657	20	100.000	ND	83.1	70 - 130	9.12	20	
Strontium	682.392	20	100.000	553.300	129	70 - 130	8.63	20	

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Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD3)		**Source: 1401676-02RE1**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	10.1850	0.50	10.0000	ND	102	70 - 130	4.47	20	
Arsenic	12.8118	1.0	10.0000	3.57779	92.3	70 - 130	3.44	20	
Barium	90.6367	1.0	10.0000	81.1639	94.7	70 - 130	1.55	20	E
Beryllium	8.21706	0.50	10.0000	ND	82.2	70 - 130	4.76	20	
Cadmium	8.83248	0.50	10.0000	ND	88.3	70 - 130	2.76	20	
Calcium	35644.7	50	500.000	36136.5	-98.4	70 - 130	4.67	20	B, E
Chromium	15.9382	0.50	10.0000	8.24413	76.9	70 - 130	3.82	20	
Cobalt	7.91966	0.50	10.0000	ND	79.2	70 - 130	4.02	20	
Copper	8.18127	1.0	10.0000	0.800703	73.8	70 - 130	3.00	20	
Lead	9.05973	1.0	10.0000	ND	90.6	70 - 130	1.31	20	
Magnesium	13638.8	50	500.000	13314.4	64.9	70 - 130	5.39	20	E
Manganese	79.8312	10	100.000	ND	79.8	70 - 130	3.01	20	
Molybdenum	15.1013	0.50	10.0000	5.01905	101	70 - 130	2.62	20	
Nickel	8.65357	1.0	10.0000	1.16600	74.9	70 - 130	3.47	20	
Potassium	3226.23	50	500.000	2842.84	76.7	70 - 130	4.44	20	
Selenium	8.78301	0.50	10.0000	0.556837	82.3	70 - 130	3.85	20	
Silver	8.86787	0.50	10.0000	ND	88.7	70 - 130	3.54	20	
Sodium	ND	50	500.000	ND	NR	70 - 130		20	
Thallium	8.85094	0.50	10.0000	ND	88.5	70 - 130	0.337	20	
Vanadium	41.7051	1.0	10.0000	34.2915	74.1	70 - 130	5.16	20	
Zinc	82.5420	10	100.000	ND	82.5	70 - 130	2.73	20	
Strontium	685.984	10	100.000	600.357	85.6	70 - 130	4.10	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD4)		**Source: 1401676-02RE2**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	8.69660	25	10.0000	ND	87.0	70 - 130	37.4	20	
Arsenic	ND	50	10.0000	ND	NR	70 - 130		20	
Barium	94.2934	50	10.0000	83.4338	109	70 - 130	33.6	20	
Beryllium	8.93485	25	10.0000	ND	89.3	70 - 130	41.5	20	
Cadmium	9.68065	25	10.0000	ND	96.8	70 - 130	25.8	20	
Calcium	44254.1	2500	500.000	43240.6	203	70 - 130	39.2	20	B
Chromium	11.0964	25	10.0000	ND	111	70 - 130	92.3	20	
Cobalt	11.0118	25	10.0000	ND	110	70 - 130	28.5	20	
Copper	11.6322	50	10.0000	ND	116	70 - 130	31.3	20	
Lead	9.13120	50	10.0000	ND	91.3	70 - 130	37.4	20	
Magnesium	16725.1	2500	500.000	16023.7	140	70 - 130	30.6	20	
Manganese	103.297	500	100.000	ND	103	70 - 130	32.9	20	
Molybdenum	13.9954	25	10.0000	ND	140	70 - 130	38.5	20	
Nickel	12.3706	50	10.0000	ND	124	70 - 130	33.9	20	
Potassium	4110.37	2500	500.000	3431.18	136	70 - 130	51.2	20	
Selenium	ND	25	10.0000	ND	NR	70 - 130		20	
Silver	10.1474	25	10.0000	ND	101	70 - 130	24.8	20	
Sodium	124240	2500	500.000	120710	706	70 - 130	31.4	20	D6, M1
Thallium	9.32600	25	10.0000	ND	93.3	70 - 130	36.0	20	
Vanadium	67.4191	50	10.0000	47.2812	201	70 - 130	30.0	20	
Zinc	ND	500	100.000	ND	NR	70 - 130		20	
Strontium	708.502	500	100.000	596.557	112	70 - 130	32.1	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD5)		**Source: 1401676-02RE3**		Prepared: 6/9/2014 Analyzed: 6/10/2014					
Antimony	9.87974	5.0	10.0000	ND	98.8	70 - 130	1.11	20	
Arsenic	14.8219	10	10.0000	ND	148	70 - 130	4.39	20	
Barium	92.2502	10	10.0000	80.7319	115	70 - 130	1.16	20	
Beryllium	9.87462	5.0	10.0000	ND	98.7	70 - 130	4.86	20	
Cadmium	9.55608	5.0	10.0000	ND	95.6	70 - 130	0.961	20	
Calcium	41534.5	500	500.000	40626.7	182	70 - 130	2.01	20	B
Chromium	17.2506	5.0	10.0000	7.40186	98.5	70 - 130	4.17	20	
Cobalt	9.87923	5.0	10.0000	ND	98.8	70 - 130	2.26	20	
Copper	10.9562	10	10.0000	ND	110	70 - 130	1.65	20	
Lead	8.92843	10	10.0000	ND	89.3	70 - 130	2.95	20	
Magnesium	15961.4	500	500.000	14876.4	217	70 - 130	0.601	20	D6, M1
Manganese	97.7249	100	100.000	ND	97.7	70 - 130	2.50	20	
Molybdenum	14.6510	5.0	10.0000	4.85782	97.9	70 - 130	1.46	20	
Nickel	11.3042	10	10.0000	1.27441	100	70 - 130	0.148	20	
Potassium	3932.47	500	500.000	3302.30	126	70 - 130	0.474	20	
Selenium	8.62192	5.0	10.0000	ND	86.2	70 - 130	3.83	20	
Silver	9.50639	5.0	10.0000	ND	95.1	70 - 130	2.67	20	
Sodium	121746	500	500.000	116058	1140	70 - 130	0.246	20	E
Thallium	9.04937	5.0	10.0000	ND	90.5	70 - 130	3.90	20	
Vanadium	53.4839	10	10.0000	42.4237	111	70 - 130	0.773	20	
Zinc	87.4686	100	100.000	ND	87.5	70 - 130	3.55	20	
Strontium	695.329	100	100.000	585.856	109	70 - 130	1.07	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Metals by ICP-MS EPA 6020 - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0126 - EPA 3010A MS (continued)									
Matrix Spike Dup (B4F0126-MSD6)		**Source: 1401676-02RE4**		Prepared: 6/9/2014 Analyzed: 6/12/2014					
Antimony	6.05694	10	10.0000	ND	60.6	70 - 130	1.74	20	
Arsenic	ND	20	10.0000	ND	NR	70 - 130		20	
Barium	89.7267	20	10.0000	80.8794	88.5	70 - 130	3.31	20	
Beryllium	7.98502	10	10.0000	ND	79.9	70 - 130	2.83	20	
Cadmium	9.21572	10	10.0000	ND	92.2	70 - 130	0.641	20	
Calcium	46497.3	1000	500.000	44745.3	350	70 - 130	0.606	20	B, D6, M1
Chromium	16.9489	10	10.0000	7.65866	92.9	70 - 130	1.96	20	
Cobalt	9.36186	10	10.0000	ND	93.6	70 - 130	1.64	20	
Copper	9.90256	20	10.0000	ND	99.0	70 - 130	7.09	20	
Lead	9.17030	20	10.0000	ND	91.7	70 - 130	0.509	20	
Magnesium	15886.7	1000	500.000	15220.8	133	70 - 130	0.970	20	
Manganese	94.1050	200	100.000	ND	94.1	70 - 130	1.26	20	
Molybdenum	12.4232	10	10.0000	3.78760	86.4	70 - 130	9.04	20	
Nickel	10.2232	20	10.0000	ND	102	70 - 130	4.24	20	
Potassium	4405.14	1000	500.000	3758.43	129	70 - 130	0.227	20	
Selenium	8.75232	10	10.0000	ND	87.5	70 - 130	23.2	20	
Silver	8.59256	10	10.0000	ND	85.9	70 - 130	3.77	20	
Sodium	118622	1000	500.000	114296	865	70 - 130	0.617	20	E
Thallium	9.12298	10	10.0000	ND	91.2	70 - 130	1.09	20	
Vanadium	50.1696	20	10.0000	41.1575	90.1	70 - 130	2.78	20	
Zinc	ND	200	100.000	ND	NR	70 - 130		20	
Strontium	682.381	200	100.000	579.343	103	70 - 130	3.30	20	

Certificate of Analysis

Geocon Consultants, Inc.	Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470									
Blank (B4F0162-BLK1)				Prepared: 6/10/2014 Analyzed: 6/11/2014					
Mercury	ND	0.20			NR				

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470 (continued)									
LCS (B4F0162-BS1)				Prepared: 6/10/2014 Analyzed: 6/11/2014					
Mercury	10.3170	0.20	10.0000		103	80 - 120			

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470 (continued)									
Duplicate (B4F0162-DUP1)		**Source: 1401663-01**		Prepared: 6/10/2014 Analyzed: 6/11/2014					
Mercury	ND	0.20		ND	NR			20	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470 (continued)									
Matrix Spike (B4F0162-MS1)		**Source: 1401663-01**		Prepared: 6/10/2014 Analyzed: 6/11/2014					
Mercury	10.6408	0.20	10.0000	ND	106	70 - 130			

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470 (continued)									
Matrix Spike Dup (B4F0162-MSD1)		**Source: 1401663-01**		Prepared: 6/10/2014 Analyzed: 6/11/2014					
Mercury	10.6332	0.20	10.0000	ND	106	70 - 130	0.0710	20	

Certificate of Analysis

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3160 Gold Valley Drive, Suite 800	Report To :	Rebecca Silva
Rancho Cordova , CA 95742	Reported :	06/13/2014

Dissolved Mercury by AA (Cold Vapor) by EPA 7470A - Quality Control (cont'd)

Analyte	Result (ug/L)	PQL (ug/L)	Spike Level	Source Result	% Rec	% Rec Limits	RPD	RPD Limit	Notes
Batch B4F0162 - EPA 245.1/7470 (continued)									
Post Spike (B4F0162-PS1)			**Source: 1401663-01**		Prepared: 6/10/2014 Analyzed: 6/11/2014				
Mercury	5.18356		5.00000	-0.009275	104	85 - 115			

Certificate of Analysis

Geocon Consultants, Inc.		Project Number :	Modesto Stockpiles, S9800-01-17
3160 Gold Valley Drive, Suite 800		Report To :	Rebecca Silva
Rancho Cordova , CA 95742		Reported :	06/13/2014

Notes and Definitions

R	RPD value outside acceptance criteria. Calculation is based on raw values.
M2	Matrix spike recovery outside of acceptance limit due to possible matrix interference. The analytical batch was validated by the laboratory control sample.
M1	Matrix spike recovery outside of acceptance limit. The analytical batch was validated by the laboratory control sample.
E	Result value above quantitation range.
D6	Sample required dilution due to high concentration of target analyte.
D1	Sample required dilution due to possible matrix interference.
B	Analyte detected in the associated method blank.
ND	Analyte is not detected at or above the Practical Quantitation Limit (PQL). When client requests quantitation against MDL, analyte is not detected at or above the Method Detection Limit (MDL)
PQL	Practical Quantitation Limit
MDL	Method Detection Limit
NR	Not Reported
RPD	Relative Percent Difference
CA2	CA-ELAP (CDPH)
OR1	OR-NELAP (OSPHL)
TX1	TX-NELAP (TCEQ)

Notes:
(1) The reported MDL and PQL are based on prep ratio variation and analytical dilution.
(2) The suffix [2C] of specific analytes signifies that the reported result is taken from the instrument's second column.
(3) Results are wet unless otherwise specified.

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 ● Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED 2.4 Y ☑ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: Modesto Stockpiles
Project #: S9800-01-17
Sampler: (Printed Name) J. Esquivel (Signature)

Relinquished by: (Signature and Printed Name)	Date	Time	Received by: (Signature and Printed Name)	Date	Time
J. Esquivel	6/5/14	1500	Ontrac	6/5/14	1500
			C. Bonilla	6/6/14	8:20

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva
Print Name Date
Signature

Send Report To:
Attn: _____
Co: SAME AS ABOVE
Addr: _____
City: State: Zip:

Bill To:
Attn: _____
Co: SAME AS ABOVE
Addr: _____
City: State: Zip:

Special Instructions/Comments:
Caltrans Contract 06A1895
*Dissolved CAM 17 Metals plus Strontium and manganese - samples were field filtered
Please calculate Anion/Cation Balance
Please prepare EDF for GeoTracker

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Sulfide (EPA 9030/376)	Sulfate and Nitrate (EPA 9056 or 300.0)	Alkalinity - Speciated (SM 2320B)	Chloride (EPA 300.0)	Ca, Mg, NA, K (EPA 6020)* dissolved	TDS (EPA 160.1)	TITLE 22 / CAM 17 (6020 / 7000)*	SPECIFY APPROPRIATE MATRIX: SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Type	PRESERVATION		REMARKS
	1401676-1	MW-5	6/5/14	820						X		X						X				
					X													X				
						X		X	X		X							X				
	2	MW-6		900						X		X						X				
					X													X				
						X		X	X		X							X				
	3	MW-7		930						X		X						X				
					X													X				
						X		X	X		X							X				

TAT	#	Type		PRESERVATION
E	1	P	P	n/c
E	1	P	P	c/z/c
E	1	L	P	c
E	1	P	P	n/c
E	1	P	P	c/z/c
E	1	L	P	c
E	1	P	P	n/c
E	1	P	P	c/z/c
E	1	L	P	c

- TAT starts 8AM the following day if samples received after 3 PM

TAT: A = Overnight ≤ 24 hrs; B = Emergency Next Workday; C = Critical 2 Workdays; D = Urgent 3 Workdays; E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

CHAIN OF CUSTODY RECORD

Advanced Technology Laboratories
3275 Walnut Avenue
Signal Hill, CA 90755
Tel: (562) 989-4045 • Fax: (562) 989-4040

FOR LABORATORY USE ONLY

P.O. #: _____
Logged By: _____ Date: _____

Method of Transport: Client ☐ ATL ☐ CA OverN ☐ FedEx ☐ Other: _____

Sample Condition Upon Receipt:
1. CHILLED 2.4 Y ☑ N ☐ 4. SEALED Y ☐ N ☐
2. HEADSPACE (VOA) Y ☐ N ☐ 5. # OF SPLS MATCH COC Y ☐ N ☐
3. CONTAINER INTACT Y ☐ N ☐ 6. PRESERVED Y ☐ N ☐

Client: GEOCON Consultants, Inc
Attention: Rebecca Silva
Address: 3160 Gold Valley Drive
City: Rancho Cordova State: CA Zip Code: 95742
Tel: 916.852.9118
Fax: 916.852.9132

Project Name: Modesto Stockpiles
Project #: S9800-01-17
Sampler: (Printed Name) J. Esquivel (Signature)

Relinquished by: (Signature and Printed Name) J. Esquivel Date: 6/5/14 Time: 1500
Received by: (Signature and Printed Name) Dutrac Date: 6/5/14 Time: 1500
Relinquished by: (Signature and Printed Name) Date: Time:
Received by: (Signature and Printed Name) Date: 6/6/14 Time: 830
Relinquished by: (Signature and Printed Name) Date: Time:
Received by: (Signature and Printed Name) Date: Time:

I hereby authorize ATL to perform the work indicated below:
Project Mgr /Submitter: Rebecca Silva
Print Name Date
Signature

Send Report To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Bill To:
Attn:
Co: SAME AS ABOVE
Addr:
City: State: Zip:

Special Instructions/Comments:
Caltrans Contract 06A1895
*Dissolved CAM 17 Metals plus Strontium and manganese - samples were field filtered
Please calculate Anion/Cation Balance
Please prepare EDF for GeoTracker

Sample/Records - Archival & Disposal
Unless otherwise requested by client, all samples will be disposed 45 days after receipt and records will be disposed 1 year after submittal of final report.

Storage Fees (applies when storage is requested):
- Sample :$2.00 / sample /mo (after 45 days)
- Records: $1 /ATL workorder /mo (after 1 year)

Circle or Add Analysis(es) Requested

QA/QC: RTNE ☐ CT ☑ SWRCB ☐ Logcode_____ OTHER _____

ITEM	LAB USE ONLY: Lab No.	Sample Description: Sample ID / Location	Date	Time	Sulfide (EPA 9030/376)	Sulfate and Nitrate (EPA 9056 or 300.0)	Alkalinity - Speciated (SM 2320B)	Chloride (EPA 300.0)	Ca, Mg, NA, K (EPA 6020)* dissolved	TDS (EPA 160.1)	TITLE 22 / CAM 17 (6020 / 7000)*	SOIL	WATER	GROUND WATER	WASTEWATER	CARBON	TAT	Container(s) #	Type	PRESERVATION	REMARKS
	1406678-4	MW-8	6/5/14	9[illegible]						X			X					X	E	1	P	P	n/c
					X													X	E	1	P	P	c/z/c
						X		X	X		X							X	E	1	L	P	c
	-5	MW-[illegible]		[illegible]0						X			X					X	E	1	P	P	n/c
					X													X	E	1	P	P	c/z/c
						X		X	X		X							X	E	1	L	P	c
										X			X					X	E	1	P	P	n/c
				TAT	X													X	E	1	P	P	c/z/c
						X		X	X		X							X	E	1	L	P	c

- TAT starts 8AM the following day if samples received after 3 PM

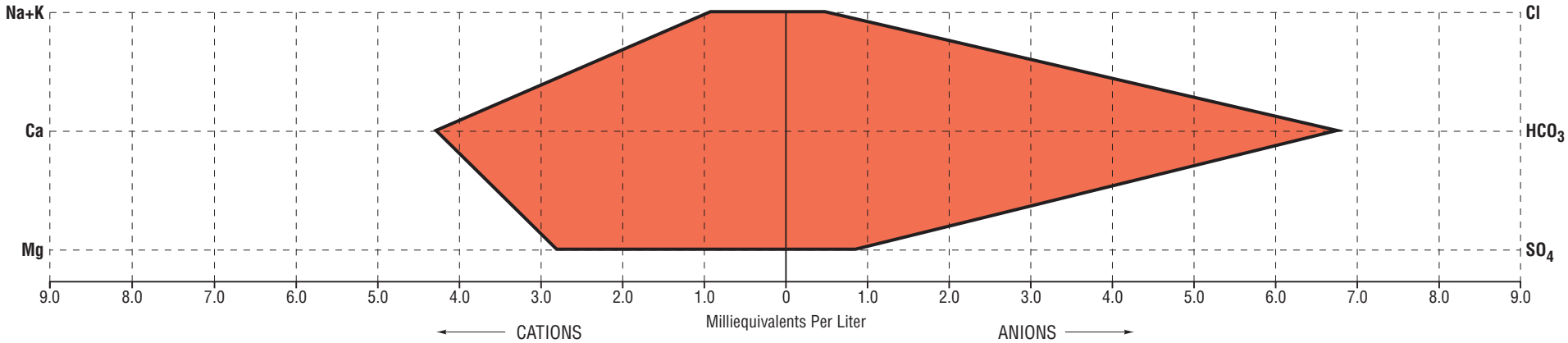
TAT: A = Overnight ≤ 24 hrs; B = Emergency Next Workday; C = Critical 2 Workdays; D = Urgent 3 Workdays; E = Routine 7 Workdays

Container Types: T=Tube V=VOA L=Liter P=Pint J=Jar B=Tedlar G=Glass P=Plastic M=Metal

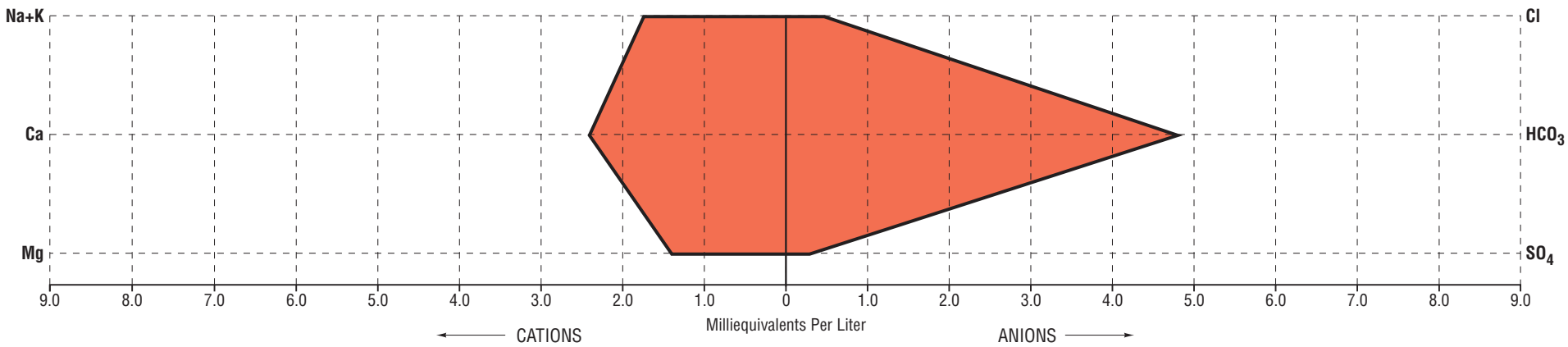
Preservatives: H=HCl N=HNO_3 S=H_2SO_4 C=4°C Z=$Zn(AC)_2$ O=NaOH T=$Na_2S_2O_3$

APPENDIX C

MW-1
June 2014



MW-2
June 2014



CALCIUM DOMINANT

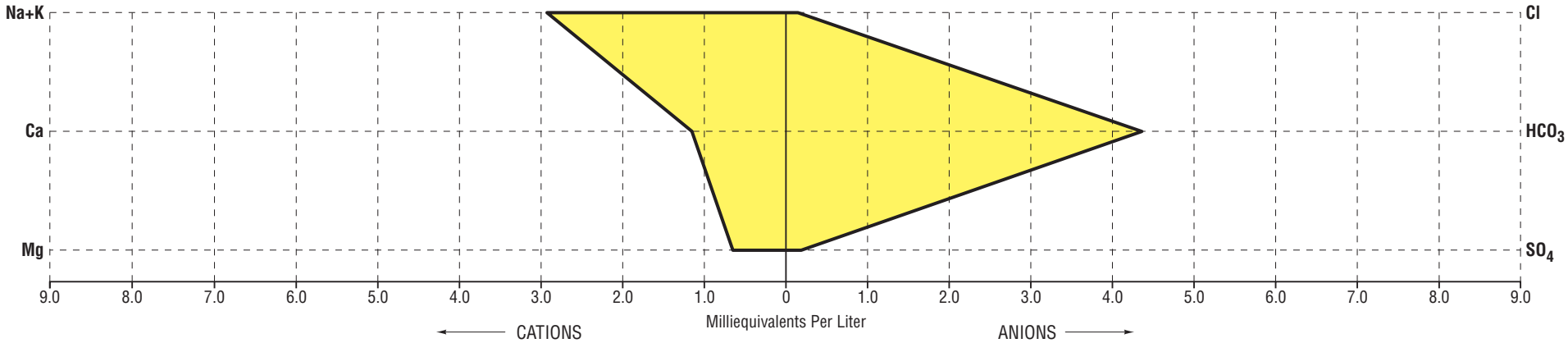
SODIUM DOMINANT

GEOCON CONSULTANTS, INC.
3160 GOLD VALLEY DR – SUITE 800 – RANCHO CORDOVA, CA 95742
PHONE 916.852.9118 – FAX 916.852.9132

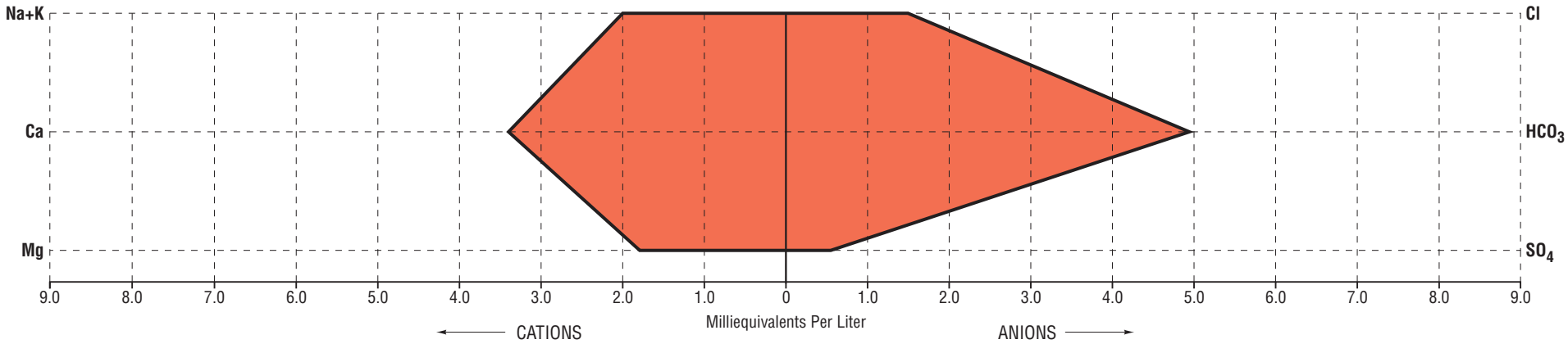
JUNE 2014
STIFF DIAGRAMS

Caltrans Modesto Soil Stockpiles		
GEOCON Proj. No. S9800-01-17	Stanislaus County, California	
Task Order No. 17	August 2014	Appendix C

MW-3
June 2014



MW-4
June 2014



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SODIUM DOMINANT

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JUNE 2014
STIFF DIAGRAMS

Caltrans Modesto Soil Stockpiles		
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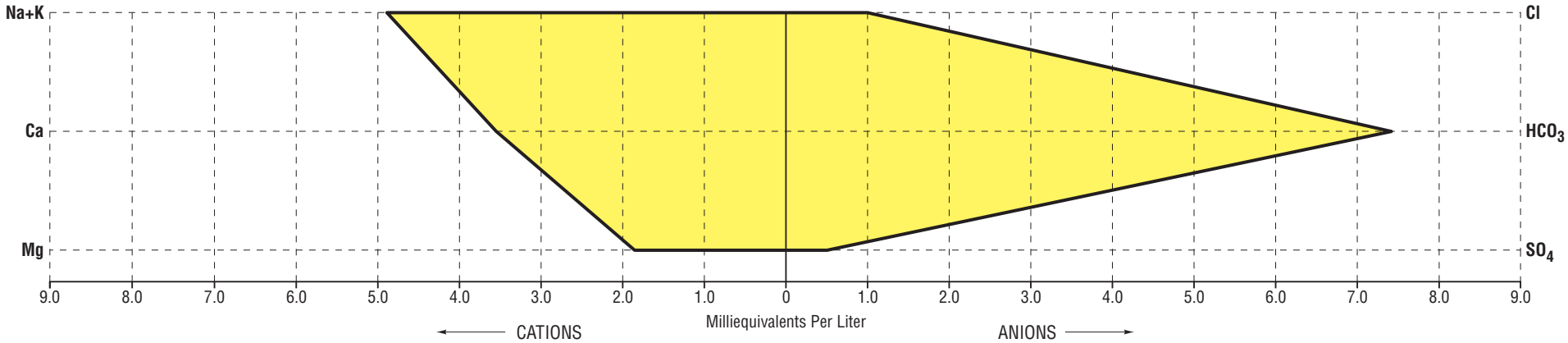
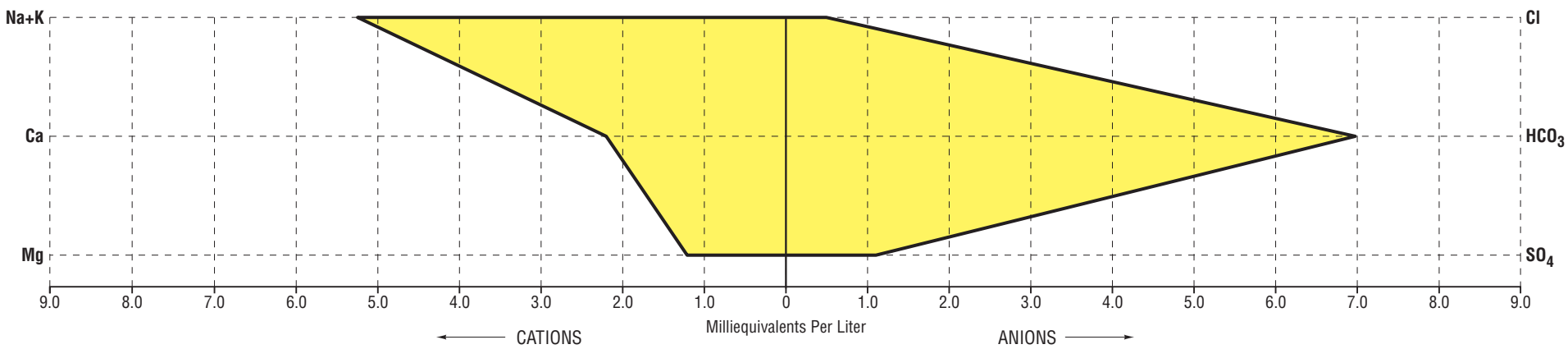
MW-5
June 2014



MW-6
June 2014



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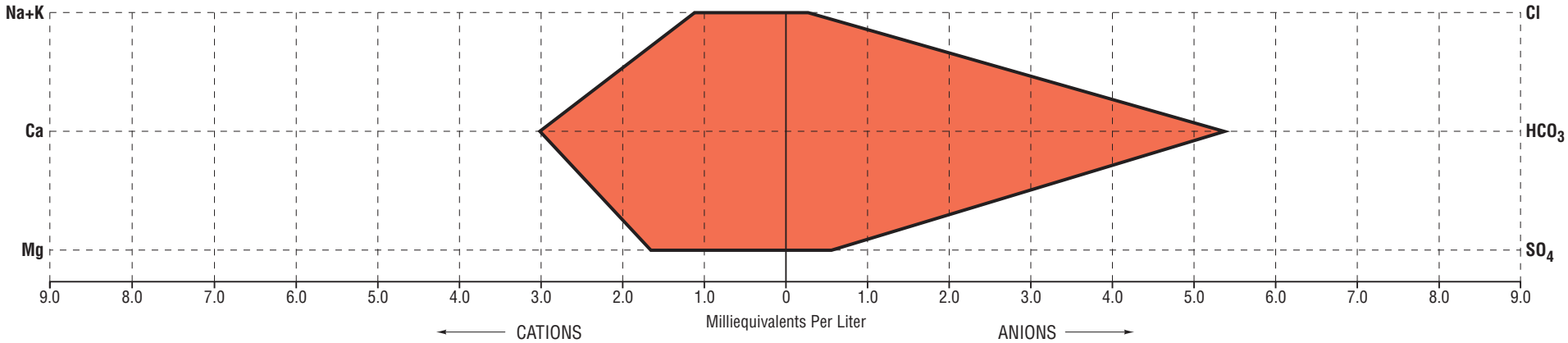
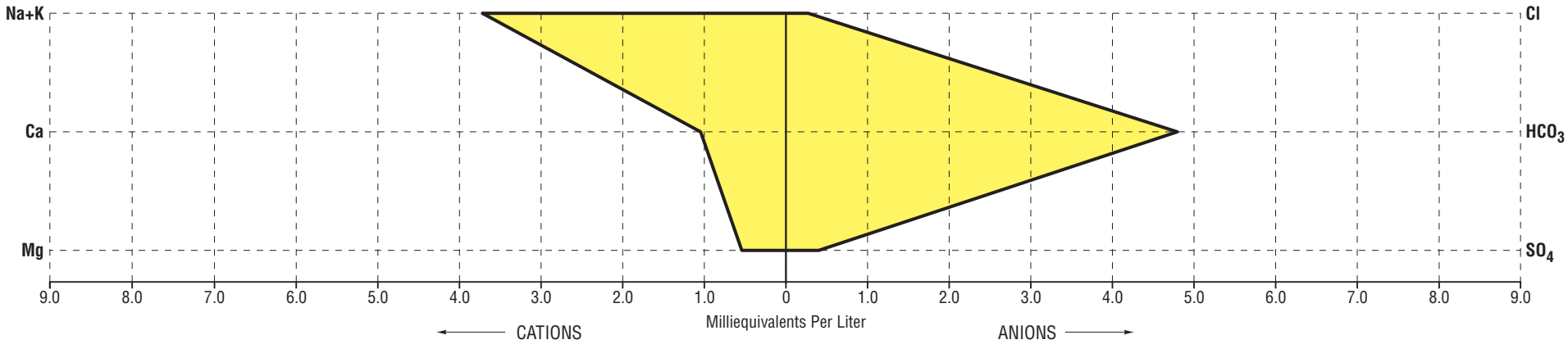
MW-7
June 2014



MW-8
June 2014



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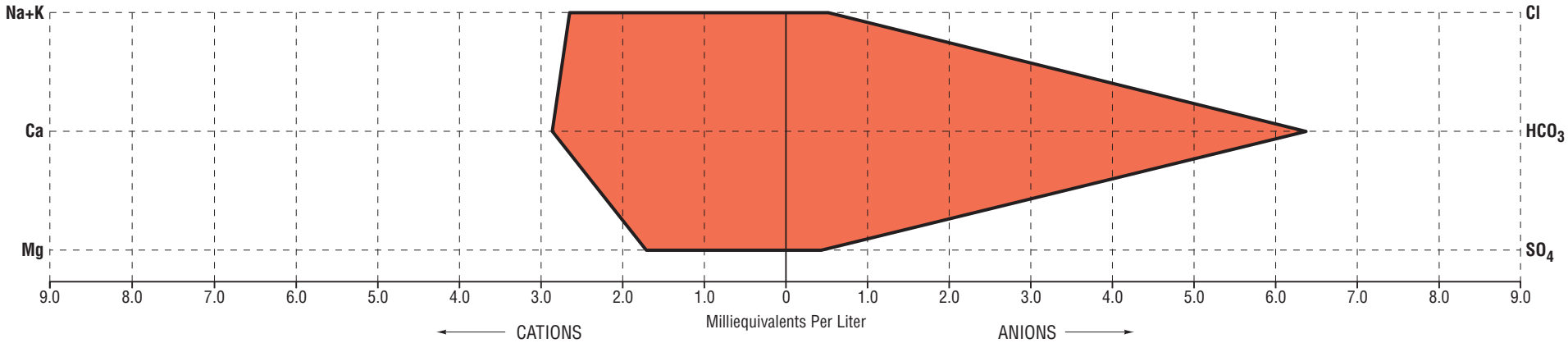
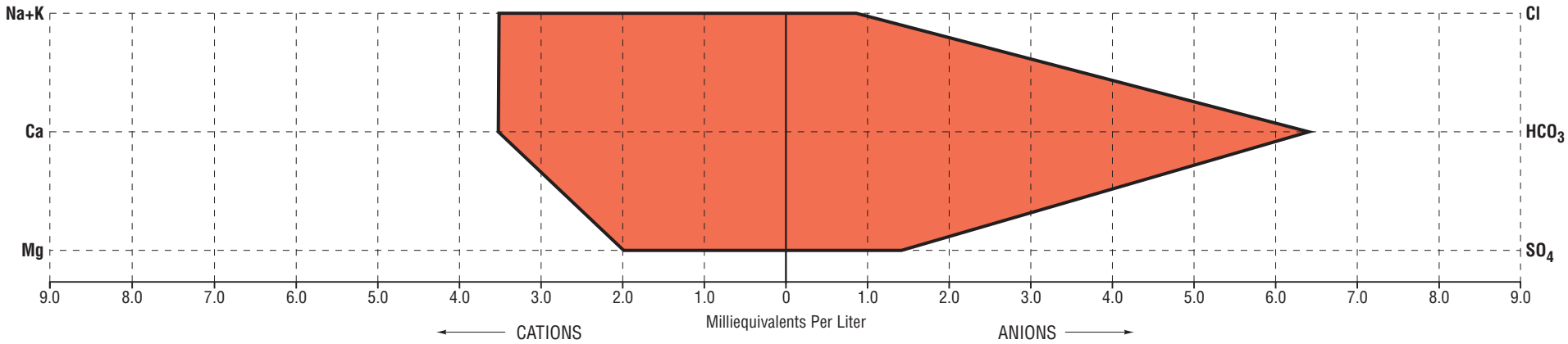
MW-9
June 2014



MW-10
June 2014



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